



M.V.P.Samaj's
K.A.A.N.M.S. Arts Commerce and Science College Satana
Department of Economics

List regarding course content that deals with following issue (UG: B.A. & B.Com) -

1.3.1 Institution integrates crosscutting issue relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into Curriculum.

Programme	Course Code	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics
F. Y. B. A.	11151 12151	Indian Economic Environment Economics (G1)	Role of servicesector, Challenges to education & health sector	Environmental factors, affectingto Indian Economic Environment	Industrial sector Role and challenges Health sector	Indian banking sector RBI, Private banks, Co-operative banks
F. Y. B. A.	11261 11262	General and Household Economics Home Economics (G1)	Demand Schedule Individual and Market demand. Elasticity of Demand Measurement and types of elasticity.	Market Mechanism - Meaning and functions	Sources of Household Income Types of Family Expenditure	Money - Meaning and Functions Banks-Types of Banks Functions of Banks
F. Y. B. A.	11431 11432	Elements of Social Work Social Work (G1)	Nature of welfare state, Scope of welfare state, Social and Economic laws	Social Movements	1 Social Work, Philosophy, concept & History Social Movements	Social Welfare Administration in India

S. Y. B. A.	23151 24151	Micro Economics Economics (S1)	Utility, Law of diminishing marginal utility	Supply and production analysis	Perfect competition, monopoly, Oligopoly, Price discrimination	Monopoly, Duopoly, Selling cost
S. Y. B. A.	23152 24152	Macro Economics Economics (S2)	Consumption, Investment , Business Cycle	National Income Business Cycle	Says law of market Inflation Deflation	Monetary Policy Fiscal Policy
S. Y. B. A.	23153 24153	Financial System Economics (G2)	Commercial Banks, Public sector, Private sector, SHGS	Regional rural banks , Co-operative banks	Loan management, functions measures	RBI, SEBI , IRDA, IMF, IBRD
S. Y. B. A.	23154 24154	Basic Concepts of Research Methodology Economics (SEC)	Concepts Of Case Study	.	To compete any Three Skill Development Activities from the prescribed syllabus, each activity	Meaning of Dispersion Definition - Range, Median Deviation, Quartile Derivation, Standard Deviation
S. Y. B. A.	23263 24263	Sociology of Indian Family Women's Welfare Home Economics (G2)	Family-Definition & Concept of Family Origin of family Family as a Social Institution Social Structure of the Indian Family	Contribution Factors for Family organization	Joint Family- Meaning, Nature & Merit & Demerits Nuclear family- Meaning nature & Merit and Demerits	Role of Government and Voluntary Agencies in the Field of welfare
S. Y. B. A.	23433 24433	Fields of Social Work Social Work (G2)	Family Welfare- Meaning, Problems & Measures Child Welfare - Meaning, Problems & Measures	Rural Welfare - Meaning, Problems & Measures Urban - Meaning, Problems & Measures	Youth Welfare - Meaning, Problems & Measures d) Labour Welfare - Meaning, Problems & Measures	Definition Professional Social Work & Voluntary Social Work





Programme	Course Code	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics
T. Y. B. A.	35151 36151	International Economics Economics (S-3)	Role of multinational corporations in India Heckscher-Ohlin theory, Free trade policy - case for and against	Inter-regional and international trade, Theory of absolute cost advantage and comparative cost advantage	India and WTO Free trade policy - case for and against Protection Policy - case for and against	(SAARC) FEMA-provisions and impact, Convertibility of Indian rupee, (BRICS)
T. Y. B. A.	35152 36152	Public Finance Economics (S-4)	Gender Budget, The role of Government in an economy, Trends of Public Expenditure in India. Causes of increase in Public Expenditure & Effects	Causes of increase in Public Expenditure, Trends of Public Expenditure in India. Centre-State Financial Relationship	Private Finance and Public Finance, Principle of Maximum Social Advantage- Dr. Dalton, Budget	Role and Working of finance Commission, Fiscal Policy Meaning, Role and Objectives of Fiscal Policy
T. Y. B. A.	35153 36153	Economic Development & Planning Economics (G3)	Indicators of Economic Development, Vicious Circle of Poverty, Population Explosion	Developed, Developing Countries Characteristics of Developing Countries, Big Push Theory	Inclusive Growth Approach & 11th five year plan	Monetary Policy- Objectives, Instruments and Limitations
T. Y. B. A.	35154 36154	Business Management Economics (SEC)	Methods of Primary Data Collection- Questionnaire and Interview method, Schedule, Observation Method;	-	Social Science Research - Meaning, Nature, Scope, And Importance	Analysis of Data- Classification and Tabulation of Data Computer Use Of Data Analysis
T. Y. B. A.	35263 36263	Social Change in Sociology Home Economics (G3)	Physical Cultural, Rational, Scientific, Ideological Meaning Educational-effects on social change	Obstacles to social change	Traditional society- meaning and characteristics Modern society- meaning and features	Value conflict in Indian Society.



Programme	CourseCode	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics
F. Y. B. Com	113 123	Business Economics (Micro) (Core)	Utility, Law of diminishing marginal utility Price Elasticity of Demand - Meaning, Types, Measurement, Uses and Significance Income Elasticity of Demand-Meaning and Types	Supply and production analysis Law of Variable Proportions 4.4 Law of Returns to Scale 4.5 Economies and Diseconomies of Scale Internal and External	Perfect competition, monopoly, Oligopoly, Price discrimination Monopoly: Features and Equilibrium, Price Discrimination	Monopoly, Duopoly, Selling cost Role of Collective Bargaining in Wage Determination
F. Y. B. Com	115 125	Fundamentals of Banking (Optional)	Evolution of Banking, Structure of Indian Banking, Individual Account	Regional rural banks, Co-operative banks, NABARD, IDBI	Information of Banking, Procedure for Opening Operating of Deposit Account, Methods of Remittance	RBI, NEFT, RTGS, SWIFT, IMPS
S. Y. B. Com	233 243	Business Economics (Macro) (Core)	Consumption, Investment, Business Cycle Meaning and Importance of National Income, Meaning and Functions of Money.	National income Business Cycle Measurement of Methods and Difficulties, Circular Flow of Income Consequences of Inflation	Says law of market Inflation Deflation The Classical Theory of Employment: J.B.Say,	Monetary Policy Fiscal Policy Control of Trade Cycle: Monetary Measures and Fiscal Measures Budget: Meaning and Types.
S. Y. B. Com	236 246	Indian Banking System – I (Optional)	Challenges before Banking in India Impact of COVID-19 on Banking Sector in India	Role of Banking in Economic Development	2 Nationalized Banks – Social control, Meaning of Nationalisation,	Scheduled Banks and Nonscheduled Banks

T. Y. B. Com	3133	Indian & Global Economic Development (Core)	Comparison of the Indian Economy with developed economies, Concept of Gender related development index , Gender Employment measures	Place of Agriculture in Indian Economy Constraints in Agricultural Development. Role of Industrialization in Economic development, LPG Policy	Concept of Human Development Index (HDI), Concept of Human Poverty Index, Advantages & Disadvantages of Foreign Capital	IMF, WTO, SAARC BRICS – Introduction & Functions Liberalization, Privatization & Globalization.
T. Y. B. Com	355B 365B	Financial Markets and institutions in India –II (Optional)	Carrier opportunities Insurance Sector	Role of financial system in Economic Development Indicators of Financial Development Functions of Indian Money Market Participants in Indian Money	Housing Finance Companies Life Insurance Company)LIC General Insurance Company) GIC	Broker & Sub. Broker, Demat Account, broker account, IPO Price band, Stock Listing, IPO Stock allotment
T. Y. B. Com	356B 366B	Banking Law And Practice – III (Optional)	Cyber Crimes in Banking- Virus attack Hacking Phishing Vising Spamming ATM skimming E-mail spoofing	Types of Negotiable Instruments- Promissory Note, Bill of Exchange and Cheque Parties in Negotiable Instruments, Negotiation- Presentment-Concepts of Dishonor of Negotiable Instruments, Noting and Protesting	Objectives of Banking Ombudsman Scheme-2006, Important Definitions: Banking Ombudsman, Appellate Authority.	Banking Regulation Act, 1949: Introduction the objectives and selective provisions





Programme	Course Code	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics
MA I	12301 22301	Micro Economic Analysis	The Market forces of Demand and Supply The Theory of Consumer Choice: Preference Ordering, Marginal Utility	Concept of Elasticity: Price, Income and Cross Elasticity- Mathematical Applications	The Concept of Consumers' Surplus. Concept of Social Welfare	Perfect Competition - Short Run and Long Run Equilibrium Price Discrimination under Monopoly, Degrees of Price Discrimination.
MA I	12302 22302	Public Economics	Gender Budget, The role of Government in an economy, Trends of Public Expenditure in India. Causes of increase in Public Expenditure & Effects	Causes of increase in Public Expenditure, Trends of Public Expenditure in India. Centre-State Financial Relationship	Private Finance and Public Finance, Principle of Maximum Social Advantage- Dr. Dalton, Budget	Role and Working of finance Commission, Fiscal Policy Meaning, Role and Objectives of Fiscal Policy
MA I	12303 22303	International Trade	Role of multinational corporations in India Heckscher-Ohlin theory, Free trade policy - case for and against	Inter-regional and international trade, Theory of absolute cost advantage and comparative cost advantage Heckscher-Ohlin theory	India and WTO Free trade policy - case for and against Protection Policy - case for and against	(SAARC) FEMA-provisions and impact, Convertibility of Indian rupee, (BRICS) European Economic Community (EEC)
MA I	12304 22304	Rural Economics	Rural Economy and Globalization - Impact and Challenges	Contract Farming, Corporate Farming, SEZs and Agriculture Rural Development	Transport and Communication, Electricity, Irrigation, Housing, Education,	Role of Source of Rural Credit- Non-Institutional and Institutional Sector- (NABARD,



Programme	Course Code	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics
MA II	32301 42301	Macro Economic Analysis	Total Demand and Supply Consumption, Investment	National income Business Cycle	Says law of market Inflation Deflation	Monetary Policy Fiscal Policy,
MA II	32302 42302	Growth and Development	Comparison of the Indian Economy with developed economies, Concept of Gender related development index, Gender Employment measures	Place of Agriculture in Indian Economy Constraints in Agricultural Development. Role of Industrialization in Economic development, LPG Policy	Concept of Human Development Index (HDI), Concept of Human Poverty Index, Advantages & Disadvantages of Foreign Capital	IMF, WTO, SAARC BRICS – Introduction & Functions Liberalization, Privatization & Globalization.
MA II	32303 42303	Research Methodology	Sampling Method – Meaning and Types – (Probability and Non-probability)	Procedure of Hypothesis Testing	Sources of data – Primary Data And secondary data Methods of Primary Data Collection- Questionnaire and Interview method, Schedule, Observation Method;	Objective of Report Writing Importance of Research Report, Features of Research Report Steps/ Element of Research Report
MA II	32305 42305	Demography	Demography: Evolution, Nature and Scope Development of Population Studies - relationship with other disciplines	Economics of Environment – Meaning, Nature, Scope and Significance, Environment as an Economic and a Social Good – Exhaustive and Renewable	Inter-relation between Status of Women and Demographic Change Population Policy in India	Climate Change – Greenhouse Gases, Accumulation of Emissions and Process of Global Warming, India's Environmental Policy,


 Head
 Department of Economic
 K.A.A.N.M. Sonawane A.C.S.
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सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

F. Y. B. A. मराठी

मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

Choice Based Credit System [CBCS]

निवड आधारित श्रेयांक पद्धत

सत्र	विषयाचे नाव
नियमित अभ्यासक्रम	
पहिले	मराठी साहित्य : कथा आणि भाषिक कौशल्यविकास [CC-1 A]
दुसरे	मराठी साहित्य : एकांकिका आणि भाषिक कौशल्यविकास [CC-1 A]
पर्यायी अभ्यासक्रम	
पहिले	व्यावहारिक व उपयोजित मराठी - भाग १ [CC-1 A]
दुसरे	व्यावहारिक व उपयोजित मराठी - भाग २ [CC-1 A]

F. Y. B. A. मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

१. Title of the course: B.A. (मराठी)

२. Preamble of the syllabus:

उच्च शिक्षणासाठी प्रवेश घेणाऱ्या विद्यार्थ्यांची शैक्षणिक पार्श्वभूमी ही ज्ञानरचनावादाची आहे. या विद्यार्थ्यांचे पूर्वानुभव, पूर्वज्ञान हे जिज्ञासा, निरीक्षण, प्रयोग, सर्जनशीलता, उपाययोजना व समस्या निराकरण अशा अध्ययन – अध्यापन सूत्रांतून निर्माण झाले आहे.

हा अभ्यासक्रम तयार करित असताना काही आधारभूत तत्त्वे स्वीकारली आहेत. राष्ट्रीय शैक्षणिक धोरणाची उद्दिष्टे प्रत्यक्षात आणताना, विद्यार्थीकेंद्री, आंतर्विद्याशाखीय, रोजगाराभिमुख, कौशल्याधिष्ठीत असे भाषा व साहित्याचे अभ्यासक्रम अनुसरणे, निर्माण करणे आवश्यक आहे. तसेच जीवन कौशल्य विकासासाठी भाषा, साहित्य, कला ही माध्यमे अधिक परिणामकारकतेने समजावून घेणे आवश्यक झाले आहे. साहित्यिक क्षमता, भाषिक क्षमता वाढीसाठी, जीवनाच्या आकलनासाठी आणि प्रगल्भतेसाठी विद्यार्थी सिद्ध करणे; ही आजची गरज बनली आहे.

उद्दिष्टे :

१. मराठी भाषा, मराठी साहित्य आणि मराठी संस्कृती यांचे अध्ययन करणे.
२. साहित्यविषयक आकलन, आस्वाद आणि मूल्यमापन क्षमता विकसित करणे.
३. साहित्याभ्यासातून जीवनविषयक समज विकसित करणे.
४. मराठी भाषेची उपयोजनात्मक कौशल्ये विकसित करणे.

मराठी विषयाचा अभ्यासक्रमाची पुनर्रचना खालील क्रमाने करण्यात येणार आहे.

१. First Year B.A. 2019-20.
२. Second Year B.A. 2020-21.
३. Third Year B.A. 2021-22.

B. A. (मराठी) हा पुनर्रचित अभ्यासक्रम तीन वर्षांचा आणि सहा सत्रांत विभागलेला निवड आधारित श्रेयांक पद्धतीचा (Choice Based Credit System) [CBCS] आहे. हा अभ्यासक्रम F. Y. B. A. (सत्र १ आणि सत्र २), S. Y. B. A. (सत्र ३ आणि सत्र ४), T. Y. B. A. (सत्र ५ आणि सत्र ६) अशा १३२ श्रेयांकांचा आहे.

३. Pattern: निवड आधारित श्रेयांक पद्धत (Choice Based Credit System) [CBCS]

४. Eligibility : (Circular No. 100 of 2017)

Faculty of Humanities

(1) Arts & Fine Arts Bachelor's Degree

1. First Year B.A.

- (a) Higher Secondary School Certificate (10+2) or its equivalent Examination with English as a passing subject.
- (b) Three Years Diploma Course (after S.S.C. i.e. 10th Standard), of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- (c) Three Years Diploma in Pharmacy Course (after S.S.C. i.e. 10th), of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- (d) S.S.C. of 10 years or 11 years with English and Indian Air Force Educational Test for promotion to the rank of Corporal.
- (e) Trained Teachers Certificate Course, of Inter-State Board of Anglo Indian Education, New Delhi.
- (f) Intermediate Commerce/Arts examination from the Recognized Board of Secondary Education, M.P. Bhopal with 4 subjects including General English.
- (g) Diploma in Education with English, of Bureau of Government of Maharashtra.
- (h) MCVV (minimum competency Vocational Course Government of Maharashtra)

५. Examination:

१. Pattern of examination:

१. Semester

२. Pattern of the question paper:

विद्यापीठ सत्र परीक्षा	७० गुण
अंतर्गत मूल्यमापन	३० गुण
एकूण	१०० गुण

२. Standard of passing: उत्तीर्ण होण्यासाठी विद्यापीठ सत्र परीक्षेत ७० पैकी २८ गुण अनिवार्य, अंतर्गत मूल्यमापनामध्ये ३० पैकी १२ गुण अनिवार्य.

३. Award of class:

1. Percentage to Grades and Grade Points

The following formula may be used to convert marks (%) into letter grades.

Let \bar{X} = mean of % age marks of all student appeared in the paper.

σ = Standard deviation

m = % of marks obtained

Letter grade	Numerical grade	Formula
O (outstanding)	10	$m \geq \bar{X} + 2.5 \sigma$
A+ (Excellent)	9	$\bar{X} + 2.0 \sigma \leq m < \bar{X} + 2.5 \sigma$
A (Very Good)	8	$\bar{X} + 1.5 \sigma \leq m < \bar{X} + 2.0 \sigma$
B+ (Good)	7	$\bar{X} + 1.0 \sigma \leq m < \bar{X} + 1.5 \sigma$
B (Above average)	6	$\bar{X} \leq m < \bar{X} + \sigma$
C (Average)	5	$\bar{X} - 0.5 \sigma \leq m < \bar{X}$
D (Pass)	4	$\bar{X} - \sigma \leq m < \bar{X} - 0.5 \sigma$
F (Fail)	0	$m < \bar{X} - \sigma$
Ab (Absent)	0	

* Minor variations may be adjusted by the individual institution.

६ Structure of Course:

Year	Semester	Core Courses (CC)	Discipline Specific Elective Courses (DSE)	Generic Elective(GE)
F.Y.B.A.	1	CC – 1 A (3)		
	2	CC – 1 B (3)		
S.Y.B.A.	3	CC – 1 C (2)	DSE 1 A (3) DSE 2 A (3)	
	4	CC – 1 D (2) CC – 3 D (1)	DSE 1 B (3) DSE 2 B (3)	
T.Y.B.A.	5	CC – 1 E (2)	DSE 1 C (3) DSE 2 C (3)	
	6	CC – 1 F (2)	DSE1 D (3) DSE 2 D (3)	GE 2 B (2)

७ Work Load:

१. १ श्रेयांक : १५ तास
२. १ तास : ६० मिनिट
३. १ सत्र : ३ श्रेयांक

८ Subject wise Detail Syllabus & Recommended books:

F.Y.B.A. (प्रथम वर्ष कला)

निवड आधारित श्रेयांक पद्धत (Choice Based Credit System)

पहिले सत्र

विषयाचे नाव : मराठी साहित्य : कथा आणि भाषिक कौशल्यविकास [CC-1 A]

अभ्यासक्रमाची उद्दिष्टे :

१. कथा या साहित्यप्रकाराची ओळख करून देणे.
२. कथा या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून देणे.
३. विविध साहित्यप्रवाहांमधील कथा या साहित्यप्रकारातील निवडक कथांचे अध्ययन करणे.
४. भाषिक कौशल्यविकास करणे.

पहिले सत्र :

घटक	तपशील	श्रेयांक	तासिका
१	कथा : स्वरूप आणि वाटचाल कथा : घटक कथा : प्रकार (रचनाप्रकार आणि प्रवाह)	१	१५
२	अभ्यासपुस्तक : समकालीन मराठी कथा अक्षरबंध प्रकाशन, पुणे संपादक : प्रा. डॉ. शिरीष लांडगे, प्रा. डॉ. दिलीप पवार, प्रा. डॉ. संदीप सांगळे	१	१५
३	भाषिक कौशल्यविकास नैसर्गिक : आकलनासह श्रवण अर्जित : संभाषण, वाचन, लेखन, इ-संवाद कौशल्य प्रगत : सारग्रहण, सारांशलेखन	१	१५

संदर्भ ग्रंथ

१. मराठी साहित्य : प्रेरणा आणि स्वरूप, संपादक डॉ. गो. मा. पवार, डॉ. म. द. हातकणंगलेकर
२. साहित्यमूल्य आणि अभिरुची, डॉ. गो. मा. पवार
३. काही साहित्यिक : काही साहित्यकृती, डॉ. भीमराव कुलकर्णी
४. साहित्य अध्यापन आणि प्रकार, वा. ल. कुलकर्णी गौरव ग्रंथ, संपादक श्री. पु. भागवत, डॉ. सुधीर रसाळ
५. कथा : संकल्पना आणि समीक्षा, सुधा जोशी, मौज प्रकाशन
६. मराठी कथा : विसावे शतक, संपादक के. ज. पुरोहित, सुधा जोशी

७. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
८. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रय पुंडे, निराली प्रकाशन, पुणे.
९. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
१०. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे
११. व्यावहारिक, उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक डॉ. संदीप सांगळे, डायमंड पब्लिकेशन, पुणे.
१२. मराठी भाषेची संवाद कौशल्ये (पुस्तक क्र.१ ते ८) य. च. म. मुक्त विद्यापीठ, नाशिक.
१३. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
१४. नवभारत, व्यावहारिक मराठी विशेषांक, ऑगस्ट – सप्टेंबर, १९८२, प्राज्ञ पाठशाला, वाई.
१५. प्रसारमाध्यमांसाठी लेखन कौशल्ये, य. च. म. मुक्त विद्यापीठ, नाशिक.
१६. कहाणी वर्तमानपत्राची, चंचल सरकार, अनुवाद, दिनकर गांगल, नॅशनल बुक ट्रस्ट.
१७. वैखरी, भाषा आणि भाषा व्यवहार, अशोक केळकर
१८. प्रसारमाध्यमे आणि मराठी भाषा, संपादक डॉ. भास्कर शेळके.
१९. व्यावहारिक मराठी भाषा, शरदिनी मोहिते
२०. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
२१. व्यासपीठ, डॉ. महादेव वाळुंज, अक्षरमानव प्रकाशन, पुणे.
२२. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
२३. पारिभाषिक संज्ञा कोश (इंग्लिश - मराठी) डॉ. स्नेहल तावरे.
२४. भाषांतर मीमांसा, कल्याण काळे, अंजली सोमण, प्रतिमा प्रकाशन, पुणे.
२५. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
२६. उपयोजित मराठी, डॉ. केतकी मोडक, प्रा. सुजाता शेणई, संतोष शेणई
२७. व्यावहारिक मराठी, प्रकाश परब, मिथुन प्रकाशन, १८८९,डोंबिवली (पूर्व)
२८. भाषा संचालनालय, महाराष्ट्र शासनाने प्रकाशित केलेले विविध कोश
२९. साहित्यिक गौरी देशपांडे, महादेव वाळुंज.
३०. बाबुराव बागुलांच्या कथेतील दलित स्त्री, राजाभाऊ भैलुमे.
३१. दलित व दलितेतरांची कथा : एक अभ्यास, श्रीराम गडकर
३२. <https://www.maayboli.com/node/62738>

३३. https://m.maharashtratimes.com/editorial/samwad/predictive-reviews-of-rural-problems/amp_articles/68120291.cms
३४. <https://marathi.pratilipi.com/>
३५. <https://www.youtube.com/watch?v=uMMRRXj-54Q&feature=youtu.be>
३६. https://mr.m.wikipedia.org/wiki/%E0%A4%97%E0%A5%8C%E0%A4%B0%E0%A5%80_%E0%A4%A6%E0%A5%87%E0%A4%B6%E0%A4%AA%E0%A4%BE%E0%A4%82%E0%A4%A1%E0%A5%87
३७. <https://www.bbc.com/marathi/india-43021905>
३८. <https://www.loksatta.com/lekh-news/indian-women-authors-gauri-deshpande-chaturang-anniversary-issue-1761601/>
३९. https://mr.m.wikipedia.org/wiki/%E0%A4%AD%E0%A4%BE%E0%A4%B8%E0%A5%8D%E0%A4%95%E0%A4%B0_%E0%A4%9A%E0%A4%82%E0%A4%A6%E0%A4%A8%E0%A4%B6%E0%A4%BF%E0%A4%B5

दुसरे सत्र

विषयाचे नाव : मराठी साहित्य : एकांकिका आणि भाषिक कौशल्यविकास [CC-1 A]

अभ्यासक्रमाची उद्दिष्टे :

१. एकांकिका या साहित्यप्रकाराची ओळख करून देणे.
२. एकांकिका या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून देणे.
३. मराठी साहित्यातील निवडक एकांकिकांचे अध्ययन करणे.
४. भाषिक कौशल्यविकास करणे.

घटक	तपशील	श्रेयांक	तासिका
१	एकांकिका : स्वरूप एकांकिका : घटक एकांकिका : संहितामूल्य व प्रयोगमूल्य	१	१५
२	अभ्यासपुस्तक : मराठी एकांकिका (विठ्ठल तो आला आला – पु. ल. देशपांडे, हंडाभर चांदण्या – दत्ता पाटील) पद्मगंधा प्रकाशन, पुणे संपादक : प्रा. डॉ. शिरीष लांडगे, प्रा. डॉ. बाळकृष्ण लळीत, प्रा. डॉ. भास्कर ढोके	१	१५
३	भाषा उपयोजनाची विविध आविष्कार रूपे संवादलेखन कल्पनाविस्तार घोषवाक्य लेखन भाषांतर	१	१५

संदर्भ ग्रंथ

१. एकांकिका वाटचाल, संपादक श्री. रं. भिडे व इतर, सोमय्या पब्लिकेशन, मुंबई, १९६९.
२. निवडक मराठी एकांकिका, संपादक सुधा जोशी, साहित्य अकादमी, दिल्ली, १९८३.
३. निवडक एकांकिका, वि.भा. देशपांडे, १९७७.
४. सर्वोत्कृष्ट मराठी एकांकिका, प्रभाकर नारायण परांजपे, सुपर्ण प्रकाशन, पुणे, १९४८.
५. मराठी एकांकिका तंत्र व विकास, श्री. रं. भिडे, सुपर्ण प्रकाशन, पुणे.
६. एकांकिका विचार आणि सर्वोत्तम एकांकिका, जयंत पवार व इतर, नेहरू सेंटर प्रकाशन, मुंबई १९९३.
७. टॅक्स फ्री आणि इतर एकांकिका (प्रस्तावना), चंद्रशेखर फणसळकर, कॉन्टिनेन्टल प्रकाशन, पुणे १९९५.
८. समग्र एकांकिका भाग १ व २, विजय तेंडुलकर, पॉप्युलर प्रकाशन, मुंबई, २००४.
९. चतुरंग सवाई एकांकिका, संपादक चतुरंग परिवार, १९८८-२०१२ रौप्यमहोत्सवी वाटचाल विशेषांक.
१०. <https://www.youtube.com/watch?v=0fnZMG8zdpk>

प्रश्नपत्रिकेचे स्वरूप : पहिले आणि दुसरे सत्र

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	२ पैकी १ प्रश्नाचे उत्तर प्रत्येकी १५० शब्दांपर्यंत (घटक १)	१०
प्रश्न २ रा	४ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत (घटक २)	२०
प्रश्न ३ रा	२ पैकी १ प्रश्नाचे उत्तर प्रत्येकी ३०० शब्दांपर्यंत (घटक २)	२०
प्रश्न ४ था	४ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत (घटक ३)	२०
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
लेखी परीक्षा (घटक २)		२०
प्रकल्प / गटचर्चा / गृहपाठ / चर्चासत्र / उपक्रम सहभाग / अभ्यासभेट (घटक ३)		१०
अंतर्गत मूल्यमापन एकूण गुण		३०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे.		
विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे.		

F.Y.B.A. (प्रथम वर्ष कला)

निवड आधारित श्रेयांक पद्धत (Choice Based Credit System)

पहिले सत्र

पर्यायी अभ्यासक्रम

विषयाचे नाव : व्यावहारिक व उपयोजित मराठी भाग १ [CC-1 A]

अभ्यासक्रमाची उद्दिष्टे :

१. संज्ञापनातील भाषेची भूमिका, विविध भाषिक आविष्कारांचे स्वरूप समजावून घेणे. भाषिक कौशल्यांची क्षमता विकसित करणे.
२. भाषिक कौशल्यांचे विविध आविष्कार आणि संपर्कमाध्यमे यांचा परस्परसंबंध समजावून घेणे व उपयोजन करणे.
३. मराठीचा कार्यालयीन, व्यावसायिक कामकाजात भाषेचे उपयोजन, गरज व स्वरूप या विशेषांची माहिती करून घेणे.
४. कार्यालयीन, व्यावसायिक भाषाव्यवहारासाठी आवश्यक लेखनकौशल्याचे संपादन व उपयोजन करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१. जीवन व्यवहारातील भाषेचे स्थान : भाषा स्वरूप व व्याख्या, आविष्करणाचे प्रकार, मौखिक व लिखित.जीवनक्षेत्रे व भाषा उपयोजन २. भाषिक कौशल्ये : १. नैसर्गिक - आकलनसह श्रवण, २. अर्जित - संभाषण, वाचन व लेखन	१	१५
२	१. अर्जलेखन- विनंती अर्ज, नोकरीसाठी अर्ज, तक्रार अर्ज, माहितीच्या अधिकारातील अर्ज. २. निबंध लेखन - वर्णनात्मक, चर्चात्मक आणि ललित (प्रत्यक्ष निबंधलेखन करणे अपेक्षित)	१	१५
३	प्रगत भाषिक कौशल्ये : १. सारांश लेखन २. सारग्रहण ३. भाषांतर (प्रत्यक्ष लेखन करणे अपेक्षित)	१	१५

दुसरे सत्र
पर्यायी अभ्यासक्रम

विषयाचे नाव : व्यावहारिक व उपयोजित मराठी भाग १ [CC-1 A]

घटक	तपशील	श्रेयांक	तासिका
१	संवाद लेखन : १. विविध माध्यमांसाठी होणारे संवाद. २. सुचविलेल्या प्रसंगावर आधारित संवाद लेखन ३. ई-संवाद (ई-मेल)	१	१५
२	भाषांतर : १. भाषांतर म्हणजे काय ? भाषांतर शास्त्र की कला ? २. भाषांतराची आवश्यकता, भाषांतर करताना येणाऱ्या अडचणी. ३. भाषांतर आणि रूपांतर, लक्ष्यनिष्ठ आणि मूलनिष्ठ भाषांतर. ४. इंग्लिश उताऱ्याचे मराठी अथवा हिंदी भाषांतर.	१	१५
३	उपयोजित मराठीची आविष्कार रूपे : १. टिप्पणी लेखन २. इतिवृत्त लेखन ३. घोषणा पत्रक ४. हस्तपत्रक ५. घडीपत्रक ६. स्मरणपत्र ७. स्मरणिका निर्मितीचा आराखडा ८. आशयलेखन (Content Writing) ९. जाहिरात लेखन.	१	१५

संदर्भ ग्रंथ

१. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
२. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रय पुंडे, निराली प्रकाशन, पुणे.
३. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
४. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे
५. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर
६. प्रसारमाध्यमांसाठी लेखन कौशल्ये, य.च.म.मुक्त विद्यापीठ, नाशिक.
७. कहाणी वर्तमानपत्राची, चंचल सरकार अनुवाद, दिनकर गांगल, नॅशनल बुक ट्रस्ट
८. द्विभाषी व्यावहारिक शब्दकोश (इंग्लिश - मराठी) गणेश ओतुरकर
९. प्रसारमाध्यमे आणि मराठी भाषा, संपादक डॉ. भास्कर शेळके.

१०. व्यावहारिक मराठी भाषा, शरदिनी मोहिते
११. भाषांतर मीमांसा, डॉ. कल्याण काळे
१२. व्यावहारिक, उपयोजित मराठी आणि प्रसारमाध्यमे, संपादक डॉ. संदीप सांगळे
१३. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१४. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
१५. उपयोजित मराठी, डॉ. केतकी मोडक, प्रा. सुजाता शेणई, संतोष शेणई
१६. व्यावहारिक मराठी, प्रकाश परब
१७. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
१८. निबंध : शास्त्र व कला, डॉ. प्र. न. जोशी
१९. निबंध व लेखन, निर्मला किराणे.
२०. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, य. च. म. मुक्त विद्यापीठ, नाशिक.

प्रश्नपत्रिकेचे स्वरूप : पहिले आणि दुसरे सत्र

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	४ पैकी २ प्रश्नांची उत्तरे लिहिणे. (घटक १)	२०
प्रश्न २ रा	४ पैकी २ प्रश्नांची उत्तरे लिहिणे. (घटक २)	२०
प्रश्न ३ रा	४ पैकी २ प्रश्नांची उत्तरे लिहिणे. (घटक ३)	३०
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
लेखी परीक्षा		२०
प्रकल्प / गटचर्चा / गृहपाठ / चर्चासत्र / उपक्रम सहभाग / अभ्यासभेट		१०
अंतर्गत मूल्यमापन एकूण गुण		३०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे.		
विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे.		

F.Y.B.A.
(31) HOME ECONOMICS G-1
General and Household Economics:
(With effect from June 2013)
First Term

1. Introduction :	08
1.1 Economics meaning Nature and scopes.	
1.2 Relation with other social science	
1.3 Economics Laws	
1.4 Basic Economics Problems.	
2. Demand and Supply Analysis :	12
2.1 Market mechanism Meaning and function	
2.2 Demand Schedule Industrial and Market demand	
2.3 Law of demand	
2.4 Demand elasticity-Measurement and types of elasticity'	
2.5 Supply Schedule and Law of Supply	
3. Money and Banking	14
3.1 Money Meaning and Functions	
3.2 Types of near money	
3.3 Banks-Types of banks - Commercial - Co-operative- Savings ect's.	
3.4 Functions of Commercial Banks.	
3.5 Prices level-inflation-Definition	
3.6 Effects on economy and different income groups.	
4. Income & Expenditure	14
4.1 Sources of family income	
4.2 Types of family Expender	
4.3 Meaning of Family budget	
4.4 Difference between Family budget and Public budgets	
4.5 Account keeping	
4.6 Standard of living in India	
4.7 Problems of poverty in India.	
Section - II	
5. Home Management:	08
5.1 Meaning of Home Management	
5.2 Nature and scope of Home Management.	
5.3 Different Steps of Home Management.	
5.4 Importance of Home Management	
5.5 Merits and demerits of Home Management.	
6. Human values and goals	12
6.1 Meaning, nature and scope.	
6.2 Role of Human goals	
6.3 Types of Human of goals	
6.4 Role of human values	
6.5 Types. Of human values	

7. Decision-making in Home Management.

14

- 7.1 Meaning and Nature of decision-making in Home Management
- 7.2 Importance's of decision-making in Home Management.
- 7.3 Steps of decision-making in Home Management.
- 7.4 Merits and demerits decision-making in Home Management.
- 7.5 Importance's measurement of decision-Making in Home Management.

8. House planning

14

- 8.1 House Planning for lower-middle and high income Groups with reference in size of family.
- 8.2 Meaning and nature of house decoration.
- 8.3 Elements of interior house decoration.
- 8.4 Elements of exterior house decoration
- 8.5 Interior and Exterior maintenance of home-aesthetically, Functionally and hygienically.

Reading Material—Section I

1. Micro-economic Theory : Dewett K.K., S. Chand Publication, Agra.
2. Paul Samuelson : Economics (International Students' Edition), Tenth Edition, McGraw Hill, Kogakusha Ltd.

Reading Material—Section II

1. Nickell, P. and Dorsey J. : Management in Family Living.
2. Gilberth, T. : Management in the Home.
3. Hall and Paolueci : Teaching of Home Economics.
4. Devdas, R.: Text-Book of Home Economics.
5. Brown Effa : Color in Home Decoration.
6. Whitean Sheril : The Elements of Interior Decoration.



SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

F. Y. B. A. Political Science

Syllabus

(Semester & Choice Based Credit System)

(To be implemented from the Academic Year, 2019-20)

Savitribai Phule Pune University
F. Y. B. A. Political Science
(CBCS pattern to be implemented from 2019-2020)
G-1 General Paper
INTRODUCTION TO INDIAN CONSTITUTION
Total Credits : 03

Objectives

The contents of this course are designed with the following objectives:

1. To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government.
2. To familiarize students with the working of the Constitution of India.

Semester-I	Period
Unit 1: Making of the Indian Constitution	12
<ul style="list-style-type: none"> a) Historical Background b) Constituent Assembly c) Preamble d) Salient Features 	
Unit 2: Fundamental Rights, Duties and Directive Principles	12
<ul style="list-style-type: none"> a) Fundamental Rights b) Fundamental Duties c) Directive Principles of State Policy 	
Unit 3: Federalism	12
<ul style="list-style-type: none"> a) Salient Features of Indian Federalism b) Centre –State Relations c) Issues of Conflict (Water and Border Issues) 	
Unit 4: Constitutional Amendments: Scope and Limitations	12
<ul style="list-style-type: none"> a) Constitutional Provisions b) Major Constitutional Amendments (42, 44 & 86) c) Basic Structure of the Indian Constitution 	
Semester- II	
Unit5: Legislature	12
<ul style="list-style-type: none"> a) Union Legislature – Structure, Powers and Role b) State Legislature – Structure, Powers and Role 	
Unit6: Executive	12
<ul style="list-style-type: none"> a) Union Executive – i) President and Vice President– Powers, Functions and Role ii) Prime Minister - Powers, Functions and Role iii) Council of Minister – Powers and Functions and Role b) State Executive- i) Governor - Powers, Functions and Role ii) Chief Minister – Powers, Functions and Role iii) Council of Minister – Powers and Functions and Role 	

Unit7: Judiciary**12**

- a) Supreme Court : Powers and Functions
- b) High Court : Powers and Functions
- c) Judicial Review and Judicial Activism

Unit8: Electoral System**12**

- a) Election Commission:Composition, Functions and Role
- b) Chief Election Commissioner
- c) Electoral reforms

References:

- 1) Austin Granville, 1999, *The Indian Constitution: Cornerstone of a Nation*, Oxford, Oxford University Press.
- 2) Austin Granville, 2003, *Working a Democratic Constitution: The Indian Experience*, Delhi, Oxford University Press.
- 3) आवटे श्रीरंजनव राही श्रुती गणेश, 2019, *आपलं आयकार्ड*, पुणे, द युनिक अॅकॅडमी पब्लिकेशन,
- 4) Basu D.D., 2018, *Introduction to the Constitution of India*, New York, LexisNexis.
- 5) Brass Paul., 1994, *The Politics of Indian Since Independence*, Cambridge, Cambridge University Press,
- 6) बाचल वि. म., 2004, *भारतीय राज्यघटना आणि राजकीय व्यवहार*, पुणे, के सागर पब्लिकेशन.
- 7) भोळे भा.ल., 2015, *भारतीय गणराज्याचे शासन आणि राजकारण*, नागपूर, पिंपळापुरे प्रकाशन,.
- 8) चपळगावकर नरेंद्र, 2002, *राज्यघटनेचे अर्धशतक*, मुंबई, मौज प्रकाशन.
- 9) जाधव तुकारामवशिरापूरकर महेश, 2012, *भारतीय राज्यघटना व घटनात्मक प्रक्रिया*, पुणे, द युनिक अॅकॅडमी पब्लिकेशन
- 10) घांग्रेकरचिं. ग . 1997, *भारतीयराज्यघटना*, नागपूर, मंगेश प्रकाशन.
- 11) Jha Rajesh, 2012, *Fundamentals of Indian Political System*. Delhi, Dorling Kindersley (India) Pvt Ltd, Pearson Education Society.
- 12) कांबळे बाळ, वकील अलिम वदेवरे पी. डी., 2012, *भारताची राज्यघटना, राजकारण व कायदा*, पुणे, डायमंड प्रकाशन.
- 13) कश्यप सुभाष, (अनुवाद न. ब. पाटील) , 2001, *आपली संसद*, नॅशनल बुक ट्रस्ट इंडिया.
- 14) नांदेडकर व. गो., 2011, *भारतीय राज्यघटना आणि राज्यव्यवहार*, पुणे, डायमंड प्रकाशन.
- 15) पाटील बी.बी., 2016, *भारतीय शासन आणि राजकारण*, कोल्हापूर, फडके प्रकाशन.
- 16) साठे सत्यरंजन, 1998, *भारताच्या राज्यघटनेची ५० वर्षे*, पुणे, कॉन्टिनेन्टल प्रकाशन.
- 17) व्होरा राजेंद्र व पळशीकर सुहास, 2010, *भारतीय लोकशाही: अर्थ आणि व्यवहार*, पुणे, डायमंड प्रकाशन.

Savitribai Phule Pune University
F. Y. B. A. Political Science
(CBCS pattern to be implemented from 2019-2020)
G-1 General Paper (Optional)
AN INTRODUCTION TO THE CONSTITUTION OF UNITED STATES OF
AMERICA
Total Credits : 03

Objectives

To acquaint students with the important features of the Constitution of the United States of America and the basic framework of government of the USA

Semester – I	Period
Unit: 1 Making of the U.S. Constitution	12
a) Historical Background	
b) Preamble	
c) Salient Features	
Unit: 2 Federal System	12
a) Features	
b) State Autonomy	
c) Relations between the Federal Government and the States	
Unit: 3 Fundamental Rights	12
a) Nature of Fundamental Rights	
b) Development of Fundamental Rights	
Unit: 4 Constitutional Amendments	12
a) Constitutional Provisions	
b) Important Amendments (15 & 22)	

Semester - II

Unit: 5 Legislature	12
a) Structure	
b) Powers	
c) Role	
Unit: 6 Executive	12
a) President: Powers and Functions	
b) Vice President: Powers and Functions	
c) Secretary: Powers and Functions	
Unit: 7 Judiciary	12
a) Structure i) Federal Court ii) State Court	
b) Powers and Functions	
c) Judicial Review	
Unit: 8 Federal Election Commission	12
a) Structure	
b) Functions	
c) Role	

Readings

1. काळे अशोक, 1984, अमेरिकेची राज्यव्यवस्था, नागपूर विश्वभारती प्रकाशन.
2. पळशीकर सुहास व सुमंतयशवंत, 1988, अमेरिकेचे शासन, पुणे, निराली प्रकाशन
3. Wheare.K.C, 1980, Federal Government, 4th edn., Oxford and New York, Oxford University Press.
4. Wilson. James., 2014, *American Government*, 14th edn., Wadsworth Publishing Boston Massachusetts, USA.
5. घांग्रेकर चिं. ग. व धनवटे अरुण, 1996, आधुनिक राजकीय व्यवस्था, (इंग्लंड-अमेरिका-स्विट्झर्लंड) नागपूर, मंगेश प्रकाशन

University of Pune

BOARD OF STUDIES IN ECONOMICS

F.Y.B.A. Economics Revised Syllabus (From June - 2013)

G-1 Indian Economy – Problems and Prospects

OR

G-I Agricultural Economics

UNIVERSITY OF PUNE

BOARD OF STUDY IN ECONOMICS

F.Y.B.A. ECONOMICS REVISED SYLLABUS COMMITTEE.

Dr. Suhas Avhad	Chairman
Dr. N.R. Dangat	Coordinator
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Dr. R.K Datir.	Subject Expert
Dr. R.G Rasal.	Subject Expert

University of Pune
F.Y.B.A. Economics Revised Syllabus.
G-1 Indian Economy – Problems and Prospects
(From June - 2013)
Section – I

- 1. Developing Economy. (12)**
 - 1.1 **Developed and Developing Economy – Meaning & Concept.**
 - 1.2 Basic Characteristics of Indian Economy as a Developing Economy.
 - 1.3 Comparison of Indian Economy with Developed Countries –
 - a) Population b) Per-capita Income c) Human Development Index.
 - d) Agriculture e) Industry f) Service Sector.
 - 1.4 Major issues of Development in India
- 2. Population . (12)**
 - 2.1 Theory of Demographic Transition.
 - 2.2 **Size and Growth of Population.**
 - 2.3 Features of Indian population
 - 2.3.1 Sex Composition.
 - 2.3.2 Rural Urban Distribution.
 - 2.3.3 Age Composition.
 - 2.3.4 Density of Population.
 - 2.3.5 Occupational Distribution.
 - 2.3.6 Quality of Population.
 - 2.4 Causes of growing Population.- High Birth rate and Decreasing Death rate.
 - 2.5 **Problems of Over Population**
 - 2.6 Measures for Population Control.
 - 2.7 Population Policy 2005 onward
- 3. Poverty and Unemployment (12)**
 - 3.1 Meaning and Concept of Poverty.
 - 3.2 Poverty line- Need of redefining.
 - 3.3 Measurement of Poverty.
 - 3.4 **Causes of Poverty.**

- 3.5 Measures of eradication of Poverty.
- 3.6 Unemployment – Nature & Types, Causes & Measures

4. Agriculture. (12)

- 4.1 Place of Agriculture in Indian economy.
- 4.2 Agricultural Productivity – Causes of Low Productivity & Measures.
- 4.3 Green Revolution- Achievements & Failures.
- 4.4 Sources of Agricultural Finance.
- 4.5 **Agricultural Marketing – Defects & Measures.**
- 4.6 Suicide of Farmer's - Causes and Measures to prevent Farmer's Suicide
- 4.7 Special Economic Zone- Concept, Features, Problems.

Section – II

5. Industry. (12)

- 5.1 Role of Industrialization.
- 5.2 **Industrial Policy – 1991.**
- 5.3 **New Economic Reforms – Concept**
 - i) Liberalization ii) Privatisation, iii) Globalization
- 5.4 Small and Large Scale Industry – Growth and Problems.
- 5.5 Growth of Knowledge Based Industry – IT, Software Consultancy.

6. Labour. (12)

- 6.1 Meaning and Classification of Labour.
- 6.2 Characteristics of Industrial Labour.
- 6.3 Industrial Dispute :- Causes, Measures for Settlement.
- 6.4 Social Security Measures in India.

7. Planning. (12)

- 7.1 Meaning, Concept, Need and Objectives.
- 7.2 Types of Planning – Merits and Demerits.
- 7.3 **Objectives, Achievements, and Failures of 11th Five Year Plan.**
- 7.4 Objectives, of 12th five year plan

8. Economy of Maharashtra. (12)

- 8.1 **Salient Features of Economy of Maharashtra.**
- 8.2 Co-operative Movement – Progress, Problems & Prospectus.

8.3 Role of Co-operative in Economic Development of Maharashtra.

8.4 Regional Imbalance Causes & Preventive Measures.

8.5. Water Management concept and utility

Basic Reading List

- Gaurav Datta Ashwani Mahajan (2012), Indian Economy. S. Chand & Company Ltd., New Delhi.
- Misra & Puri - (2011) Indian Economy, Himalaya Publication house, Mumbai.
- Gopal and Suman Banhri (2013) Indian Economy Performance and Policies. Pearson Publication Delhi.
- Prakesh B.A. (2011) The Indian Economy Since 1991 Economic Reforms and performance, Pearson Publication Delhi.
- **Reference Books**
- Tandon - Indian Economy.
- Dhar P.K., Indian Economy.
- Agrawal A.N., Problems of Development & Planning.
- Memoria C.B. Agricultural Problems of India, Kitab Mahal Publication. Kitab mahal, New Dehli.
- Dr. Datir R.K. And others Bharatiya Arthvyavastha- 5th Edition 2012, Nirali prakashan Pune.
- Jalan B.,The Indian Economy Problem and prospectus, Viking, New Dehli
- Planning Commission (2007), Eleven Five Year Plan (2007-12).
- Govt. of India – Economic Survey.
- World Bank – World Development Report.
- Census of India (2001),
- C.S.O. National Account Statistics.

University of Pune
F.Y.B.A Economics- General Paper - I
G-I Agricultural Economics
(From June 2013)
Section – I

- 1) Introduction (10)**
- 1.1 Agricultural Economics - Meaning, Nature, Scope and Importance
 - 1.2 Role of Agriculture in Economic Development
 - 1.3 Trends in Agricultural Growth since 1950-51
- 2) Development of Agriculture (14)**
- 2.1 Agricultural Productivity – Meaning and concept
 - 2.1.1 Causes of Low Productivity and Measures.
 - 2.1.2 Regional Variations, Comparison with Developed Countries,
 - 2.2 Green Revolution – Achievement and Failures. Need of second Green Revolution
 - 2.3 Changes in Cropping Pattern
 - 2.4 Organic Farming – Meaning & Scope
- 3. Recent Issues in Indian Agriculture (12)**
- 3.1 Environmental Issues
 - 3.2 Special Economic Zone (SEZ) - Impact on Agriculture.
 - 3.3 Farmers Suicide – Causes & Preventive Measures.
 - 3.4 Agriculture Price Policy.
 - 3.5 Issues on Agriculture - Food Security.
- 4. Agricultural Marketing (12)**
- 4.1 Problems and Remedies of Agricultural Marketing in India.
 - 4.2 Co- operative Marketing – Merits and demerits.
 - 4.3 Market Model Act 2007.
 - 4.4 Agricultural Export and Import –policies since 2009
 - 4.5 Foreign direct investment in Agriculture

Section – II

- 5. Agricultural Labour (12)**
- 5.1 Agricultural Labour - Meaning and concept.
 - 5.2 Features of Agricultural Labour.
 - 5.3 Type of Agricultural Labour
 - 5.4 Minimum Wages Act.
 - 5.5 National Rural Employment Guaranty Scheme.- Nature & Evaluation
- 6) Agricultural Finance (12)**
- 6.1 Importance of Agricultural Finance
 - 6.2 Sources of Agricultural Finance
 - 6.3 Problems of Agricultural Finance
 - 6.4 Role of NABARD in Agricultural Finance
 - 6.5 Role of Micro Finance

7) Irrigations and Agricultural Inputs (12)

- 7.2 Importance of Irrigations in Agriculture
- 7.2 Type of Irrigation – Traditional Advanced
- 7.3 . Type of New Irrigation System -Benefits of New of Irrigation
- 7.4 Role of Farmer in Water Management
- 7.5 Drought –Reason and Remedies

8) WTO and Indian Agriculture (12)

- 8.1 WTO – Objectives and Functions.
- 8.2 WTO- Agreement on Agricultural, Patent Policy
- 8.3 WTO-Impact on Indian Agriculture

Basic Reading List

- Dalt.R.& K.P.M.Sundharm (2011), Indian Economy , S.Chand & Co.Ltd New Delhi
- Misra S.K. & V.K.Puri (2011), Indian Economy Himalaya Publication house Mumbai
- Sadhu A.N. and J.Sing, Agricultural Problems in India, Himalaya Publishing House Mumbai
- Sundarm I.S. Rural Development Himalaya Publishing House Mumbai

Additional Reading List

- Gopal and Suman Banhri (2013) Indian Economy Performance and Policies. Pearson Publication Delhi.
- Dr. Datir R.K. And others Bharatiya Arthvyavastha- 5th Edition 2012, Nirali prakashan Pune.
- GoMamoria C-D : Agricultural Problem of India Kitab Mahal 2005
- Government of India ,Economic Survey New Delhi
- RBI,Hand Book of statistics of India.

UNIVERSITY OF PUNE

Revised Course Structure of English

F. Y. B. A. Compulsory English (w. e. f- 2013-2014)

Prescribed Text: *Visionary Gleam: A Selection of Prose and Poetry* (Board of Editors- Orient Blackswan)

Objectives

- a) To familiarize students with excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English
- b) To expose them to native cultural experiences and situations in order to develop humane values and social awareness
- c) To develop overall linguistic competence and communicative skills of the students

Term-I

Prose- 1, 2, 3, 4

Poetry- 9, 10, 11

Grammar- 1, 2, 3

Communication Skills- 1,2,3,4,5

Term-II

Prose- 5, 6, 7, 8

Poetry- 12, 13, 14

Grammar- 4, 5

Communication Skills- 6,7,8,9,10

Prose

1. **An Astrologer's Day**- R.K Narayan
2. **Our Urgent Need of Self-esteem**-Nathaniel Branden
3. **The Gift of Magi**- O' Henry
4. **Karma**-Khushwant Singh
5. **Tryst with Destiny**-Jawaharlal Nehru
6. **Youth and the Tasks Ahead**-Karan Singh
7. **Prospects of Democracy in India**-B. R. Ambedkar
8. **The Eyes are not Here**-Ruskin Bond

Poetry

9. A Red, Red Rose- Robert Burns
10. Where the Mind is without Fear- Rabindranath Tagore
11. If You Call Me- Sarojini Naidu
12. Upon Westminster Bridge- William Wordsworth
13. An old Woman- Arun Kolatkar
14. Success is Counted Sweetest- Emily Dickinson

Grammar and Communication Skills

Grammar:

1. Articles

2. Prepositions

3. Verbs

3.1 Regular and Irregular Verbs

3.2 Auxiliaries (Primary and Modal)

4. Tenses

4.1 Present tense- A) Simple present, B) Present progressive, C) Present perfect, D) Present perfect progressive

4.2 Past tense- A) Simple past, B) Past progressive, C) Past perfect, D) Past perfect progressive

4.3 Future tense- - A) Simple future, B) future progressive, C) Future perfect, D) Future perfect progressive

5. Subject-Verb Agreement (Concord)

Communication skills:

1. Taking Leave

2. Introducing Yourself

3. Introducing People to One Another

4. Making Requests and Asking for Directions

5. Making and Accepting an Apology

- 6. Inviting and Accepting/Declining an Invitation**
- 7. Making a Complaint**
- 8. Congratulating, Expressing Sympathy and Offering Condolences**
- 9. Making Suggestions, Offering Advice and Persuading**
- 10. Expressing Agreement/Disagreement and Seeking Clarification**

Question paper pattern of the course will be given in due course of time

F. Y. B. A. Optional English (General Paper-I) (w. e. f- 2013-2014)

Prescribed Text: *Interface: English Literature and Language* (Board of Editors- Orient Blackswan)

Objectives

- a) To expose students to the basics of literature and language
- b) To familiarize them with different types of literature in English, the literary devices and terms so that they understand the literary merit, beauty and creative use of language
- c) To introduce the basic units of language so that they become aware of the technical aspects and their practical usage
- d) To prepare students to go for detailed study and understanding of literature and language
- e) To develop integrated view about language and literature in them

Term-I

Prose

1. **A Lesson My Father Taught Me-** A.P.J. Abdul Kalam
2. **Toasted English-** R. K. Narayan

Short Stories

1. **The Romance of a Busy Broker-** O. Henry
2. **A Day's Wait-** Ernest Hemingway

Poetry

1. **Sonnet 29: 'When in disgrace with Fortune and men's eyes'**- William Shakespeare
2. **The World is too much with us-** William Wordsworth

3. **The Listeners**- Walter de la Mare
4. **No Men are Foreign**- James Kirkup

Language studies-I

1. **Characteristics of Human Language**
2. **Functions of Language**

Term-II

Short Stories

1. **Upper Division Love**- Manohar Malgaonkar
2. **Marriage is a Private Affair**- Chinua Achebe

Poetry

1. **The Road Not Taken**- Robert Frost
2. **The Sun Rising**- John Donne
3. **The Mountain and the Squirrel**- R. W. Emerson
4. **Ballad of the Landlord**- Langston Hughes

One Act Plays

1. **Lithuania**- Rupert Brooke
2. **Swansong** - Anton Chekhov

Language studies-II

1. **Aspects of Language and Branches of Linguistics**
2. **Introduction to the Sounds of English**

Question paper patterns of the course will be given in due course of time.

प्रथम वर्ष कला / वाणिज्य
प्रथम अयन एवं द्वितीय अयन

कोर्स न.	प्रथम अयन / द्वितीय अयन
प्रथम वर्ष कला (F.Y.B.A.) (सामान्य)	
1 A	हिंदी पाठ्यचर्या (सामान्य)
1 B	हिंदी पाठ्यचर्या (सामान्य)
प्रथम वर्ष वाणिज्य (F.Y.B.com) (सामान्य)	
1 A	हिंदी पाठ्यचर्या (सामान्य)
1 B	हिंदी पाठ्यचर्या (सामान्य)
प्रथम वर्ष कला (F.Y.B.A.) (सामान्य)	
1 A	प्रयोजनमूलक हिंदी (सामान्य)
1 B	प्रयोजनमूलक हिंदी (सामान्य)

प्रथम वर्ष कला (F.Y.B.A.) (सामान्य)
(प्रथम अयन)

पाठ्यचर्या : वैकल्पिक हिंदी प्रश्नपत्र – 1 A

3 कर्मांक

उद्देश्य :

1. छात्रों को हिंदी काव्य साहित्य का परिचय देना।
2. हिंदी कहानी साहित्य से अवगत कराना।
3. हिंदी भाषा द्वारा संवाद कौशल विकसित करना।
4. मौलिक लेखन की ओर रुझान बढ़ाना।
5. विज्ञापन लेखन कौशल विकसित करना।
6. अनुवाद संबंधी जानकारी देना।
7. हिंदी कंप्यूटिंग का परिचय देना।

	प्रथम सत्र/प्रथम अयन
इकाई – I	काव्य साहित्य : जूही की कली – निराला मैं नीर भरी दुख की बदली – महादेवी वर्मा कालिदास – नागार्जुन रोटी और संसद – धूमिल धार – अरुण कमल
इकाई – II	कहानी साहित्य : एक टोकरी भर मिट्टी – माधवराव सप्रे ईदगाह – प्रेमचंद जिंदगी और गुलाब के फूल – उषा प्रियंवदा युद्ध – शानी मिसेस डिसूजा के नाम पत्र – अलका सरावगी
इकाई – III	साहित्येतर पाठ्यक्रम : संवाद कौशल, सूत्रसंचालन, समूह चर्चा हिंदी कंप्यूटिंग : यूनिकोड (Unicode) की जानकारी। इंटरनेट की सामान्य जानकारी हिंदी सॉफ्टवेयर की जानकारी।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा – 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन– 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 70

प्रश्न : 1	प्रथम इकाई (काव्य) पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 2	द्वितीय इकाई (कहानी) पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 3	संसदर्भ व्याख्या	
	अ) काव्य (प्रथम इकाई) पर दो में से एक	अंक 07
	आ) कहानी (द्वितीय इकाई) पर दो में से एक	अंक 07
प्रश्न : 4	संवाद कौशल और सूत्रसंचालन पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 5	यूनिकोड/इंटरनेट और हिंदी सॉफ्टवेअर पर चार में से कोई दो प्रश्न	अंक 14

संदर्भ ग्रंथ सूची :

1. साहित्य विविधा – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. कंप्यूटर व सूचना प्रौद्योगिकी शब्दकोश – विनोद कुमार मिश्र
3. समाचार एवं प्रारूप लेखन – डॉ. रामप्रकाश, डॉ. दिनेशकुमार गुप्त
4. प्रयोजनमूलक हिंदी अधुनातन आयाम – डॉ. अंबादास देशमुख
5. कविता की संगत – विजय कुमार

प्रथम वर्ष कला (F.Y.B.A.) (सामान्य)
(द्वितीय अयन)

पाठ्यचर्या : वैकल्पिक हिंदी प्रश्नपत्र – 1 B

3 कर्मांक

उद्देश्य :

1. छात्रों को हिंदी काव्य साहित्य का परिचय देना।
2. हिंदी कहानी साहित्य से अवगत कराना।
3. निबंध लेखन कौशल को विकसित करना।
4. छात्रों को विज्ञापन लेखन से अवगत करना।

	द्वितीय सत्र/द्वितीय अयन
इकाई- I	काव्य साहित्य : आदमी को प्यास लगती है – ज्ञानेंद्रपति रोशनी के उस पार – ओमप्रकाश वाल्मीकि उतनी दूर मत ब्याहना बाबा – निर्मला पुत्तुल किताबें झाँकती हैं – गुलज़ार नींव की ईंट हो तुम दीदी – उदयप्रकाश
इकाई -II	गद्य विधा : सरजू भैया – रामवृक्ष बेनीपुरी (रेखाचित्र) भय – आ. रामचंद्र शुक्ल (निबंध) एक बूंद सहसा उछली – अज्ञेय (यात्रा वर्णन) अकबरी लौटा – अन्नपूर्णानंद वर्मा (व्यंग्य) प्रतिशोध – डॉ. रामकुमार वर्मा (एकांकी)
इकाई -III	साहित्येतर पाठ्यक्रम : लेखन कौशल : स्ववृत्त लेखन निबंध लेखन विज्ञापन लेखन : (दैनिक पत्र-पत्रिकाओं के लिए) वाक्य शुद्धिकरण (संज्ञा, सर्वनाम, विशेषण क्रिया के संबंध में)

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा – 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 70

प्रश्न : 1	प्रथम इकाई (काव्य) पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 2	द्वितीय इकाई (कहानी) पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 3	संसदभ व्याख्या	
	अ) काव्य (प्रथम इकाई) पर दो में से एक	अंक 07
	आ) कहानी (द्वितीय इकाई) पर दो में से एक	अंक 07
प्रश्न : 4	अ) स्ववृत्त लेखन पर दो में से कोई एक प्रश्न	अंक 05
	आ) विज्ञापन पर दो में से कोई एक प्रश्न	अंक 05
प्रश्न : 5	अ) वाक्य शुद्धिकरण (आठ में से छह)	अंक 06
	आ) निबंध लेखन (तीन में से एक विषय पर)	अंक 12

संदर्भ ग्रंथ ग्रंथ :

1. साहित्य विविधा – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. चौथा खम्भा प्राइवेट लिमिटेड – दिलीप मंडल
3. प्रयोजनमूलक हिंदी – डॉ. रवींद्रनाथ श्रीवास्तव
4. प्रयोजनमूलक हिंदी अधुनातन आयाम – डॉ. अंबादास देशमुख
5. विशुद्ध हिंदी भाषा – डॉ. सदानंद भोसले
6. देवनागरी लिपि – संपा. डॉ. शहाबुद्दीन शेख

प्रथम वर्ष वाणिज्य (F.Y.B.com) (सामान्य)
(प्रथम अयन)

पाठ्यचर्या : वैकल्पिक हिंदी प्रश्नपत्र – 1 A

3 कर्मांक

उद्देश्य :

1. छात्रों को हिंदी काव्य साहित्य का परिचय देना।
2. हिंदी कहानी साहित्य से अवगत कराना।
3. हिंदी भाषा द्वारा संवाद कौशल विकसित करना।
4. मौलिक लेखन की ओर रुझान बढ़ाना।
5. विज्ञापन लेखन कौशल विकसित करना।
6. हिंदी कंप्यूटिंग का परिचय देना।

	प्रथम सत्र/प्रथम अयन
इकाई – I	काव्य साहित्य : स्वदेश के प्रति – सुभद्राकुमारी चौहान हो गई पीर – दुष्यंत कुमार पिता के जूते – अशोक वाजपेयी पेड़ की पुकार – शंभुनाथ सिंह उदास तुम – धर्मवीर भारती
इकाई – II	कहानी साहित्य : भोलराम का जीव – हरिशंकर परसाई उसने कहा था – चंद्रधर शर्मा गुलेरी व्यथा का सरगम् – अमृतराय जंगल दाह – स्वयंप्रकाश सबसे कठिन काम – मधु कांकरिया
इकाई – III	साहित्येतर पाठ्यक्रम : अंक तथा गणितीय चिह्नों का देवनागरी में लेखन हिंदी कंप्यूटिंग : यूनिकोड (Unicode) की जानकारी। इंटरनेट की सामान्य जानकारी हिंदी सॉफ्टवेयर की जानकारी।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा – 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन– 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 70

प्रश्न : 1	प्रथम इकाई (काव्य) पर चार में से कोई दो प्रश्न	अंक 16
प्रश्न : 2	द्वितीय इकाई (कहानी) पर चार में से कोई दो प्रश्न	अंक 16
प्रश्न : 3	संसदर्भ व्याख्या	
	अ) काव्य (प्रथम इकाई) पर दो में से एक	अंक 07
	आ) कहानी (द्वितीय इकाई) पर दो में से एक	अंक 07
प्रश्न : 4	यूनिकोड, इंटरनेट, हिंदी सॉफ्टवेअर पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 5	अंक तथा गणितीय चिह्नों पर बारह में से दस प्रश्न	अंक 10

संदर्भ ग्रंथ सूची :

1. साहित्य सौरभ – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. कंप्यूटर व सूचना प्रौद्योगिकी शब्दकोश – विनोद कुमार मिश्र
3. हिंदी कहानी का विकास – मधुरेश
4. आधुनिक कविता यात्रा – रामस्वरूप चतुर्वेदी
5. कम्प्यूटरी सूचना प्रणाली विकास – राम बन्सल
6. जनसंचारिकी सिद्धांत और अनुप्रयोग – डॉ. राम लखन मीणा

प्रथम वर्ष वाणिज्य (F.Y.B.com) (सामान्य)
(द्वितीय अयन)

पाठ्यचर्या : वैकल्पिक हिंदी प्रश्नपत्र – 1 B

3 कर्मांक

1. छात्रों को हिंदी काव्य साहित्य का परिचय देना।
2. हिंदी कहानी साहित्य से अवगत कराना।
3. हिंदी भाषा द्वारा संवाद कौशल विकसित करना।
4. विज्ञापन लेखन के प्रकारों को अवगत करना।
5. अनुवाद का स्वरूप से अवगत करना।
6. पारिभाषिक शब्दावली से अवगत कराना।

	द्वितीय सत्र/द्वितीय अयन
इकाई – I	काव्य साहित्य : अब की लौटा तो – कुंवरनारायण कलगी बाजरे की – अज्ञेय माँझी का पूल – केदारनाथ सिंह बापू के प्रति – सुमित्रानंदन पंत माँ के लिए एक कविता – कात्यायनी
इकाई – II	कहानी साहित्य : पहलवान की ढोलक – फणीश्वरनाथ रेणु सलाम – ओमप्रकाश वाल्मीकि बच्चे का सपना – शेखर जोशी बोलनेवाली औरत – ममता कालिया चिट्ठी – अखिलेश
इकाई – III	साहित्येतर पाठ्यक्रम : संवाद कौशल अनुवाद: स्वरूप, परिभाषा, व्यावहारिक पक्ष पारिभाषिक (कार्यालयीन) 100 शब्दावली।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा – 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन– 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 70

प्रश्न : 1	प्रथम इकाई (काव्य) पर चार में से कोई दो प्रश्न	अंक 16
प्रश्न : 2	द्वितीय इकाई (कहानी) पर चार में से कोई दो प्रश्न	अंक 16
प्रश्न : 3	संसदभ व्याख्या	
	अ) काव्य (प्रथम इकाई) पर दो में से एक	अंक 07
	आ) कहानी (द्वितीय इकाई) पर दो में से एक	अंक 07
प्रश्न : 4	संवाद कौशल और अनुवाद पर चार में से कोई दो प्रश्न	अंक 14
प्रश्न : 5	पारिभाषिक शब्द (बारह में से दस)	अंक 10

संदर्भ ग्रंथ सूची :

1. साहित्य सौरभ – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. अनुवाद : स्वरूप और क्षेत्र – डॉ. गोपाल राय
3. प्रिंट मीडिया लेखन – हरीश हरोड़ा
4. राजभाषा विविधा – डॉ. माणिक मृगेश
5. व्यावहारिक हिंदी – रविन्द्रनाथ श्रीवास्तव, भोलानाथ तिवारी
6. भाषा शिक्षण – डॉ. रवीन्द्रनाथ श्रीवास्तव
7. फणीश्वरनाथ रेणु के कालजयी चरित्र : मनोविश्लेषण – विजय अवस्थी

प्रथम वर्ष कला (F.Y.B.A.) (सामान्य)

(प्रथम अयन)

पाठ्यचर्या : प्रयोजनमूलक हिंदी – 1 A

3 कर्मांक

उद्देश्य :

1. छात्रों को हिंदी काव्य साहित्य से परिचित कराना।
2. हिंदी कहानी साहित्य का परिचय देना।
3. हिंदी भाषा में संप्रेषण कौशल विकसित करना।
4. हिंदी भाषा द्वारा संवाद कौशल का विकास करना।
5. मौलिक लेखन की ओर रुझान बढ़ाना।
6. विज्ञापन लेखन की कला अवगत कराना।
7. हिंदी भाषा का विशुद्ध लेखन कौशल विकसित करना।
8. हिंदी कंप्यूटिंग का सामान्य परिचय देना।

	प्रथम सत्र/प्रथम अयन
इकाई – I	प्रयोजनमूलक हिंदी : अर्थ, परिभाषा, स्वरूपगत विशेषताएँ। प्रयोजनमूलक हिंदी और सामान्य हिंदी में अंतर।
इकाई – II	प्रयोजनमूलक हिंदी व्यवहार क्षेत्र : बैंक, बीमा, सूचना एवं प्रौद्योगिकी, जनसंचार माध्यम। हिंदी भाषा के विविध रूप : बोली भाषा, राजभाषा,
इकाई – III	हिंदी भाषा के विविध रूप : संपर्क भाषा, राष्ट्रभाषा। कार्यालयी हिंदी (राजभाषा) के प्रमुख कार्य : प्रारूपण, संक्षेपण, टिप्पण, प्रतिवेदन।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा – 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन– 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 70

तीनों इकाईयों पर विकल्प के साथ दो प्रश्न पुछे जाएंगे। कुलमिलाकार छह प्रश्न होंगे। (प्रत्येक प्रश्न के लिए दस अंक होंगे।)	60
सातवाँ प्रश्न टिप्पणी का होगा। चार टिप्पणी पूछी जाएगी। इनमें से दो के उत्तर लिखने होंगे।	10

संदर्भ ग्रंथ सूची :

1. प्रयोजनमूलक हिंदी : विविध आयाम – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. प्रयोजनमूलक हिंदी अधुनातन आयाम – डॉ. अंबादास देशमुख,
3. प्रयोजनमूलक हिंदी – विनोद गोदरे
4. सामयिक प्रयोजनमूलक हिंदी – पृथ्वीनाथ पाण्डेय
5. प्रयोजनमूलक हिंदी – डॉ. गोरख थोरात
6. पत्रकारिता : मिशन से मीडिया तक – अखिलेश मिश्र
7. चौथा खम्भा प्राइवेट लिमिटेड – दिलीप मंडल
8. प्रयोजनमूलक हिंदी – डॉ. रवींद्रनाथ श्रीवास्तव
9. राजभाषा हिंदी – कैलाशचंद्र भाटिया
10. राजभाषा के संदर्भ में हिंदी में आंदोलन का इतिहास – डॉ. उद्यनारायण दूबे

प्रथम वर्ष कला (F.Y.B.A.) (सामान्य)
(द्वितीय अयन)

पाठ्यचर्या : प्रयोजनमूलक हिंदी – 1 B

3 कर्मांक

1. छात्रों को विज्ञापन लेखन से परिचित कराना।
2. दृश्य श्रव्य की संकल्पना से अवगत कराना।
3. हिंदी भाषा में संप्रेषण कौशल विकसित करना।
4. हिंदी कंप्यूटिंग से अवगत कराना।

द्वितीय सत्र/द्वितीय अयन	
इकाई-I	विज्ञापन लेखन : विज्ञापन का स्वरूप, विज्ञापन के प्रकार, विज्ञापन के माध्यम, विज्ञापन का महत्व।
इकाई -II	श्रव्य : रेडियो- विज्ञापन का स्वरूप, शैली एवं विशेषताएँ, निर्माण प्रक्रिया। अनुवाद : स्वरूप, परिभाषा एवं महत्व, अनुवाद के गुण। अंक तथा गणितीय चिह्नों का देवनागरी में लेखन।
इकाई -III	पारिभाषिक शब्दावली (कार्यालयीन) 100 शब्द। हिंदी कंप्यूटिंग : यूनिकोड (Unicode) की जानकारी। इंटरनेट की सामान्य जानकारी। हिंदी सॉफ्टवेअर की जानकारी।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा – 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019-20 से आगे)

समय 3 घंटे

अंक 70

तीनों इकाईयों पर विकल्प के साथ दो प्रश्न पूछे जाएंगे। कुलमिलाकार छह प्रश्न होंगे। (प्रत्येक प्रश्न के लिए दस अंक होंगे।)	60
सातवाँ प्रश्न टिप्पणी का होगा। चार टिप्पणी पूछी जाएँगी। इनमें से दो के उत्तर लिखने होंगे। # (एक टिप्पणी पारिभाषिक शब्द पर होगी पांच पारिभाषिक शब्द पूछे जाएंगे। अंक होंगे पांच।) # (एक टिप्पणी अंक तथा गणितीय चिह्नों का देवनागरी में लेखन पर होगी। इसमें तीन अंक तथा दो गणितीय चिह्न पूछे जाएँगे। अंक होंगे पांच)	10

संदर्भ ग्रंथ सूची :

1. प्रयोजनमूलक हिंदी : विविध आयाम – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. प्रयोजनमूलक हिंदी अधुनातन आयाम – डॉ. अंबादास देशमुख, शैलजा प्रकाशन, कानपुर
3. प्रयोजनमूलक हिंदी (भाषिक संरचना, व्याकरण एवं अनुवाद) – डॉ. माधव सोनटक्के, लोकभारती प्रकाशन, इलाहाबाद।
4. प्रयोजनमूलक हिंदी – डॉ. पुरुषोत्तम वाजपेयी, चन्द्रलोक प्रकाशन, कानपुर
5. नये जनसंचार माध्यम और हिंदी – संपा. सुधीश पचौरी, अचला शर्मा
6. हिंदी व्याकरण – पं. कामताप्रसाद गुरु
7. प्रयोजनमूलक हिंदी की नयी भूमिका – कैलाशनाथ पांडेय
8. अनुवाद : स्वरूप और क्षेत्र – डॉ. गोपाल राय
9. राजभाषा हिंदी – कैलाशचंद्र भाटिया
10. भाषा और प्रौद्योगिकी – डॉ. विनोद कुमार प्रसाद
11. प्रयोजनमूलक हिंदी – डॉ. गोरख थोरात
12. अनुवाद विज्ञान – डॉ. भोलानाथ तिवारी
13. रेडियो लेखन – मधुकर गंगाधर
14. प्रिंट मीडिया लेखन – हरीश हरोड़ा

F. Y. B. A Compulsory English
(w. e. f. 2019-2020)
(Choice Based Credit System)
70:30-Pattern
(70-Semester-End Exam & 30-Internal Evaluation)

Prescribed Text: *Literary Gleam: An Anthology of Prose and Poetry* (Board of Editors-Orient BlackSwan)

Objectives:

- a) To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English
- b) To instill human values and develop the character of students as responsible citizens of the world
- c) To develop the ability to appreciate ideas and think critically
- d) To enhance employability of the students by developing their linguistic competence and communicative skills
- e) To revise and reinforce structures already learnt in the previous stages of learning.

Semester-I

Prose:

1. Engine Trouble — R. K. Narayan
2. On Saying 'Please' — A. G. Gardiner
3. The Gift of the Magi — O. Henry

Poetry:

1. A Red, Red Rose — Robert Burns
2. Leave this Chanting and Singing — Rabindranath Tagore
3. The Felling of a Banyan Tree — Dilip Chitre

Grammar:

1. Articles
2. Prepositions
3. Verbs
Regular and Irregular Verbs
Auxiliary Verbs: Primary and Modal
4. Punctuation

Communication Skills:

1. Greeting and Taking Leave

2. Introducing Yourself
3. Introducing People to One Another
4. Making Requests and Asking for Directions
5. Making and Accepting Apology

Semester- II

Prose:

1. In Sahyadri Hills, A Lesson in Humility — Sudha Murthy
2. The Model Millionaire — Oscar Wilde
3. The Eyes are not Here — Ruskin Bond

Poetry:

1. My Heart Leaps Up — William Wordsworth
2. Ozymandias — P. B. Shelley
3. Success is Counted Sweetest — Emily Dickinson

Grammar:

1. Tenses
2. Subject–Verb Agreement
3. Vocabulary

Communication Skills

1. Inviting and Accepting/Declining Invitations
2. Making a Complaint
3. Congratulating, Expressing Sympathy and Offering Condolences
4. Making Suggestions, Offering Advice and Persuading

- Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be three hours allotted to internal evaluation. Changes as per the university guidelines shall be communicated from time to time.

F. Y. B. A- Optional English (General Paper-1)
(w. e. f. 2019-2020)
(Choice Based Credit System)
70:30-Pattern
(70-Semester-End Exam & 30-Internal Evaluation)

Prescribed Text: *Initiations: Minor Literary Forms & Basics of Phonology* (Board of Editors- Orient BlackSwan)

Objectives:

- a) To expose students to the basics of literature and language and develop an integrated view about language and literature in them
- b) To acquaint them with minor forms of literature in English and help them to appreciate the creative use of language in literature
- c) To introduce them to the basics of phonology of English so that they can pronounce better and speak English correctly.
- d) To prepare students to go for detailed study and understanding of literature and language
- e) To enhance the job potential of students by improving their language skills

Semester - I

Prose Pieces:

1. **A Lesson My Father Taught Me - A.P.J. Abdul Kalam**
2. Toasted English - R. K. Narayan

Short Stories:

1. The Romance of a Busy Broker - O. Henry
2. The Open Window - Saki

Poetry:

1. Sonnet 29: 'When in disgrace with Fortune and men's eyes' - William Shakespeare
2. The World is too much with Us - William Wordsworth
3. The Listeners - Walter de la Mare
4. No Men are Foreign - James Kirkup

Language Studies:**Introduction to the Sounds of English: Part - I**

(Discrepancy between English Spelling and Pronunciation, Phonetic Symbols and Transcription, The Concept of Phoneme and Minimal Pairs.)

Semester - II**Short Stories:**

1. The Doll's House - Katherine Mansfield
2. The Thief - Ruskin Bond

Poetry:

1. I remember; I remember - Thomas Hood
2. Where the Mind is without Fear - Rabindranath Tagore
3. The Mountain and the Squirrel - R. W. Emerson
4. Up - Hill - Christina Rossetti

One Act Plays:

1. The Monkey's Paw - W.W. Jacobs
2. Swansong - Anton Chekhov

Language Studies:**Introduction to the Sounds of English: Part - II**

(The Concept of Syllable, Monosyllabic and polysyllabic Words, The Concept of Word Stress and Different Standards of Pronunciation i.e. British Received Pronunciation, General American English and General Indian English.)

- Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be three hours allotted to internal evaluation. Changes as per the university guidelines shall be communicated from time to time.

Question paper Pattern (2019-20)

(Choice Based Credit System)

F Y B A Compulsory English: Text: LITERARY GLEAM: A SELECTION OF PROSE AND POETRY

(70-Semester-End Exam & 30-Internal Evaluation)

SEMESTER-I Hours: Three Marks: 70

Q. 1) A. Attempt any One from the following questions:

(Two questions on **Prose piece -1**)

B. Attempt any One from the following questions:

(Two questions on **Prose piece -2**)

Marks 14

Q. 2) A. Attempt any One from the following questions:

(Two questions on **Prose piece -3**)

B. Attempt any One from the following questions:

(Two questions on **Poem - 1**)

Marks 14

Q. 3) A. Attempt any One from the following questions:

(Two questions on **Poem -2**)

B. Attempt any One from the following questions:

(Two questions on **Poem -3**)

Marks 14

Q.4) Objective Questions on Grammar and Punctuation as under:

- a. Use correct articles in the blank space in the sentences given below. (3 out of 5)
- b. Fill in the blanks with correct preposition given in the brackets. (3 out of 5)
- c. Look at the underlined verbs in the sentences below and specify whether it is a regular verb or irregular verb: (3 out of 5)
- d. Look at the underlined auxiliaries in the sentences below and specify whether it is a primary or a modal auxiliary: (3 out of 5)
- e. Punctuate and rewrite the following sentence correctly. **Marks 14**

Q.5) Practical Questions on Communication Skills: 1, 2, 3, 4, 5.

Marks 14

Total Marks: 70

SEMESTER - II

Question Paper Format

Q. 1) A. Attempt any One from the following questions:

(Two questions on **Prose piece -1**)

B. Attempt any One from the following questions:

(Two questions on **Prose piece -2**)

Marks 14

Q. 2) A. Attempt any One from the following questions:

(Two questions on **Prose piece -3**)

B. Attempt any One from the following questions:

(Two questions on **Poem - 1**)

Marks 14

Q. 3) A. Attempt any One from the following questions:

(Two questions on **Poem -2**)

B. Attempt any One from the following questions:

(Two questions on **Poem -3**)

Marks 14

Q.4) Objective Questions on Grammar and Vocabulary as under:

a. Fill in the blanks with correct tense form of the verb given in the brackets.

(6 out of 9)

b. Fill in the blanks using the appropriate form of the verb given in the brackets.

(4 out of 6)

c. Practical questions on vocabulary (e. g. Give synonyms/antonyms of the following words, Give a list of words related to computer/mobile/wild animals etc.)

(4 out of 6)

Marks 14

Q.5) Practical Questions on Communication Skills: 1, 2, 3, 4.

Marks 14

Total Marks: 70

Pattern for Internal Evaluation in both the semesters:

1. Internal Mid-Semester Examination – 20

2. Home Assignments/Tutorials/Oral/Lecture Notes/Project - – 10

TOTAL – 30 Marks

F Y B A -Optional English (General Paper-1)

Text: INITIATIONS: MINOR LITERARY FORMS & BASICS OF PHONOLOGY

(70-Semester-End Exam & 30-Internal Evaluation)

SEMESTER-I Hours: Three

Marks: 70

Question Paper Format

Q. 1) A. Attempt any One from the following questions:

(Two questions on **Prose piece -1**)

B. Attempt any One from the following questions:

(Two questions on **Prose piece -2**)

Marks 14

Q. 2 **A.** Attempt any One from the following questions:

(Two questions on **Short Story -1**)

B. Attempt any One from the following questions:

(Two questions on **Short Story -2**)

Marks 14

Q. 3) Attempt any 02 out of the 04 given questions:

(Questions on the **Poems for the I st sem**)

Marks -14

Q. 4) Explain with reference to context (Any 2 out of 4)

(**Questions on Poems for the 1st sem**)

:

Marks 14

Q.5) A. Write short notes: (any 2 out of 4) :

Marks 10

B. Practical questions on phonology (any 4 out of 6) :

Marks 04

(**Questions on topics from Introduction to the Sounds of English Part –I**)

Total Marks: 70

SEMESTER - II

Hours: Three

Marks: 70

Question Paper Format

Q. 1 **A.** Attempt any One from the following questions:

(Two questions on **Short Story -1 from II nd Sem**)

B. Attempt any One from the following questions:

(Two questions on **Short Story -2 from IInd Sem**)

Marks 14

Q.2 Attempt any 02 out of the 04 given questions:

(Questions on the **Poems for the II nd Sem**)

Marks -14

Q. 3 Explain with reference to context (Any 2 out of 4)

(**Questions on Poetry for the II nd Sem**)

:

Marks 14

Q. 4 A. Attempt any One from the following questions:

(Two questions on **the First One Act Play**)

B. Attempt any One from the following questions:

(Two questions on **the Second One Act Play**)

Marks 14

Q.5) A. Write short notes: (any 2 out of 4) :

Marks 10

B. Practical questions on phonology (any 4 out of 6) :

Marks 04

(**Questions on topics from Introduction to the Sounds of English Part –II**)

Total Marks: 70

Pattern for Internal Evaluation in both the semesters:

1. Internal Mid-Semester Examination – 20

2. Home Assignments/Tutorials/Oral/Lecture Notes/Project/Seminar/G D – 10

TOTAL – 30 Marks



SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

F.Y.B.A. in Economics

SYLLABUS

(Credit and Semester System)

(To be implemented from the Academic Year, 2019-20)

F.Y.B.A. Economics

G-1 Indian Economic Environment

Annexure –II

1) Title of the course:

Class: F.Y.B.A.

Subject: Economics.

Title: Year of Implementation: From June - 2019

2) Preamble of the syllabus:

The proposed curriculum is with an objective to enhance the existing syllabus, make it contextual as well as applicable and to incorporate all the latest changes in the national economy. The board examined the short comings of the existing syllabus and expressed the need to change it. While doing so the board analyzed other curricula of existing universities in respective subjects in terms of content, relevance, quality and pattern of teaching that has been synthesized in the present proposal. While framing the draft of syllabus, guidance from industrial experts and professionals was sought.

The present era is that of structural transformation especially within the country.

Moreover fast changing international scenario and approach of other countries towards our human resource makes it mandatory for the educational system to impart latest knowledge to our students, so that they are prepared to merge themselves in the challenging economic and corporate environment.

Hence, a change in the paper and restructuring of syllabus becomes imperative. The syllabus needs to be holistic in nature. It should be contextual and clear the basics of economics but at the same time it should teach application of the theories in day to day life.

In the modern world, competition is an inseparable part of our lives. To inculcate a competitive spirit among the students, the syllabus should include all the recent advancement with in and out of the country with its pros and cons.

3) Objectives of the paper

- To familiarize the students with the recent developments in the Indian Economy
- To provide the students with the background of the Indian Economy with focus on contemporary issues like economic environment.
- To help the students to prepare for varied competitive examinations
- To enable students to understand and comprehend the current business scenario, agricultural scenario and other sectorial growth in the Indian context. To make the student aware of the developments such as MSMEs, Digital Economy, E-Banking, BPO & KPO, etc.

Programme Outcome:

- Ability to develop an understanding of the economic environment and the factors affecting economic environment.
- Ability to develop awareness on the various new developments in the different sectors of an economy – agriculture, industry, services, banking, etc.
- Ability to compare and contrast Indian Economy with other world economies.
- At the end of the course, the student should be able discuss and debate on the various issues and challenges facing the Indian Economic Environment.

4) Introduction:

Semester system with the pattern of 70:30

5) Eligibility:

Students who have passed 12th standard from any stream with minimum 35% of marks in all the subjects. (as per the rule of affiliating SPPU)

6) Examination:

A) Pattern of examination: 70:30

i) Internal university examination of 70 marks with internals of 30 marks

ii) Pattern of question paper: pattern for 70 marks

- Question Number 1: 8 questions to be answered out of 10 with total marks 16
- Question Number 2: 4 questions to be answered out of 6 with total marks of 16
- Question Number 3: 3 questions to be answered out of 4 with total marks of 18
- Question Number 4: 2 questions to be answered out of 3 with total marks of 20

iii) Duration for 70 marks: 3 Hrs

iv) Pattern for 30 marks:

- Internal exam (20 marks)
- PPT (oral or poster)/ Project work/Assignments/visits (10 marks)

v) Unit wise classification of marks

Unit	Name of the Chapter	Distribution of marks
Semester 1		
Unit 1	Introduction	23
Unit 2	Agricultural Environment	23
Unit 3	Industrial Environment	24
Total		70
Semester 2		
Unit 1	Service Sector Environment	20
Unit 2	Banking Environment	25
Unit 3	Overview of Indian economy	25
Total		70

B) Standard of Passing:

To pass, the candidate must obtain at least 40% in individual subjects, in internal assessment and in university examination each in all the papers.

C) ATKT rules

As per the rules of SPPU, a student can have maximum two papers as backlog and go to second year.

D) Award of Class:

- Those successful candidates who obtained 40 % and above of the total aggregate marks in all subjects for internal assessment and university examination taken together at one and same sitting, shall be placed in Pass Class.
- Those successful candidates who obtained 50 % and above of the total aggregate marks in all subjects for internal assessment and university examination taken together at one and same sitting, shall be placed in Second Class.
- Those successful candidates who obtained 55 % and above of the total aggregate marks in all subjects for internal assessment and university examination taken together at one and same sitting, shall be placed in Higher Second Class.

iv. Those successful candidates who obtained 60 % and above of the total aggregate marks in all subjects for internal assessment and university examination taken together at one and same sitting, shall be placed in First Class.

v. Those successful candidates who obtained 70 % and above of the total aggregate marks in all subjects for internal assessment and university examination taken together at one and same sitting, shall be placed in First Class with

E) External students:

The students who appear for the examinations without attending any college and take admission in the university as external students will be considered as external students.

F) Setting of question paper/pattern of question paper

Question papers will be set by the panel of paper setters appointed by Savitribai Phule Pune University.

G) Verification/ revaluation

Verification and or revaluation will be done by panel appointed by Savitribai Phule Pune University.

7) Structure of the course

a) Compulsory paper:

Only one paper will be given without and optional subject

b) Optional paper

No subjects are optional.

c) Medium of instructions:

Medium of instruction for the paper will be both Marathi and English.

Structure of the entire course

BA Economics			
FY	G1	Indian Economic Environment	2019-20
SY	G2	Financial System	2020-21
SY	S1	Micro Economics	2020-21
SY	S2	Macro Economics	2020-21
TY	G3	Public Finance	2021-22
TY	S3	International Economics	2021-22
TY	S4	Economics of Development	2021-22

8) Equivalence of previous syllabus with the proposed syllabus

The revised syllabus has changes in the name of the paper, topics and sub topics offered as compared to the old syllabus. The paper will make the syllabus more comprehensive and modified to suitably align with the changing Indian scenario. The paper will set an apt background for students to comprehend knowledge of economics in their academic career and apply the knowledge in their life.

9) University terms

Academic calendar of the affiliating university will be followed.

10) Subject wise detail syllabus

Semester 1		
Units	Name and sub titles of the Chapter	No of lectures
Unit 1	Introduction	16
	1.1 Meaning, Factors affecting Economic Environment- Economic, Political, Technological, Social & Cultural	08
	1.2 Challenges to Indian Economy: Natural Resources, Energy Resources, Education, Health, Environment	04
	1.3 Comparison of Indian Economy with the World Economy- Population, Agriculture, Industry and Service Sector	04
Unit 2	Agricultural Environment	16
	2.1 Role of Agriculture in Indian Economy	04
	2.2 Challenges to Indian Agriculture-Productivity, Rural Credit, Marketing, Rural Entrepreneurship	08
	Recent Trends in Indian Agriculture: Cropping pattern, Technology, Crop Insurance, Water Management, Agri-Business	04
Unit 3	Industrial Environment	16
	3.1 Role of Industry in Indian Economic Development	04
	3.2 Industrial Policy Resolution, 1991- Liberalization, Privatization and Globalization (LPG)	03
	3.3 Challenges to Indian Industry-Labour & Employment, Regional Imbalance, Finance, Technology	03
	3.4 Micro, Small and Medium Enterprises (MSME)- Definition & Role	03
	3.5 Recent trends in Indian Industry- Indian Multinationals & New Policies	03
Semester 2		
Unit 1	Service Sector Environment	12
	1.1 Role and Growth of Service Sector in Indian Economy	02

	1.2 Challenges to Indian Service sector- Business-based & Knowledge-based Sector , Education sector, Health sector, Insurance, Tourism , Banking	06
	1.3 Recent Trends in Indian Service Sector- Digital Economy, E-Commerce, E- Finance	04
Unit 2	Banking Environment	18
	2.1 Banking- Definition, Functions, Changing Structure of Banking in India - New Private Banks, Small Banks, Payment Banks	08
	2.2 Bank Accounts- Types, Procedure and Operation of Accounts	05
	2.3 Recent Trends in Indian Banking Environment - E-Banking, E- Wallets, Bank Mergers and Amalgamations	05
Unit 3	Overview of Indian economy	18
	3.1 Challenges of Indian Economy- Poverty, Employment, Inequality, Informal Sector	09
	3.2 Policy Measures (Two-Three recent Programmes)- Poverty Alleviation Programmes; Employment Generation Programmes; Agriculture Development Programmes, Skill Development Programmes	09

11) Recommended books

Semester I: Basic Reading List

- Agrawal A.N., Problems of Development & Planning, (Latest Edition)
- Ashwani Mahajan, 'Indian Economy' S. Chand & Company Ltd., New Delhi.
- Cherunilam Francis, 'Business Environment-Text and Cases' Himalaya Publishing House(Latest Edition)
- Faisal Ahmed 'Business Environment: Indian and Global Perspective' PHL Learning Pvt. Ltd. (Latest Edition)
- Fernando A.C. (2014) 'Business Environment' Pearson Education,
- Misra & Puri, 'Business Environment', Himalaya Publication House, Mumbai. (Latest Edition)
- Misra & Puri, 'Indian Economy', Himalaya Publication House, Mumbai. (Latest Edition)

Recommended Reading

- Asian Development Bank (2009) 'Urban Poverty in India' BS Books

- Amit Kumar (2013) 'SMEs in India in post-1990s Era: Challenges and Opportunities, LAP Lambert Academic Publishing
- Das Keshab (2011) 'Micro and Small Enterprises in India: The Era of Reforms' Routledge India
- Gopal and Suman Banhri (2013) Indian Economy Performance and Policies. Pearson Publication Delhi.
- C.S.Prasad(2006) 'Sixtyyears of IndianAgriculture'New Century Publication, NewDelhi
- Indian Institute of Banking and Finance (2011) 'Small and Medium Enterprises in India' Taxmann
- Jaya PrakashPradhan (2008) 'Indian Multinational in the World Economy: Implications for Development', Bookwell Publications
- JagdishBhagwati, ArvindPangariay (2013) 'Reforms and Economic Transformation in India' OUP
- MohantyPrasanna (2014) 'Cities and Public Policy' Sage Publications
- Prakesh B.A. (2011) The Indian Economy Since 1991 Economic Reforms and performance, Pearson Publication Delhi.
- Thorat S. K (2008) 'Reservation in Private Sectors' Rawat Publications, ND

Semester II: Basic Reading List

- Agrawal A.N., Problems of Development & Planning, (Latest Edition)
- Ashwani Mahajan, 'Indian Economy' S. Chand & Company Ltd., New Delhi.
- Cherunilam Francis, 'Business Environment-Text and Cases' Himalaya Publishing House(Latest Edition)
- Faisal Ahmed, 'Business Environment: Indian and Global Perspective' PHL Learning Pvt. Ltd. (Latest Edition)
- Fernando A.C. (2014) 'Business Environment' Pearson Education,
- Misra& Puri, 'Business Environment', Himalaya Publication House, Mumbai. (Latest Edition)
- Pathak, Bharati [2009] 'The Indian Financial System', 'Pearson Education Publication, New Delhi.

Recommended Reading

- Bhasin, Niti (2006) “Banking Developments in India 1947 to 2007” New Century Publications.
- Bhadane Jaywant R. (2018) ‘Cashless India and Digital Economy’ International Publications, Kanpur
- Dasgupta Sukti, Sher Singh Verick (2016) ‘Transformation of Women at Work in Asia: An Unfinished Development Agenda, Sage
- Paul Justin (2010) ‘Business Environment-Text and Cases’ Tata McGraw Hill
- Khanna Tarun (2008) ‘Billions of Entrepreneurs: How India and China are Reshaping their Future and Yours’ Penguin India
- Kapila Uma (ed) Indian Economy Since Independence, Academic Foundation(2003)
- Panagariya Arvind (2010) ‘India: The Emerging Giant’ Oxford University Press
- Sobhan Rehman (2010) ‘Challenging the Injustice of Poverty: Agendas for inclusive Development in South Asia’ Sage
- Samanta R.K. (2000) “New Vista in Rural Development Strategies and Approaches” B.R. Publishing Corporation New Delhi
- Spana Newar, Tanvi Gaur (2015) ‘Economic Environment in India, Think Tank Publications, Jaipur

12) Qualification of teachers:

Qualification of teachers as per norms of SPPU will be masters in Economics and SET/NET/Ph.D.



SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

F. Y. B. A. Home Economics

Syllabus

(Semester & Choice Based Credit System)

(To be implemented from the Academic Year, 2019-20)

F.Y.B.A

HOME ECONOMICS -G-1

Title of Course-(General and Household Economics)

(With effect from June 2019)

Semester – I

- | | |
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| 1.1. Home Economics, Meaning, Nature and scope. | |
| 1.2. Market Mechanism - Meaning and functions. | |
| 1.3. Demand Schedule Individual and Market demand. | |
| 1.4. Law of Demand - Elasticity of Demand – Measurement and types of elasticity. | |
| 1.5. Supply Schedule and Law of Supply. | |
| 2) Money and Banking. | 14 |
| 2.1. Money - Meaning and Functions | |
| 2.2. Banks – Types of Banks | |
| 2.3. Functions of Banks | |
| 2.4. Prices level - Inflation – Deflation | |
| 2.5. Effects on Economy and Different Income Groups | |
| 3) Household Income and Expenditure. | 18 |
| 3.1. Sources of Household Income | |
| 3.2. Types of Family Expenditure | |
| 3.3. Meaning of Family Budget | |
| 3.4. Difference between Family Budget & Public Budgets | |
| 3.5. Poverty in India - Cause and Remedies | |

Semester II

- 1) Home Management. 18**
- 1.1. Home Management-Meaning, Nature and Scope
 - 1.2. Different Steps of Home Management
 - 1.3. Importance of Home Management – Features of Home Management
 - 1.4 Merit and Demerits of Home Management
 - 1.5 Social and Human Values and Goals- Meaning, Role and types
- 2) Decision- Making in Home Management 14**
- 2.1 .Meaning, Nature & Scope of Decision- making in Home Management
 - 2.2 .Importance of Decision- Making in Home Management
 - 2.3 .Steps in Decision-making in Home Management
 - 2.4. Merit and Demerits Decision-making in Home Management
 - 2.5. Factors affecting Decision -making in Home Management
- 3) House Planning. 16**
- 3.1 .House Planning for Lower-Middle and High Income Groups
 - 3.2. Meaning and Nature of House Decoration
 - 3.3. Elements of Interior House Decoration
 - 3.4 .Elements of Exterior House Decoration
 - 3.5. Interior and Exterior maintenance of Home-Aesthetically, Functionally and Hygienically

Reading material.

- I. Micro –economic Theory : Dewett K.K.S. Chand Publication, Agra
- II. Paul Samuelson : Economics (International Students Edition) Tenth Edition, McGraw Hill, Kogakusha Ltd
- III. Nickell, P and Dorsey J. : Management Family Living.
- IV. Gilberth, T. : Management in the Home.
- V. Hall and Paolueci : Teaching of Home Economics.
- VI. Devdas, R. :Text-Book of Home Economics.
- VII. Brown Effa: Color in Home Decoration.
- VIII. Whitean Sheril: The Elements of Interior Decoration.

**FACULTY OF ARTS
AND FINE ARTS**

No.

**Syllabi for the
Three-Year Integrated B.A. Degree Course**

F. Y. B. A.



UNIVERSITY OF PUNE

Price : Rs. 00/-

Publisher's Note

The University of Pune has great pleasure in publishing the syllabus for the **F.Y.B.A.** Examination under the Faculty of Arts and Fine Arts.

It is hoped that this syllabus will be most useful to the students of this course.

On behalf of the University, I thank the experts and authorities of the University for their keen interest and whole-hearted co-operation in bringing out this publication.

University of Pune
Ganeshkhind,
Pune-411007.

Dr. D. D. Deshmukh
Registrar

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UNIVERSITY OF PUNE
Syllabi for Three-Year
Integrated B.A. Degree Course

F.Y.B.A.

The B.A. degree course will consist of three years. The first year annual examination shall be held at the end of the first year. The second year annual examination shall be held at the end of the second year. The third year annual examination shall be held at the end of the third year.

- (i) No candidate shall be admitted to enter upon the first year of B.A. Course unless he has passed the higher secondary school certificate examination of the Maharashtra State Board of Higher Secondary Education or an equivalent examination of any other statutory Board or University with English as a passing subject.
- (ii) No candidate shall be admitted to the annual examination of the First Year unless he has satisfactorily kept two terms for the course at the college affiliated to this University.
- (iii) No candidate shall be admitted to the annual examination of the second year B.A. unless he has kept two terms satisfactorily for the same at the college affiliated to this University.
- (iv) No candidate shall be admitted to third year examination of the B.A. Course unless he has passed in all the papers at the first year B.A. Examination and has satisfactorily kept the terms for the second year and also two terms for the third year of B.A. satisfactorily in a college affiliated to this University.

F.Y.B.A. / 6

The structure will be as under :

Bachelor of Arts (B.A.)

- I. The student joining the First Year B.A. Course shall offer six subjects as follows :
- (i) The student can offer not more than one subject from one group.
 - (ii) Subject in Group “A” is compulsory.
 - (iii) The student has to offer at least one language from Group “B” or Group “C” or Group ‘J’.
 - (iv) The student may offer one more subject from Group “B” or Group “C” subject to (i) above.

The student may offer “Optional English” from Group “J” alone or in combinations with one language from either Group “B” or Group “C”.

Group “A” .. Compulsory English.

Group “B” .. Marathi, French, German,
Sindhi, Gujarathi, Urdu, Russian.

Group “C” .. Hindi, Persian, Sanskrit,
Ardhamagadhi, Pali, Arabic.

Group “D” .. Economics.

Group “E” .. Politics.

Group “F” .. History, Cultural Anthropology.

Group “G” .. Geography, Music, Public
Administration.

Group “H” .. Psychology, Gandhian Thought,
Yoga.

Group “I” .. History of Civilization, Home
Economics, Defence Studies,
Social Work.

F.Y.B.A./7

- Group “J” .. Linguistics, Commerce, Education, Industrial Mathematics, Mathematical Statistics, Optional English, Physical Education.
- Group “K” .. Mathematics, Statistical Prerequisites, Sociology, Logic & Methodology of Science.
- Group “L” .. Statistics, Applied Mathematics, Mathematical Prerequisites, Applied Statistics, Ancient Indian History & Culture, Philosophy.
- Group “M” .. N.S.S., Adult Education.

- II. In the Second Year, the student shall decide whether he wants to study for the B.A. (General) or the B.A. (Special) Degree :
- (a) (i) The student studying for the B.A. (General) Degree shall study the following subjects in the Second Year :
- (1) Compulsory English.
 - (2-6) Same five subjects offered in the First Year.
- (ii) The student studying for the B.A. (General) Degree shall study the following subjects in the Third Year :
- (1) Compulsory English.
 - (2-6) Same five subjects offered in the First and Second Years.

F.Y.B.A./8

- (b) (i) The student studying for the B.A. (Special) Degree shall study the following subjects in the Second Year :
- (1) Compulsory English.
 - (2-4) One paper each at General level of the three subjects chosen out of the five subjects offered in the First year.
 - (5-6) Two papers at Special level of one subject chosen as a Special Subject out of the three subjects offered at General level.
- (ii) The student studying for the B.A. (Special) Degree shall study the following subjects in the Third Year :
- (1) Compulsory English.
 - (2-4) One Paper each at General Level of the three subjects offered in the Second Year.
 - (5-6) Two Papers at the Special level of the subject chosen as a Special Subject in the Second Year.
- (c) Normally students are not allowed to change the subject at the second or third year offered by him at the first year. However, as a very special case, a student may be allowed to offer a special subject at the second year, even though he may not have offered the same at the first year. In such case he should have passed his first year examination in all the papers and he will have to complete the first year paper in that new subject at the second year before he goes to the third year. No change of subject will be allowed at the Third Year.

F.Y.B.A./9

(C) Examinations

1. There shall be examination at the end of the First Year which shall be called “Annual Examination”. The Annual Examination of each subject will be of 100 marks and will be of three hours duration.
2. The staff shall be paid remuneration in accordance with the rules prescribed by the University from time to time.

Practical Examination

3. The practical examination will be of 100 marks and will be held only at the end of the year. The practical Examination wherever laid down will be conducted before the commencement of the Annual (Theory) examination. For practical examination at First Year B.Sc. the present practice of appointing both internal examiners will continue.

For practical examination at Second and Third Year B.Sc. both the examiners will be external.

The College where the practical examination centre is located, will take the responsibility of arranging the practical examinations.

(D) Standard of Passing

1. The candidate who has secured atleast 40 marks out of 100 in the Annual Examination shall be declared to have passed in the paper.
2. The candidate failing to secure 32 marks in the Annual Examination shall have to appear for subsequent Annual Examination in that paper.

F.Y.B.A. / 10

3. The University shall conduct the Supplementary Annual Examination in October for Third Year papers only for the repeater student so as to enable him to save some time.
4. The students having the backlog of subject or subjects of the Second Year will be required to clear the same only in the next April/May Examination.

(E) Award of Class

The class should be awarded to the student on the aggregate marks obtained by him at the First Year Examination. And, in respect of B.A. & B.Com. Degrees on the aggregate marks in the Second Year and Third Year Examinations and in respect of B.Sc. degree on the aggregate marks obtained during the Second Year and the Third Year, in the Principal subject only. The award of class shall be as follows :

1. Aggregate 70% and above .. First Class with Dist.
2. Aggregate 60% and above .. First Class.
3. Aggregate 55% and more .. Higher Second Class.
but less than 60%
4. Aggregate 50% and more .. Second Class.
but less than 60%
5. Aggregate 40% and more .. Pass Class.
but less than 50%
6. Below 40% .. Fail.

University Terms : The dates for the commencement and conclusion of the first and the second terms shall be determined by the University authorities. The terms can be kept by only duly admitted students. The present relevant ordinances pertaining to grant of terms will be applicable.

F.Y.B.A. / 11

A candidate shall have the option of answering the questions in any of the subjects other than languages either in Marathi or in English. In the case of languages, question shall be answered in the media as indicated below except those questions which require translation into particular language :

Languages

Sanskrit, Pali,

Ardhamagadhi

Persian,

Marathi, Gujarathi, ... The same language.

Kannada, Urdu,

Hindi, English

French, German ... The same language or English.

Media

... The same language or

English or Marathi.

... Persian, Urdu or English.

A candidate taking the courses for B.A. First Year or Second Year examination as the case may be, may be permitted by the Principal of the College to change any of the subjects in the course selected by him for particular year before the commencement of the second term. Such candidates are required to pay Rs. 100/- towards change of subject fees to the University.

Conditions :

- (i) A candidate who has been permitted to enter upon the course for the Second Year B.A. examination wishing to change his optional subject or subjects at the First Year examination in which he has failed shall be allowed to do so for that purpose. He will be required to keep two additional terms, for the changed subject for the First Year and he will be required to appear and pass the subject by appearing at the Annual Examination for the changed subject.

F.Y.B.A. / 12

- (ii) The candidate after having kept regular terms for the Second Year and admitted to Third Year will not be allowed to change the subject of the Second Year or the Third Year.

An application (which must be in the prescribed form and accompanied by the prescribed fee) for admission to any of the examinations of B.A. degree course shall be forwarded by a candidate to the Registrar through the Principal of the College attended by him on or before the prescribed date alongwith the certificate from the Principal (1) of his having attended the course and kept the terms according to provision of O.67 and O.72 in the various subjects and of having satisfied the other conditions laid down by the University and (2) of his being fit candidate for the examination.

- (iii) No candidate shall be admitted to First Year of B.A. examination for the first time unless he produces a certificate from his Principal to the effect that he has attended at least 3/4th of the aggregate number of periods for Physical Training or has been exempted therefrom on the grounds that (1) he is medically unfit to undergo such training, (2) he is a member of N.C.C. or (3) he has been regularly taking part as a member of the college team in the recognized fixtures of the major games.

The result of the first year examination shall be declared publicly in two categories viz. (1) the candidate who has passed the first year examination and (2) the candidate is allowed to proceed to second year.

F.Y.B.A. / 13

In case of candidates allowed to proceed to second year course, the result of the first year examination shall be declared if and when they pass in the remaining subjects prior to their admission to the third year of the B.A.

A candidate who has passed in any other heads of passing shall not be allowed to appear in that head.

An Ex-student shall be allowed on a fresh application and payment of a fresh fee to appear at the subsequent examination in those heads of passing in which he has failed or in which he has previously not appeared without keeping any additional term.

A candidate who has failed at the B.A. degree examination and wishes to re-appear with the change in subject for any particular subject but in accordance with the bias of the subjects at the first year will be required to keep the additional requisite terms for the changed subject.

A candidate failing at the B.A. special degree examination shall have option of appearing at the B.A. general degree examination subject to the provisions above. Such candidate will be eligible for a class, a prize, a scholarship, a medal or any other award.

A candidate failing at the B.A. (General) degree examination shall have option of appearing at the B.A. Special degree examination subject to above provision. Such candidates shall be eligible for a class, a prize, a scholarship, a medal or any other award.

F.Y.B.A. / 14

A candidate who has passed once the B.A. General or the B.A. Special degree examination of this University shall be permitted on the submission of fresh application and the payment of fresh fee to appear again at the B.A. degree examination.

- (1) In any number of courses for one or two papers for the B.A. General examinations subject to bias of the papers at the first year and provided he keeps four additional terms in the those subjects.
- (2) In the special papers, at the second year and third year or a special subject at the B.A. special examination in which he has not already passed the B.A. examination subject to bias of the subjects at the first year provided he selects at his special subject one of the general subjects he has offered at the B.A. general degree examination, and he keeps four additional terms for that special subject.

A candidate appearing under this regulation will not be eligible for a degree or a class or a prize or any other award. A candidate passing in this manner shall be awarded a certificate to that effect.

- (i) A candidate who has once passed the B.A. Degree examination of this University or an examination of any other statutory University or Examining Body recognized as equivalent thereof shall be allowed to appear again for the same examination provided he offers the subject different from those in which he has already passed and keeps four terms in a college affiliated to this University. Such candidate will be required to appear in a different subject or general subjects.

F.Y.B.A. / 15

- (ii) A candidate who takes the B.A. degree examination in accordance with the provisions stated (i) above, shall not be eligible for degree or class.
- (iii) The external candidates appearing for different subject/s optional papers are not required to keep the terms in the affiliated colleges. They are, however, required to register their names under above provision afresh for the respective years of examination.

No candidate shall be admitted to the First Year of B.A. external examination unless he—

1. has passed the H. S. C. Examination of the Maharashtra State Board or its equivalent examination.
2. has registered himself as an external candidate for the First Year of the B.A. Examination within the prescribed time limit without late fees and with late fees of the previous calendar year. No forms will be accepted in any case after the prescribed time limit.

A candidate receiving an official intimation of registration as an external candidate and wishing to appear for examination in the subject concerned must forward to the Registrar his application in the prescribed form together with the prescribed fee for admission to the examination on or before the prescribed date.

The courses of study, the syllabi and the standard for passing at the examination for the Degree of Bachelor of Arts External shall be identical with those for the examination for the degree of Bachelor of Arts but an external candidate

F.Y.B.A. / 16

shall not offer for his examination any subjects which involve practical work in a laboratory or keeping of journals or subjects notified by the Registrar at the beginning of each academic year.

The external candidates are required to appear for the annual examinations, the question paper will be of 100 marks.

EXTERNAL CANDIDATES

1. The registration as an external candidate for an examination shall be open to (a) those who are citizens of India and residing within India in the academic year in which they have applied for registration as an external student and have passed qualifying examination of this University or of any other statutory University or Body which (examination) has been recognized by the Pune University for the purpose of admission to its respective courses, (b) the medium of instructions shall be Marathi and English only, (c) candidates from outside Maharashtra State should produce at the time of registration an endorsement certificate about their residence in India and a certificate of service or carrying on business, from a Magistrate not below the rank of First Class Judicial Magistrate, (d) foreigners are not allowed to register their names for the external examinations of this University.

The candidates passing the B.Com. or B.Sc. examinations of this University or any other statutory University can be admitted to Second Year of B.A. Course. The results of such candidates will be declared on the basis of the performance at second and third year of the B.A. Course of this University.

F.Y.B.A. / 17

Pattern of Examinations

(1) The examination question paper shall be framed so as to ensure that no part of the syllabus is left out of study by a student. (2) The question paper shall be balanced in respect of various topics outlined in the syllabus. (3) The question papers shall have combinations of short and long answer questions. No objective questions, however, be asked. (4) There shall be no over-all option in the question paper. Instead, there shall be internal option such as either-or; or “Three short answers out of five” etc.

The internal candidates of B.A. can change over and become the external candidates after passing the first year of second year of the said course fully without any backlog.

When such a candidate desires to register himself as an external student, he may apply accordingly to the University within the stipulated time and in the prescribed form.

The candidate who has completed first year or second year of B.A. as an external student shall not be registered/ admitted as an internal student for the remaining part of the course.

The student may offer optional English from Group J alone or in combination with one language from either Group B or Group C, he shall not offer under any circumstances more than two languages from Group B, C and J.

F.Y.B.A. / 18

(1) COMPULSORY ENGLISH

Appendix

Group 'A'

पुणे विद्यापीठ

परिपत्रक क्र. १८०/२०००

विषय : प्रथम वर्ष कला वर्गाच्या इंग्रजी (सक्तीचे)

ह्या विषयासंबंधी.

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, प्रथम वर्ष कला वर्गाच्या इंग्रजी (सक्तीचे) ह्या विषयाच्या 'Developing your English' पुस्तकातील खालील भाग शैक्षणिक वर्ष जून २००० पासून वगळण्यात येत आहे :

Unit	-	3	-	Choice of crops for Improves Nutrition
Unit	-	4	-	Reading (Text B) Corrosive
Unit	-	5	-	Reading (Text A) Urban Villagers
Unit	-	7	-	Reading (Text B) Earthworm
Unit	-	8	-	Text B (Reading) Talking Runs Text A (Writing) Women and Man Do Think Differently
Unit	-	9	-	Reading (Text A) Habba Tehetoon
Unit	-	10	-	Reading (Text A) How Indians use English ?
Unit	-	3	-	Reading (Text B) -Choice or crops for improves Nutrition.

गणेशखिंड, पुणे-४११ ००७

जा. क्र. सीबीएन ३५९३

दिनांक : २४-५-२०००

सही x x x

कुलसचिवांकरिता

F.Y.B.A. / 19

Appendix

पुणे विद्यापीठ

परिपत्रक क्र. १२/२०००

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, सध्या अस्तित्वात असलेले प्रथम वर्ष कला वर्गाचे इंग्रजी (सक्तीचे) 'Developing Your English' ह्या पुस्तकातील खालील भाग १९९९-२००० ह्या शैक्षणिक वर्षासाठी वगळण्यात येत आहे. तसेच हे पुस्तक शैक्षणिक वर्ष २०००-२००१ व २००१-२००२ ह्या वर्षासाठीही पुढे चालू ठेवण्यात येत आहे.

- Unit 3—Choice of crops for Improves Nutrition
- Unit 4—Reading (Text B) Corrosive
- Unit 5—Reading (Text A) Urban Villagers
- Unit 7—Reading (Text B) Earthworm
- Unit 8—Text B (Reading) Talking Runs
Text A (Writing) Women and Man do
Think Differently
- Unit 9—Reading (Text A) Habba Tehetoon
- Unit 10—Reading (Text A) How Indians Use
English?
- Unit 3—Reading (Text B) –Choice or crops for
improves Nutrition.

गणेशखिंड, पुणे-४११ ००७

जा. क्र. सीबीए/८९२

दिनांक : ८-२-२०००

ना. म. कदम

कुलसचिवांकरिता

Group ' A '
(1) COMPULSORY ENGLISH
(1993-94, 94-95, 95-96, & 96-97)

Books Prescribed

1. **F.Y.B.A. Compulsory English :**
(for the Academic year 1998-99, 1999-2000)
Developing your English by Dr. S. B. Gokhale and others, Frank Brothers Ltd. (1998) (Prepared under ODA Project).
2. Macmillan Grammar - A Hand book by A. E. Augustine and K. V. Joseph (Macmillan)
3. The Count of Monte Cristo by Alexandre Dumas; retold by Beatnine Conway (Macmillan).
1. An Anthology of popular Essays and Poems :
 - (a) The following items from the prose section only :
 1. Nathaniel Hawthorne - The Golden Touch
 2. Oscar Wilde - The Selfish Giant
 3. Tagore - The Postmaster
 4. R. K. Narayan - Sweet for Angels
 5. Jim Corbett - Lalajee
 6. James Thurber - Snapshat of a Dog
 7. E. V. Lucas - Tight Corners
 8. A. G. Gardiner - On the Rule of the Road
 2. Macmillan Grammar - Part I
The following Units only 1 to 10 and 15, 17 and Essay Writing.
 - (b) From the Poetry section, the following poems only are prescribed :
 1. John Milton - On His Blindness
 2. Oliver Goldsmith - The Village Schoolmaster
 3. Wordsworth - (i) The Daffodils
(ii) The Solitary Reaper

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4. P. B. Shelley : Ozymandias
 5. John Keats : (i) On First Looking into
Chapmans Homer
(ii) La Belle Dame Sans
Merci
 6. Lord Tennyson : (i) Ulysses
(ii) King Arthur's
Farewell
 7. Thomas Hardy : The Man He Killed
 8. Robert Frost : Stopping by Woods on
a Snowy Evening.
3. The Count of Monte Cristo - For Rapid Reading

Format for the Annual Examination question paper

Marks : 100, Questions : 5, Time : 3 Hours.

1. Explain with reference to the context any four
(out of 7) based on the poetry section of Anthology of
popular Essays and poems. (20)
 2. (a) Essay type question on the poetry section of an
Anthology. (20)
- OR
- (b) Two short notes on the poetry section of an
Anthology. (20)
 3. (a) Essay type question on the prose section of an
Anthology. (20)
 - (b) Two short notes on the prose section of an
Anthology. (20)
 4. (a) Essay type question on the Rapid Reader The
Count of Monte Cristo. (20)
 - (b) Two short notes on The Count of Monte-Cristo.
(20)
 5. (a) Essay Writing (12)
 - (b) Grammar (08)
 - (i) Do as directed
 - (ii) Correct the following

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Format of the Question Paper

1. Passages for Reading Comprehension (20)
 - (a) Seen passage
 - (b) Seen passage
2. Passages for Reading Comprehension (20)
 - (a) Unseen passage
 - (b) Unseen passage
3. Textual Question (20)

(Two out of four questions to be answered)
4. Grammar : (15)

(Only contextualised grammar questions will be asked.)
5. Writing :
 - (a) A shorter piece of writing (10)

(Credit is given for the rough draft and one out of two questions to be answered.)
 - (b) A longer piece of writing (15)

(Credit is given for the rough draft and one out of two/three questions to be answered.)

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The end of the year and term end examinations will test the students skills of reading and writing. Their skills of listening and speaking will be tested through their class work by means of continuous assessment.

Q. I & II : Reading Comprehension :

Four passages for comprehension will be given. Each passage carries 10 marks. Two of the passages will be seen passages from the text and there will be two unseen passages. The two unseen passages will illustrate two different types of writing : journalistic academic or literary. The questions will test both local and global comprehension. They will test the students, ability to interpret the text literally, understand the implied meanings, be able to interrelate factor offer a personal response and evaluate the point of view presented in the passage. There will also be questions based on vocabulary.

Q. III : Textual Question :

The question expects students to be able to interrelate two or more passages from the text and offer their own points of view. It will be similar to the questions that appear in the section of the text entitled 'Global questions' students will be asked to answer one out of two questions. The expected length of the answer will be 40 lines.

Q. IV : Grammar :

The aim of this question is to test students knowledge of functional grammar. Therefore, no isolated sentences will appear in the question paper.

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The questions will be contextualised. The grammar questions will be based on the topics specifically covered in the textbook and those covered in the second year of the junior college (Std. XII students will be given some choice in the grammar questions).

Q. V : Writing :

(a) The question expects students to prepare a relatively shorter piece of writing (about 20 lines). For example, a letter (formal or informal), a report for the newspaper and advertisement. Students will be given credit for preparing a rough draft.

(b) The question expects students to prepare a relatively longer piece of writing (about 40 lines) for example, descriptive, narrative or reflective composition, the review of a film, play or cultural activity and preparation of speech for a particular purpose. Both (a) and (b) above will be guided composition and they will be task oriented activities. There will be at least 50% choice for students in both (a) and (b).

Note : The format of the question paper covers all the items in the syllabus as reflected in textbook.

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(२) मराठी

पुरवणी पत्रिका
प्रथम वर्ष बी. ए. मराठी

पुणे विद्यापीठ
परिपत्रक क्र. १८२/२०००

विषय : प्रथम वर्ष ते तृतीय वर्ष बी. ए. मराठी विषयाचा
अभ्यासक्रम सुधारित करण्याबाबत.

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, प्रथम वर्ष बी. ए. ते तृतीय वर्ष बी. ए. विषयाचा अभ्यासक्रम खाली नमूद केल्यानुसार सुधारित करण्यात येत आहे.

प्रथम वर्ष बी. ए.	जून २००० पासून
द्वितीय वर्ष बी. ए.	जून २००१ पासून
तृतीय वर्ष बी. ए.	जून २००२ पासून

त्या अनुषंगाने प्रथम वर्ष बी. ए. (सामान्य स्तर) चा अभ्यासक्रम या परिपत्रकासोबत जोडला आहे.

गणेशखिंड, पुणे-४११ ००७
जा. क्र. सीबीए/३६०१
दिनांक : २८-६-२०००

ना. म. कदम
कुलसचिवांकरिता

(ता.क्र. : या संदर्भातील समक्रमांकाचे परिपत्रक रद्द समजण्यात याचे).

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पुणे विद्यापीठ
बी. ए. प्रथम वर्ष मराठीचा अभ्यासक्रम
परिपत्रक क्र. १८२/२०००

अभ्यासक्रमाची उद्दिष्टे :

सामान्यस्तर :

१. बी. ए. १, २ व ३ पर्यंतच्या सामान्य स्तरावरील मराठी या विषयाचा अभ्यास करणाऱ्या विद्यार्थ्यांस स्थूलपणे मराठी साहित्य, मराठी भाषा आणि मराठी संस्कृती यांचा क्रमशः परिचय होणे.
२. साहित्यासंबंधी - विशेषतः मराठी साहित्यासंबंधी रुची निर्माण होणे.
३. विद्यार्थ्यांच्या वाङ्मयीन अभिरुचीचा विकास होणे.
४. आस्वाद घेण्याची डोळसक्षमता विकसित होणे.
५. साहित्याभ्यासातून जीवनविषयक समजही विकसित होणे.
६. मराठी साहित्यातील भिन्नभिन्न प्रवाह आणि प्रकार लक्षात घेणे.

बी. ए. प्रथम वर्ष : मराठी

सामान्य स्तर अभ्यासपत्रिका क्र. १

निबंधलेखन आणि आधुनिक साहित्य

- सत्र १. (अ) निबंधलेखन (वर्णनात्मक, चर्चात्मक, वैचारिक आणि ललित)
- (ब) कादंबरी/कथासंग्रह/नाटक/ललित गद्य यांपैकी एक पुस्तक
- सत्र २. (अ) प्रमाणभाषा लेखनाचे नियम.
- (ब) एका अर्वाचीन/आधुनिक कवीच्या कवितांचा संग्रह किंवा ५० ते ६० निवडक कवितांचे संपादन.

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२००० पासून पुढील तीन वर्षांसाठी खालीलप्रमाणे अभ्यासक्रम राहिल

सत्र १. (अ) निबंधलेखन

(ब) नाटक : प्रेमा तुझा रंग कसा : वसंत कानेटकर.

सत्र २. (अ) प्रमाणभाषा लेखनाचे नियम.

(ब) तेजाची लेणी - संपा. पवार-सहस्रबुद्धे.

संदर्भ ग्रंथ

१. नाटक : एक चिंतन - वसंत कानेटकर, नीळकंठ प्रकाशन.
२. वाङ्मयीन निबंधलेखन : स्वरूप आणि साधने : रा. ग. जाधव.
३. निबंध : शास्त्र व कला - प्र. न. जोशी.
४. सुखात्मिकेचे साहित्य रूप - डॉ. सदा कऱ्हाडे.
५. शुद्धलेखन नियमावली : शासकीय प्रत.
६. मराठी व्याकरणाची मूलतत्त्वे : ग. ह. केळकर.
७. मराठीच्या प्रमाणभाषेचे स्वरूप - सुहासिनी लडू.
८. व्याकरणशुद्ध लेखनप्रणाली - सत्त्वशीला सामंत.

F.Y.B.A. / 28

**पुणे विद्यापीठ
परिपत्रक क्र. १७८/२००२**

विषय : प्रथम वर्ष कला मराठी अभ्यासक्रम.

या परिपत्रकाद्वारे सर्व संबंधितांस विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार असे कळविण्यात येत आहे की, प्रथम वर्ष कला वर्गाच्या मराठी विषयाच्या अभ्यासक्रमातील प्रथम सत्राच्या (कथा) अभ्यासक्रमासंदर्भातील लेखक व कथा यांची सोबत जोडण्यात आलेली सूची शैक्षणिक वर्ष २००२-२००३ पासून अमलात आणण्यात यावी.

तसेच असेही कळविण्यात येते की, प्रथम सत्रातील कथा, कविता ह्या अभ्यासपत्रिकेमध्ये एकूण १०० गुणांपैकी निबंधास १० गुण असतील. प्रथम सत्र कथा व द्वितीय सत्र कविता प्रत्येक सत्रास ४५ गुण असतील.

गणेशखिंड, पुणे-४११ ००७
जा. क्र. सीबीए/३०४८
दिनांक : १४. ६. २००२

**लालसिंग वसावे
कुलसचिवांकरिता**

पुणे विद्यापीठ
परिपत्रक क्र. १७८/२००२
शैक्षणिक वर्ष जून २००२ पासून पुढील वर्षासाठी
प्रथम वर्ष कला (मराठी)
मराठी सामान्य स्तर प्रश्नपत्रिका क्र. १

१. अभ्यासक्रमाचे शीर्षक : मराठी सामान्य स्तर प्रश्नपत्रिका क्र. १
(आधुनिक मराठी वाङ्मय)
२. अभ्यासक्रमाची उद्दिष्टे :
 १. सामान्य स्तरावरील 'मराठी' या विषयाचा अभ्यास करणाऱ्या विद्यार्थ्यांस स्थूलपणे मराठी साहित्य, मराठी भाषा आणि संस्कृती यांचा क्रमशः परिचय करून देणे.
 २. आधुनिक मराठी साहित्यातील विविध वाङ्मयप्रकारांचा परिचय घडविणे.
 ३. मराठी साहित्याबद्दल रुची विद्यार्थ्यांमध्ये निर्माण करणे.
 ४. विद्यार्थ्यांच्या वाङ्मयीन अभिरुचीचा विकास करणे.
 ५. वाङ्मयीन कलाकृतीचा आस्वाद घेण्याची डोळसक्षमता विकसित करणे.
 ६. साहित्याभ्यासातून जीवनविषयक दृष्टिकोण विकसित करणे.
३. अभ्यासक्रम घटक/उपघटक/विस्तार :
 १. प्रथम सत्र : (अ) निबंधलेखन (ललित, वर्णनात्मक, चर्चात्मक, वैचारिक)
(ब) नाटक/कथासंग्रह/कादंबरी/ललित यांपैकी एक पुस्तक

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२. द्वितीय सत्र : एका अर्वाचीन/आधुनिक कवींच्या कवितांचा संग्रह
किंवा ३०-४० निवडक कवितांचे संपादन
४. सन २००२ पासून पुढील तीन वर्षांसाठी खालीलप्रमाणे क्रमिक पुस्तके नेमण्यात येत आहेत :
- प्रथम सत्र : (अ) निबंधलेखन
(ब) कथासंग्रह : पुणे विद्यापीठ
- द्वितीय सत्र : काव्यसंग्रह : पुणे विद्यापीठ

संदर्भग्रंथ सूची :

१. प्रदक्षिणा : संपादक - रा. श्री. जोग (कॉटिनेंटल)
२. ग्रामीणता : साहित्य आणि वास्तव : आनंद यादव
३. ग्रामीण साहित्य : स्वरूप आणि समस्या : आनंद यादव
४. ग्रामीण साहित्य स्वरूप व शोध : डॉ. नागनाथ कोत्तापल्ले
५. दलित वाङ्मय प्रेरणा व प्रवृत्ती : शंकरराव खरात
६. दलित कथेचा विकास : डॉ. प्रकाश कुंभार
७. ग्रामीण कथा-स्वरूप : डॉ. वासुदेव मुलाटे
८. मराठी दलित कथा : डॉ. अविनाश डोळस
९. पाच कथाकार : संपा. वि. स. खांडेकर
१०. आधुनिक मराठीचा इतिहास, खंड १ व २ : अ. ना. देशपांडे

निबंधलेखनासाठी संदर्भपुस्तके :

१. निबंध : शास्त्र व कला : प्र. न. जोशी (विदर्भ मराठवाडा बुक कंपनी)
२. वाङ्मयीन निबंधलेखन : स्वरूप व साधने : प्रा. रा. ग. जाधव (कॉटिनेंटल प्रकाशन, पुणे)

F.Y.B.A. / 31

**प्रथम वर्ष कला
मराठी सामान्य स्तर प्रश्नपत्रिका क्र. 9
प्रश्नपत्रिका स्वरूप**

एकूण गुण : 900

- प्र. क्र. 9. निबंधलेखन (400 शब्द)
एकूण चार विषय द्यावेत.
एक विषय ललित असावा, अन्य 3 सामाजिक, सांस्कृतिक,
वाङ्मयीन स्वरूपाचे असावेत. गुण 90
- प्र. क्र. 2. वाङ्मयप्रकार : नेमलेल्या वाङ्मयप्रकारातील दीर्घोत्तरी प्रश्न
(अंतर्गत पर्यायासह) असावा. गुण 20
- प्र. क्र. 3. लघूत्तरी प्रश्न (टीपा लिहा)
दोन टीपा लिहिणे आवश्यक/चार विषय द्यावेत. गुण 20
- प्र. क्र. 4. आधुनिक काव्य : नेमलेल्या कवितासंग्रहावर दीर्घोत्तरी प्रश्न
(अंतर्गत पर्यायासह)
अभ्यासलेल्या कवितांच्या आधारे कवीचे व्यक्तिमत्त्व, कवितांची
वैशिष्ट्ये, आशय, अभिव्यक्ती, भाषाशैली इ. अभ्यासघटकांवर
प्रश्न असावेत. गुण 20
- प्र. क्र. 5. टीपा : कवितासंग्रहातील दोन विषयांवर टीपा लेखन
एकूण चार विषय द्यावेत. गुण 20
- प्र. क्र. 6. लघूत्तरी प्रश्न
कवितासंग्रहातील कोणत्याही दोनपैकी एका कवितेचे रसग्रहण
अथवा कवितेची मध्यवर्ती कल्पना सांगून सौंदर्य उलगडून
दाखविणे. गुण 90

Group 'B'
(A) MODERN INDIAN LANGUAGE

(२) मराठी

शैक्षणिक वर्ष अभ्यासक्रमाची पुनर्मांडणी

प्रथम वर्ष साहित्य

मराठी - (सामान्य स्तर) - प्रश्नपत्रिका क्र. १

अभ्यासक्रमाचे उद्दिष्ट

आधुनिक मराठी साहित्यातील विविध वाङ्मयप्रकारांचा परिचय घडविणे, त्यांचे आकलन करून घेणे व वाङ्मयाबद्दलची अभिरुची जागृत होऊन कलाकृतीचा आस्वाद घेण्याची क्षमता निर्माण करणे.

१. (अ) निबंधलेखन - वर्णानात्मक, चर्चात्मक, वैचारिक, ललित

(आ) साहित्यप्रकार - नाटक (सुखात्मिका)

२. आधुनिक काव्य - १९२० नंतरच्या काळातील मराठी कविता (हा काव्यसंग्रह सुमारे ५० कवितांचा व शक्य झाल्यास दोन ते तीन कवींच्या कवितांचा संपादित असावा).

संदर्भ पुस्तके

(अ) निबंधलेखन :

१. निबंध : शास्त्र व कला : जोशी, प्र. न.

विदर्भ मराठवाडा बुक कंपनी

२. वाङ्मयीन निबंधलेखन : स्वरूप व साधने : जाधव, रा. ग.,
कॉन्टिनेंटल प्रकाशन, पुणे.

(आ) साहित्यप्रकार : नाटक (सुखात्मिका)

१. तुज आहे तुजपाशी : पु. ल. देशपांडे

२. आधुनिक काव्य : "सौंदर्योत्सव"

संपादक गो. म. कुलकर्णी.

मराठी

प्रथम वर्ष कला वर्गाच्या मराठी विषयाच्या अभ्यासक्रमाचे संदर्भ ग्रंथ, नाटक - सुखात्मिका - (तुझे आहे तुजपाशी) या साहित्य प्रकारासाठी खालील संदर्भ ग्रंथ नेमण्यात आलेले आहेत :

- (१) नाटक एक चिंतन : प्रा. वसंत कानेटकर, नीलकंठ प्रकाशन, पुणे.
- (२) स्वातंत्र्योत्तर मराठा - नाटक : डॉ. वि. भा. देशपांडे, व्हीनस प्रकाशन, पुणे.
- (३) अमृतसिद्धी : संपादक - स. ह. देशपांडे च मंगला गोडबोले, राजहंस प्रकाशन, पुणे.

पर्यायी अभ्यासक्रम

व्यावहारिक व उपयोजित मराठी - प्रथम वर्ष साहित्य

उद्दिष्टे :

१. संज्ञापनातील भाषेची भूमिका, विविध भाषिक आविष्कारांचे स्वरूप समजावून घेणे. भाषिक कौशल्ये, क्षमता विकसित करणे.
२. भाषिक कौशल्याचे विविध आविष्कार आणि संपर्कमाध्यमे यांचा परस्परसंबंध समजावून घेणे व उपयोजन करणे.
३. मराठीचा कार्यालयीन/व्यावसायिक कामकाजात होणारा वापर, गरज व स्वरूपविशेषांची माहिती करून घेणे.
४. कार्यालयीन/व्यावसायिक भाषा व्यवहारासाठी आवश्यक लेखन-कौशल्याचे संपादन व उपयोजन करणे.

अभ्यासक्रम - पहिली सहामाही

१. जीवनव्यवहारातील भाषेचे स्थान - भाषा म्हणजे काय? विविध क्षेत्रांतील भाषाव्यवहाराची ओळख.

F.Y.B.A. / 34

२. भाषिक कौशल्ये-प्राथमिक (श्रवण, भाषण, संभाषण, लेखन, वाचन) – प्रगत (भाषांतर, सारांशलेखन),
३. निबंधलेखन-(वर्णनात्मक, चर्चात्मक, ललित)
दिलेल्या विषयावर विशिष्ट शब्दसंख्येचा निबंध लिहिणे).
४. सारांशलेखन-स्वरूप, महत्त्व
तारेचा मजकूर तयार करणे, घोषवाक्य तयार करणे, शीर्षक देणे, दिलेल्या संवादाचा संक्षेप करणे, संवादाचा विस्तार, वाक्-प्रचाराचे उपयोजन, शब्दप्रयोजन (अनेक शब्दांसाठी एक शब्द, दोन कल्पनांचे एकत्रीकरण, समास, संधी इ.)
दिलेल्या उताऱ्याचे आकलन व सारांशलेखन.

दुसरी सहामाही

५. संवादलेखन -
विविध प्रसंगी होणारे संवाद, सुचविलेल्या प्रसंगावर आधारित संवादलेखन.
६. भाषांतर -
भाषांतर म्हणजे काय? भाषांतर शास्त्र की कला? भाषांतराची आवश्यकता, भाषांतर करताना येणाऱ्या अडचणी, भाषांतर आणि रूपांतर (लक्षनिष्ठ आणि मूलनिष्ठ भाषांतर).
७. शुद्धलेखन, मुद्रितशोधन -
शुद्धलेखनाची संकल्पना, मराठीतील लेखनविषयक नियम, मुद्रित-शोधनाची गरज, तंत्र व चिन्हे.
८. परिभाषा -
आवश्यकता, विविध क्षेत्रांतील पारिभाषिक शब्दांची ओळख, वर्गीकरण.

स्वाध्याय

१. शाळा, महाविद्यालये, न्यायालये, दवाखाने, बसस्थानक, उपाहारगृहे, औद्योगिक संस्था, सामाजिक संस्था, कृषी उत्पन्न बाजार समिती, शेअर बाजार, पोलीस स्टेशन, इत्यादी व्यवहारक्षेत्रांत वारंवार वापरल्या शब्दांची सूची तयार करणे.
२. साक्षरता, कुटुंबकल्याण, राष्ट्रीय एकात्मता, व्यसनमुक्ती, वनसंवर्धन व पर्यावरण संरक्षण, वाहतूक सुरक्षा, इत्यादी विषयांवर उपलब्ध असलेल्या घोषवाक्यांचे संकलन करणे.
३. वेगवेगळ्या विषयांवर झालेल्या भाषणांची टिपणे काढणे.
४. दूरध्वनीवरील संभाषणाचा सराव करणे.
५. तारेचे नमुने गोळा करणे.

संदर्भ पुस्तके :

- | | | |
|--|-------------------------------|---------------------------------|
| १. निबंध शास्त्र व कला | जोशी, प्र. न. | विदर्भ मराठवाडा
बुक कंपनी |
| २. मराठी शुद्धलेखन प्रदीप | वाळिंबे, मो. रा. | गो. य. राणे
प्रकाशन |
| ३. प्रथमवर्ष वाणिज्य व
द्वितीयवर्ष विज्ञान
व्यावहारिक मराठी
पाठ्यपुस्तक | | पुणे विद्यापीठ
प्रकाशन |
| ४. व्यावहारिक मराठी | काळे कल्याण,
पुंडे, द. दि. | निराली प्रकाशन |
| ५. व्यावहारिक मराठी | नसिराबादकर ल. रा. | फडके प्रकाशन |
| ६. मुद्रितशोधन | धायगुडे, य. ए. | दी पूना प्रेस ओनर्स
असोसिएशन |

F.Y.B.A. / 36

७. मराठी भाषेची संवाद-कौशल्ये यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ प्रकाशन, नाशिक
८. भाषा अंतःसूत्र आणि व्यवहार पानसे, मु. ग. म. सा. प. प्रकाशन पुणे.
९. भाषा, मातृभाषा, परभाषा सराफ, रा. सां.

प्रथम वर्ष कला (सामान्यस्तर)

१. निबंधलेखन-(चारपैकी एका विषयावर, एक विषय ललित असावा. अन्य तीन सामाजिक, सांस्कृतिक, वाङ्मयीन स्वरूपाचे असावेत. गुण २०
२. वाङ्मयप्रकार - नेमलेल्या वाङ्मयप्रकारातील साहित्यकृतींवर दीर्घोत्तरी प्रश्न (अंतर्गत पर्यायासह) असावा. गुण २०
३. लघूत्तरी प्रश्न - टीपा - दोन टीपा लिहिणे आवश्यक ४ विषय द्यावेत. गुण २०
४. आधुनिक काव्य-नेमलेल्या कवितासंग्रहावर दीर्घोत्तरी प्रश्न (अंतर्गत पर्यायासह) अभ्यासलेल्या कवितांच्या आधारे कवीचे व्यक्तिमत्त्व, कवितांची वैशिष्ट्ये, आशय, अभिव्यक्ती, भाषाशैली इत्यादी अभ्यासाघटकांवर प्रश्न असावेत. गुण २०
५. लघूत्तरी प्रश्न -
(अ) कवितासंग्रहातील दोनपैकी एका विषयावर टीपा गुण १०
(ब) संग्रहातील कोणत्याही दोनपैकी एका कवितेचे रसग्रहण अथवा कवितेची मध्यवर्ती कल्पना सांगून सौंदर्य उलगडून दाखविणे. गुण १०

F.Y.B.A. / 37

प्रथम वर्ष कला : व्यावहारिक व उपयोजित मराठी

(पर्यायी अभ्यासक्रम) - प्रश्नपत्रिकेचे स्वरूप

गुण विभागणी -

१. जीवनव्यवहारातील भाषेचे स्थान -
भाषिक कौशल्ये
(या दोन्हीपैकी कोणत्याही एका घटकावर प्रश्न विचारला जाईल.
विवेचनात्मक उत्तर अपेक्षित, अंतर्गत पर्याय द्यावा). गुण २०
२. निबंधलेखन गुण २०
३. सारांश लेखन-स्वरूप, महत्त्व
(उपयोजित स्वरूपाची उत्तरे अपेक्षित, अंतर्गत पर्याय द्यावेत)
गुण २०
४. संवादलेखन
भाषांतर गुण २०
५. शुद्धलेखन, मुद्रितशोधन (उपयोजित स्वरूप)
परिभाषा गुण २०

(3) GUJARATHI

प्रथम वर्ष कलासाठी गुजराथी विषयाचे खाली नमूद केलेले पाठ्यपुस्तक शैक्षणिक वर्ष १९९७ ते १९९९ पर्यंत चालू राहिल :
(१) एफ.वाय.बी.ए : माणसाईना दीवा – लेखक : झवचंद मेघाणी.

F.Y.B.A. / 39

(4) URDU

UNIVERSITY OF PUNE

Circular No. 203 of 2002

Sub. : Revision of Syllabus in Urdu at various examinations.

It is hereby notified for the information of all concerned that, the University Authorities have revised below :
The syllabus of subject Urdu as mentioned (1) F.Y.B.A. (2) F.Y.B.Com. (3) S.Y.B.A. (General Paper II), Special Paper-I, Special Paper-II (4) T.Y.B.A., (General Paper-III), Special Paper-III, Special Paper-IV and M.A. Part-I and II.

The revised syllabus as enclosed in the Appendix.

The above decision will come into force from Academic Year 2002-2003.

Ganeshkhind, Pune-7
Ref. No. : CBA/ 3085
Date : 14-6-2002.

L. F. Vasave
for Registrar.

URDU

(2002-2003, 2003-2004, 2004-2005)

Text Prescribed :

(I) POETRY : BANG-E-DARA-Part-I by Dr. Iqbal.

The following Poems to be studied :

- (1) HIMALA
- (2) GUL-E-RANGEEN
- (3) MIRZA GHALIB
- (4) AFTAB
- (5) INSAN AUR BAZM-E-QUDRAT
- (6) PAYAM-E-SUBHA
- (7) ZOHAD-O-RINDI
- (8) DIL
- (9) RUKHSAT-AE-BAZME JAHAN
- (10) NALA-E-FIRAQ
- (11) NAYA SHIVALA
- (12) ILTEJA-E-MUSAFIR.

(II) (i) Premchand Ke Numainda Afsane

— Qamar Raees.

Edited by—Educational Book House, Aligarh.

First Seven Afsane.

(ii) Chand Hamasar—by Molvi Abdul Haq.

(A) Portion for the Term-End Examination.

(Bang-e-Dara Part-I (Poem as given above).

Total Marks : 60 (Two hours duration).

No. of Questions - 4 (with internal choice).

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Pattern of Question Paper

- | | | |
|-------|--|----------|
| (i) | Critical Question on the text or author. | 15 Marks |
| (ii) | Appreciation or Central idea of a poem from the text. | 15 Marks |
| (iii) | Explanation of the Couplets with reference to context. | 15 Marks |
| (iv) | Critical appreciation on Unseen Poem. | 15 Marks |

Total 60 Marks

(B) Portion for the Annual Examination

Portion as prescribed above.

Total Marks-100 (Three hours duration).

No. of questions-6 (with internal choice).

Pattern of Question Paper

- | | | |
|----|--|----------|
| 1. | Critical question on text or poet (Bang-e-Dara). | 15 Marks |
| 2. | Appreciation OR Central idea of poem from the text. | 15 Marks |
| 3. | Explanation of the Couplets with reference to Context (Five out of Seven). | 15 Marks |
| 4. | Critical appreciation of Short Story. | 15 Marks |
| 5. | Critical appreciation of a Khaka from the text. | 15 Marks |
| 6. | (a) Idioms | 5 Marks |
| | (b) Prefixes and Suffixes | 5 Marks |
| | (c) Essay on general topic | 15 Marks |

Total 100 Marks

(5) SINDHI

Sahit Sugandh (Prose and Poetry)

Edited by Prof. I. T. Jotwani and Prof. Dayal Asha,
Published at L. K. Dhameja, Saraswati Sahit Sadan, Block
No. 1974, Ulhasnagar-5.

Portion for the Term End Examination :

1. Prose : Lesson Nos 1-12.
2. Poetry : Poems from 1-13.
3. Essay Writing

Portion for the Annual Examination :

1. Prose : Lesson Nos. 11-20.
2. Poetry : Poems from 14 to 21
3. Precis Writing.
4. Translation from English to Sindhi.

Note : The Prescribed text-book is available in Arabic
Script only. However the students are given
the choice to write in both the scripts i.e.
Deonagari and Arabic. The question paper also
will be set in both the scripts.
No question reference to context will be set.

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(६) हिंदी

Appendix

पुणे विद्यापीठ

परिपत्रक क्र. १८३/२००२

विषय : प्रथम वर्ष कला हिंदी सामान्य - १ या अभ्यासक्रमाबाबत.

या परिपत्रकाद्वारे सर्व संबंधितांस विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार असे कळविण्यात येत आहे की, प्रथम वर्ष कला या परीक्षेच्या हिंदी सामान्य - १ या विषयाचा सोबत जोडण्यात आलेला अभ्यासक्रम शैक्षणिक वर्ष २००२-२००३ पासून सुधारित करण्यात येत आहे.

गणेशखिंड, पुणे-४११ ००७
जा. क्र. : सीबीए/३०९१
दिनांक : १४-६-२००२

लालसिंग बसावे
कुलसचिवांकरिता.

F.Y.B.A. / 44

पुणे विश्वविद्यालय

परिपत्रक क्र. १८३/२००२

प्रथम वर्ष, साहित्य (हिंदी : सामान्य - १)

(शैक्षणिक वर्ष : २००२-२००३, २००३-२००४ तथा २००४-२००५)

(प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान आयोग, नई दिल्ली की 'मॉडल पाठ्यचर्या' के आलोक में किया गया है।)

उद्देश्य :

१. हिंदी में प्रतिनिधि गद्यकारों एवं कवियों से छात्रों को परिचित कराना।
२. छात्रों में हिंदी साहित्य के प्रति अभिरुचि संवर्धित करना।
३. छात्रों को शुद्ध हिंदी लेखन के ज्ञान एवं नियमों से परिचित कराना।
४. छात्रों का हिंदी भाषा का श्रवण, पठन, लेखन कौशल बढ़ाना।
५. छात्रों को पारिभाषिक शब्दावली के माध्यम से प्रयोजनमूलक हिंदी के स्वरूप से परिचित कराना।

अध्यापन पद्धति :

१. व्याख्यान तथा विश्लेषण
२. छात्रों से गद्य एवं काव्य का भावानुसार पठन
३. कल्पना-विस्तार के विषयों की चर्चा एवं लेखन
४. स्वाध्यायों द्वारा अनुवाद, निबंध लेखन
५. ग्रंथालयों में संबंधित लेखकों, कवियों की मौलिक कृतियों से छात्रों का परिचय।

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पाठ्यपुस्तके :

- (१) गद्य-निकष : संपादक : प्रेमशंकर मिश्र
प्रकाशक : जय भारती प्रकाशन, लालजी
मार्केट, माया प्रेस रोड, २५८/
३६५, मुट्ठी गंज, इलाहाबाद-३,
संस्करण : द्वितीय, १९९६

केवल निम्नलिखित पाठ :

- | | |
|-----------------------------------|--------------------------------|
| (१) मुक्तिमार्ग | - प्रेमचंद |
| (२) शरणदाता | - अज्ञेय |
| (३) दिल्ली में एक मौत | - कमलेश्वर |
| (४) ठेस | - फणीश्वर नाथ रेणु |
| (५) जिन्दगी और जोंक | - अमरकान्त |
| (६) भोलाराम का जीव | - हरिशंकर परसाई |
| (७) कुटज | - आचार्य हजारी प्रसाद द्विवेदी |
| (८) ताजमहाल | - भगवत शरण उपाध्याय |
| (९) मन | - आचार्य शिवपूजन सहाय |
| (१०) कला में व्यक्तित्व और चरित्र | - रामधारी सिंह 'दिनकर' |
| (११) घीसा | - महादेवी वर्मा |
| (१२) दीनबन्धु ऐण्ड्रूज | - बनारसीदास चतुर्वेदी |

- (२) काव्य सुरभि : संपादक : डॉ. सत्यप्रसाद मिश्र
प्रकाशक : ज्योति प्रकाशन, 'मानसी' १६/३,
हेस्टिंग्स रोड, इलाहाबाद-१,
संस्करण : प्रथम, २०००

केवल निम्नलिखित कविताएँ :

- | | |
|---|--|
| (१) मैथिलीशरण गुप्त | – कैकयी का अनुताप |
| (२) जयशंकर प्रसाद | – श्रद्धा का उद्बोधन |
| (३) सुमित्रानंदन पंत | – प्रथम रश्मि |
| (४) सूर्यकांत त्रिपाठी 'निराला' | – वीणावादिनी वर दे। |
| (५) सच्चिदानन्द हीरानन्द
वात्स्यायन 'अज्ञेय' | – हरा भरा है देश |
| (६) गजानन माधव मुक्तिबोध | – जन-जन का चेहरा एक |
| (७) शिवमंगल सिंह 'सुमन' | – मेरा देश जल रहा,
कोई नहीं बुझाने वाला |
| (८) नागार्जुन | – कालिदास |
| (९) नरेश मेहता | – इतिहास का स्वर्ण-युग |
| (१०) रघुवीर सहाय | – अकाल |
| (११) केदारनाथ सिंह | – सुखी आदमी |
| (१२) अशोक वाजपेयी | – यह समय है |

पाठ्यपुस्तकेतर पाठ्यक्रम :

(क) वाक्य शुद्धीकरण

(ख) कम्प्यूटर : -

- (१) कम्प्यूटर की जानकारी-परिचय
- (२) कम्प्यूटर की विशेषताएँ – अपने आप कार्य, तीव्र गति, अचूक कार्य पद्धति, सातत्य, स्मरणशक्ति, कम जगह में अधिक जानकारी एकत्रित करने की क्षमता, बहुआयामी, विश्वसनीयता, सूक्ष्म आकार, विचारशून्यता

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- (३) कम्प्यूटर का कार्यक्षेत्र-विज्ञान, अंतरिक्ष, रक्षा विभाग बैंक, चिकित्सा, व्यापार, विज्ञापन, छपाई, हवाई जहाज, रेल, पत्राचार, शिक्षा, कल-कारखाने, तकनीकी विभाग, भूशास्त्र, कार्टून फिल्म, बुद्धिवर्धक आकर्षक खेल आदि।
- (४) कम्प्यूटर की आवश्यक इकाइयाँ-मॉनिटर, सिस्टिम यूनिट, की बोर्ड (कुंजी पटल)
- (५) इ मेल-सामान्य परिचय
- (६) इंटरनेट-सामान्य परिचय
- (ग) पारिभाषिक शब्दावली (सूची संलग्न)
- (घ) कल्पना-विस्तार (सूची संलग्न)
- (च) अनुवाद (अंग्रेजी/मराठी से हिंदी)

पारिभाषिक शब्दावली

A

- | | |
|-----------------------|------------------|
| (1) Accommodation | — आवास |
| (2) Account | — लेखा |
| (3) Acknowledgement | — पावती |
| (4) Action | — कारवाई |
| (5) Advance | — पेशगी, अग्रिम |
| (6) Advice | — परामर्श, सलाह |
| (7) Affidavit | — शपथ पत्र |
| (8) Agenda | — कार्य सूची |
| (9) Applicable | — प्रयोज्य, लागू |
| (10) Appointment | — नियुक्ति |
| (11) Approval | — अनुमोदन |

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B

- (12) Budget — आय-व्ययक, बजट
(13) Balance — बाकी, शेष

C

- (14) Clarification — स्पष्टीकरण
(15) Confirmation — पुष्टि
(16) Conveyance Allowance — वाहन भत्ता
(17) Cadre — संवर्ग, काडर
(18) Casual — आकस्मिक
(19) Category — वर्ग, श्रेणी
(20) Charge Sheet — आरोप पत्र
(21) Cash — रोकड
(22) Capital — पूँजी
(23) Concession — रियासत, छूट
(24) Condition — शर्त
(25) Confidential — गोपनीय
(26) Correspondence — पत्राचार, पत्र-व्यवहार

D

- (27) Duplicate — अनुलिपि, दूसरी प्रति
(28) Duration — अवधि
(29) Delay — विलंब, देरी
(30) Delivery — वितरण
(31) Deputation — प्रतिनियुक्ति
(32) Despatch — प्रेषण
(33) Disciplinary Action — अनुशासनिक कार्रवाई

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E

- | | |
|------------------|-----------------------------|
| (34) Entry | — प्रविष्टि, इंदराज, प्रवेश |
| (35) Expert | — विशेषज्ञ |
| (36) Effective | — लागू, प्रभावी |
| (37) Emergency | — आपात स्थिती |
| (38) Employee | — कर्मचारी |
| (39) Enclosure | — अनुलग्नक |
| (40) Explanation | — स्पष्टीकरण |
| (41) Employment | — रोजगार |
| (42) Expenditure | — व्यय, खर्च |
| (43) Eligibility | — पात्रता |

F

- | | |
|--------------|---------------|
| (44) File | — फाइल, मिसिल |
| (45) Form | — प्रपत्र |
| (46) Formal | — औपचारिक |
| (47) Fund | — निधि |
| (48) Freight | — भाड़ा |

G

- | | |
|------------|----------|
| (49) Goods | — माल |
| (50) Grant | — अनुदान |

H

- | | |
|-----------------|-----------------|
| (51) Honorarium | — मानदेय |
| (52) Head | — प्रधान, शीर्ष |

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I

- (53) Increment — वेतन वृद्धि
(54) Instruction — अनुदेश, हिदायत
(55) Immediate — तत्काल, अविलंब
(56) Incharge — प्रभारी
(57) Interview — साक्षात्कार

J

- (58) Job — नौकरी
(59) Joining — कार्यग्रहण

L

- (60) Leave — छुट्टी, अवकाश
(61) Lien — लियन, पुनर्ग्रहण अधिकार
(62) Lumpsum — एकमुश्त

M

- (63) Medical Leave — चिकित्सा छुट्टी
(64) Mail — डाक
(65) Maintenance — अनुरक्षण, रख रखाव
(66) Memorandum — ज्ञापन

N

- (67) Necessary Action — आवश्यक कार्रवाई
(68) No Objection Certificate — अनापत्ति प्रमाण पत्र

O

- (69) Officiating — स्थानापन्न
(70) Option — विकल्प

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P

(71) Proposal	— प्रस्ताव
(72) Part-time	— अंशकालिक
(73) Passport	— पारपत्र
(74) Penalty	— दंड, अर्थदंड
(75) Permanent	— स्थायी
(76) Policy	— नीति
(77) Promotion	— प्रोन्नति, पदोन्नति, तरक्की
(78) Provision	— उपबंध, व्यवस्था, प्रावधान
(79) Project	— परियोजना

Q

(80) Qualification	— अर्हता, योग्यता
--------------------	-------------------

R

(81) Reference	— संदर्भ, निर्देश, हवाला
(82) Remuneration	— पारिश्रमिक
(83) Renewal	— नवीनीकरण
(84) Revenue	— राजस्व
(85) Registration	— पंजीकरण

S

(86) Salary	— वेतन
(87) Sanction	— मंजूरी, स्वीकृति
(88) Scrutiny	— संवीक्षा, छानबीन
(89) Store	— भंडार

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T

- (90) Tour — दौरा
(91) Temporary — अस्थायी
(92) Transfer — स्थानांतरण

U

- (93) Unit — एकक
(94) Up-to-date — अद्यतन
(95) Valid — मान्य, लागू
(96) Verification — सत्यापन

W

- (97) Wing — स्कंध
(98) Witness — साक्षी, गवाह

Z

- (99) Zone — अंचल, क्षेत्र

(घ) कल्पना विस्तार

१. अपमान का जीवन मृत्यु से भी बुरा होता है।
२. अज्ञान जैसा दूसरा शत्रु नहीं है।
३. अपना हाथ जगन्नाथ।
४. आवश्यकता आविष्कार की जननी है।
५. इलाज से बचाव अच्छा।

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६. उतने पाँव पसारिये, जितनी चादर होय।
७. अंत भला, तो सब भला।
८. कबीरा सोई पीर है, जो जाने पर पीर।
९. गया वक्त फिर नही आता।
१०. घर का जोगी जोगना, आन गाँव का सिद्ध।
११. चिंता चिता समान है।
१२. जब आवत संतोष धन
१३. जब तक साँस, तब तक आस।
१४. जहाँ चाह, वहाँ राह।
१५. जितना धन, उतनी चिंता।
१६. दुख भोगे बिना सुख कहाँ।
१७. धन को धन कमाता है।
१८. पराधीन सपनेहुं सुख नाहि।
१९. परिश्रम कभी व्यर्थ नहीं जाता।
२०. बुरी संगत से अकेला भला।
२१. बेड़ी सोने की भी बुरी।
२२. बूँद बूँद से तालाब भर जाता है ।
२३. भावना से कर्तव्य ऊँचा है।

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२४. मन के हारे हार है, मन के जीते जीत।
२५. मज़हब नहीं सिखाता आपस में बैर रखना।
२६. मेल से बल है।
२७. यथा राजा तथा प्रजा।
२८. यत्र नार्यस्तु पूज्यन्ते, रमन्ते तत्र देवता।
२९. रूप को अलंकार की आवश्यकता नहीं।
३०. लड़ाई मौत का त्योहार है।
३१. लालच बुरी बला है।
३२. वही मनुष्य है कि जो मनुष्य के लिए मरे।
३३. सब्र का फल मीठा होता है।
३४. सादा जीवन उच्च विचार।
३५. साहित्य समाज का दर्पण।

संदर्भ ग्रंथ :

- (१) देवनागरी लिपि तथा हिंदी वर्तनी का मानकीकरण—केंद्रीय हिंदी निदेशालय, नई दिल्ली
- (२) व्यावहारिक हिंदी, भाग १ व २ – ओमप्रकाश सिंहल और तिलकराज बडेहारा
- (३) हिंदी व्याकरण और रचना (भारती भवन, पटना) – वासुदेव नंदन प्रसाद
- (४) व्यावहारिक हिंदी (तक्षशिला प्रकाशन, दरिया गंज, नई दिल्ली) – कैलाशचंद्र भाटिया
- (५) कम्प्यूटर और हिंदी (तक्षशिला प्रकाशन, दरिया गंज, नई दिल्ली)– डॉ. हरिमोहन

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- (६) कम्प्यूटर प्रवेशिका (तक्षशिला प्रकाशन, दरिया गंज, नई दिल्ली)-
उषा खुराना
- (७) कम्प्यूटर के भाषिक अनुप्रयोग (वाणी प्रकाशन, दरिया गंज, नई दिल्ली) – विजयकुमार मल्होत्रा
- (८) कम्प्यूटर सीखे अपने आप (नेट कॉम इंडिया प्रकाशन, नई दिल्ली)
- (९) इंटरनेट (नेट कॉम इंडिया प्रकाशन, नई दिल्ली)
- (१०) प्रारम्भिक कम्प्यूटर शिक्षा - भाग १, २, ३ (वाणी प्रकाशन, दरिया गंज, नई दिल्ली) – राम बंसल 'विज्ञाचार्य'
- (११) कम्प्यूटर परिचालन तत्त्व (प्रभात प्रकाशन, नई दिल्ली) – राम बंसल 'विज्ञाचार्य'
- (१२) कम्प्यूटर संचार सूचना-पत्रिका (संवाद परिक्रमांक, करोल बाग, नई दिल्ली) – संपादक : हरिशंकर व्यास

अंकविभाजन तथा प्रश्नपत्र का स्वरूप

(१) अंकविभाजन

(क) गद्य पाठ	–	३० अंक
(ख) पद्य	–	३० अंक
(ग) पाठ्यपुस्तकेतर पाठ्यक्रम	–	
(१) वाक्य शुद्धीकरण	–	०८ अंक
(२) कम्प्यूटर पर टिप्पणियाँ	–	१२ अंक
(३) पारिभाषिक शब्दावली	–	१० अंक
(४) कल्पना विस्तार	–	०५ अंक
(५) अनुवाद	–	०५ अंक

कुल १०० अंक

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(२) प्रश्नपत्र का स्वरूप

१. गद्य पाठों पर प्रश्नों के उत्तर (६ में से ४) - २० अंक
२. कविताओं पर प्रश्नों के उत्तर (६ में से ४) - २० अंक
३. (अ) गद्य पाठों पर अवतरणों की ससंदर्भ - १० अंक
व्याख्या (४ में से २)
(आ) कविताओं पर अवतरणों की ससंदर्भ - १० अंक
व्याख्या (४ में से २)
४. (अ) वाक्य शुद्धीकरण (१० में से ०८) - ०८ अंक
(आ) कम्प्यूटर पर टिप्पणियाँ (५ में से ३) - १२ अंक
५. (अ) पारिभाषिक शब्दावली (१२ में से १०) - १० अंक
(आ) कल्पना विस्तार (५ में से १) - ०५ अंक
(इ) मराठी अथवा अंग्रेजी परिच्छेद - ०५ अंक
का हिंदी में अनुवाद

कुल १०० अंक

पुणे विश्वविद्यालय
प्रथम वर्ष, साहित्य

हिंदी : सामान्य -9 (वैकल्पिक पाठ्यक्रम)
प्रयोजनमूलक हिंदी

(प्रस्तुत पाठ्यक्रम का निर्माण विश्वविद्यालय अनुदान
आयोग, नई दिल्ली की 'मॉडल पाठ्यचर्या' के आलोक में
किया गया है)

उद्देश्य :

1. छात्रों को हिंदी की मान लिपि और अंकलेखन की नियमावली की जानकारी देना।
2. हिंदी के शब्द भेद, वर्तनी के नियम, कारक, लिंग, वचन, हिंदी शब्दावली, पारिभाषिक शब्दावली, वाक्यांश आदि की जानकारी देना।
3. हिंदी भाषा के कार्यालयीन रूपों एवं व्यवहार से छात्रों को अवगत कराना।
4. हिंदी-अभिव्यक्ति का कौशल बढ़ाने के लिए सारलेखन, संक्षेपण, निबंध, कल्पना विस्तार के लेखन की जानकारी एवं उदाहरण देना।
5. मराठी एवं अंग्रेजी से हिंदी में अनुवाद की क्षमता विकसित करने के लिए अनुवाद की सोदाहरण जानकारी देना।

अध्यापन पद्धति :

१. फलक लेखन-नियम-उदाहरण, वर्गीकरण-आलेख, पत्रों के प्रारूप, वर्तनी और अंकों के शुद्ध रूप, मुद्दे
२. दृक्-श्राव्य माध्यमों/साधनों का प्रयोग
३. साधार, सौदाहरण विवेचन, मुद्दों का क्रमशः विश्लेषण
४. आवश्यक चार्ट्स प्रयुक्त करना, छात्रों द्वारा करवाना
५. व्याकरण के आधार पर छात्रों द्वारा छोटे-छोटे आलेख स्वाध्याय के रूप में, उनपर कक्षा में चर्चा।

पाठ्यक्रम :

(१) मानक लिपि और अंक लेखन :

(क) मानक लिपि :

हिंदी वर्ण लिखने के प्रचलित विभिन्न प्रकार
मानक लिपि-स्वीकृत वर्णमाला का परिचय, भारत सरकारद्वारा
निर्धारित वर्तनी संबंधी अद्यतन नियम :

- | | |
|-----------------------------|-------------------------|
| (१) संयुक्त वर्ण | (२) विभक्ति चिह्न |
| (३) क्रियापद | (४) हाइफन |
| (५) अव्यय | (६) श्रुतिमूलक |
| (७) अनुस्वार तथा चंद्रबिंदु | (८) हलचिह्न |
| (९) स्वन परिवर्तन | (१०) विसर्ग |
| (११) ऐ, औ का प्रयोग | (१२) पूर्वकालिक प्रत्यय |
| (१३) विराम चिह्न | (१४) शिरोरेखा |

(ख) अंकलेखन :

भारतीय अंकों का अंतर्राष्ट्रीय रूप, अंकों का लेखन अंको तथा शब्दों में, अपूर्णांक, दशमलव, पहाड़े की भाषावली, गणित के लिए उपयोगी शब्दों एवं चिह्नों का परिचय।

(२) व्याकरण :

(क) शब्द - विचार

शब्द-भेद :

शब्दों के आठ भेद-विकारी एवं अधिकारी, वर्तनी से उसका संबंध, वाक्यों में उनके प्रयोग, कारकों के साथ प्रयोग, विशेषताएँ, विकृत रूप एवं बहुवचन में अंतर -

वचन : कारक विभक्तियों के प्रयोग तथा विशेष प्रयोग

लिंग विचार : सामान्य गलतियों के संबंध में जानकारी

तत्सम, तद्भव, देशज एवं अन्य स्रोतों के शब्दों का सामान्य परिचय, वर्तनी की दृष्टि से उनका विचार तथा प्रयोग।

(ख) वाक्य रचना :

काल - वर्तमान, तात्कालिक वर्तमान, आसन्नभूत भूतकाल, अपूर्ण भूतकाल, तात्कालिक भूतकाल, संदिग्ध भूतकाल, भविष्यकाल

(ग) क्रियाएँ : संयुक्त एवं सहायक क्रियाएँ, क्रियासंबंधी अशुद्धियाँ, सकर्मक, अकर्मक, द्विकर्मक

(घ) वाक्यों के प्रकार :

(१) रचना के अनुसार :

सरल, संयुक्त, मिश्र

(२) अर्थ की दृष्टि से :

विधिवाचक, निषेधवाचक, आज्ञावाचक, प्रश्नवाचक

(३) प्रयोग एवं वाक्य की दृष्टि से :

कर्तृवाच्य, कर्तरि, कर्मणि, भावे प्रयोग, कर्मवाच्य, भाववाच्य

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(च) वाक्य रचनासंबंधी भूलें :

उदा : न से वाक्य समाप्त करना-है का प्रयोग, सकर्मक वाक्यों को जोड़ते समय एक ही कर्ता का प्रयोग - 'यह' का बीच में अनावश्यक प्रयोग

(३) पारिभाषिक शब्दावली और वाक्यांश

डाक, तार, रेल व भारतीय संविधान से संबंधित १५० शब्दों तथा ५० वाक्यांशों के हिंदी पर्याय और उनका वाक्यों में बीच प्रयोग (सूची संग्रह)

(४) पत्र :

(अ) निमंत्रण पत्र — विवाह समारोह तथा किसी शुभ अवसर पर उपस्थिति, चायपान, मध्याह्न/रात्रि भोज के लिए निमंत्रण, विविध सरकारी निमंत्रण

(आ) अभिनंदन पत्र — नव वर्ष, सामाजिक एवं राष्ट्रीय पर्वों व त्योहारों के उपलक्ष्य में

(इ) संवेदना पत्र — प्रियजन के निधन पर

(ई) आवेदन पत्र — आवेदन पत्रों के प्रकार (छुट्टी स्थानांतरण, कार्यालय-कार्य जीवन, सरकारी मकान, वेतन के विषय में, पदोन्नति, अग्रिम-राशि, विविध भुगतान से संबंधित) एवं आवेदन पत्रों का ढाँचा

(उ) प्रात्यक्षिक —

यातायात के साधनों का आरक्षण करना-रद्द करना, विस्तारण, बदलना, तार-प्रपत्र एवं बैंकों के चलन आदि भरना ।

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- (५) **सार लेखन तथा संक्षेपण :**
स्वरूप, परिभाषा एवं महत्त्व
संक्षेपण और सारांश में अंतर
- (६) **विस्तारण/पल्लवन/कल्पना विस्तार :**
विस्तारण/पल्लवन/कल्पना विस्तार का अर्थ-प्रक्रिया व शैलियाँ
(शब्द संख्या १५० से ५०० तक)
- (७) **अनुवाद :**
(१) आवश्यकता, सिद्धान्त, उपयोगिता और कौशल के
संबंध में जानकारी
(२) मराठी से हिंदी में तथा अंग्रेजी से हिंदी में अनुवाद
(लगभग सौ शब्दों का परिच्छेद)
- (८) **कम्प्यूटर**
सामान्य जानकारी, विशेषताएँ, कार्यक्षेत्र, आवश्यक इकाइयाँ,
इ-मेल, इंटरनेट।

पारिभाषिक शब्दावली

डाक तार से संबंधित पारिभाषिक शब्दावली

- | | |
|-----------------------------|-----------------------------|
| (1) Post Office | — डाक तार |
| (2) Postage Stamp | — डाक टिकट |
| (3) Postal Address | — डाक पता |
| (4) Post Copy | — डाक प्रति |
| (5) Post Master General | — डाक महाध्यक्ष |
| (6) Post Office Saving Bank | — डाकघर बचत बैंक |
| (7) Acknowledgement (A.D.) | — प्राप्ति, स्वीकृति, पावती |

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(8) Money Order	— मनिऑर्डर
(9) National Saving Certificate	— राष्ट्रीय बचत पत्र
(10) Savings	— बचत
(11) Cumulative Time Deposit	— सावधि संचयी जमा
(12) Recurring Deposit	— आवर्ती जमा
(13) Speed Post	— स्पीड पोस्ट
(14) Sender's Address	— प्रेषक/भेजनेवालो का पता
(15) Addressee	— पानेवाला, प्रेषिती
(16) Registered Letter	— पंजीकृत/पंजीबद्ध पत्र
(17) Telegraph Office	— तार घर
(18) Inland Letter	— आंतर देशीय पत्र
(19) Envelope	— लिफाफा
(20) Under Certificate of Posting	— डाक प्रमाणित
(21) Telephone Exchange	— टेलिफोन केंद्र
(22) By Return of Post	— लौटती डाक से
(23) Express Letter	— द्रुत पत्र, तुरंत पत्र
(24) Register	— पंजी, रजिस्टर
(25) Sender	— प्रेषक
(26) Correspondence	— पत्रव्यवहार/पत्राचार
(27) Posts and Telegraphs	— डाक व तार
(28) Directorate General of Posts and Telegraphs	— डाक-तार महानिदेशालय
(29) Director of Posts and Telegraphs	— डाक-तार निदेशक

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(30) Office of General Manager Telephones	— महाप्रबन्धक दूरसंचार कार्यालय
(31) Telegram	— तार
(32) Telegram Enclair	— शब्दों में तार
(33) Central Telegraph Office	— केंद्रीय तारघर
(34) Postal Research Centre	— डाक-अनुसंधान केंद्र
(35) Senior Superintendent of Post Office	— वरिष्ठ डाकघर अधीक्षक
(36) Ministry of Communication	— संचार मंत्रालय
(37) Charge	— प्रभार
(38) Inspector	— निरीक्षक
(39) Welfare Inspector	— कल्याण निरीक्षक
(40) Superintendent	— अधीक्षक
(41) Senior Superintendent	— वरिष्ठ अधीक्षक
(42) Mofussil	— ग्रामीण
(43) Urban	— नागर
(44) Cancellation	— रद्द करना/खारिज करना
(45) Postal Bank	— डाक बैंक
(46) National Saving Certificate	— राष्ट्रीय बचत पत्र
(47) Kisan Vikas Patra	— किसान विकास पत्र
(48) Indira Vikas Patra	— इंदिरा विकास पत्र
(49) Interest	— ब्याज/सूद
(50) Ad hoc	— तदर्थ
(51) Recurring Deposit Scheme	— आवर्ती जमा योजना

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(52) Nomination	— नामांकन
(53) Nominated	— नामित
(54) Specimen Signature	— नमूना हस्ताक्षर
(55) First Series	— पहली मालिका
(56) Second Series	— दूसरी मालिका
(57) Registered Parcel	— पंजीकृत पार्सल
(58) Un-registered Parcel	— अपंजीकृत पार्सल
(59) Sorting	— छँटाई
(60) Postman	— डाकिया
(61) Delivery	— आबंटन/वितरण
(62) Telegraphist	— तार संकेतक
(63) Communication	— संचार, संदेश
(64) Mail	— डाक
(65) Telephone Directory	— टेलिफोन निदेशिका डारेक्टरी
(66) Telegraph Officer	— तार अधिकारी
(67) Revenue Stamp	— रसीदी टिकट
(68) Head Sorter	— प्रधान छँटाईकर
(69) Telegram, Coded	— कूटभाषा तार
(70) Telegram Cypher	— बीज लेख तार
(71) Teleprinter	— दूरमुद्रक, टेलिप्रिंटर
(72) Director (Post Offices)	— निदेशक (डाक)
(73) Postal Certificate	— डाक प्रमाणपत्र
(74) Post Master	— डाक पाल

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रेल से संबंधित पारिभाषिक शब्दावली

(75) A.C. Chair Car	— वातानुकूल कुर्सी यान
(76) All Right Signal	— सब ठीक है सिग्नल / संकेत
(77) Break Journey	— यात्रा भंग/विराम
(78) Back Dated Ticket	— पिछली तारीख का टिकट
(79) Check Rail	— रेल प्रहरी
(80) Compartment	— डिब्बा
(81) Destination Station	— गंतव्य स्टेशन
(82) Dining Car	— भोजन यान
(83) Expansion of Journey	— यात्रा विस्तारण
(84) En Route	— रास्ते में/मार्गस्थ
(85) Resignation	— त्यागपत्र
(86) Voluntary Retirement	— स्वेच्छा/ऐच्छिक सेवा निवृत्ति
(87) Gear box	— गरारी पट्टी
(88) Goods shed	— माल गोदाम
(89) Head Light	— अगली बडी बत्ती
(90) Hock End	— पिछला सिरा
(91) Ignition	— प्रज्वलन
(92) Indicator	— संकेतक
(93) Junction Box	— संधि पेटि
(94) Jack Jaw	— जबडा
(95) Knop	— धुंडी

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(96) Level Crossing	— समपार
(97) Lubricant	— स्नेहक
(98) Mail Train	— डाकगाडी
(99) Missing Goods	— गायब माल
(100) Net Load	— शुद्ध भार
(101) Night Shift	— रात्रिपालि
(102) On Duty	— काम पर
(103) Pad Lock	— सामान्य ताला
(104) Porter	— भारकि
(105) Quick Transit Service	— द्रुत परिवहन सेवा
(106) Return Ticket	— वापसी टिकट
(107) Running Shed	— इंजन शेड
(108) Sleeper Berth	— शायिका
(109) Time Table	— समय सारणी
(110) Unmanned	— कर्मचारी रहित
(111) Vent Shaft	— चिमनी
(112) Way Station	— मार्गस्थ स्टेशन/ छोटा स्टेशन
(113) Zonal Pass	— क्षेत्रीय पास

भारतीय संविधान से संबंधित पारिभाषिक शब्दावली

(114) Parliament	— संसद
(115) Constitution	— संविधान
(116) Chairman	— सभापति
(117) Speaker	— अध्यक्ष
(118) Budget	— बजट/आय व्ययक

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(119) Cabinet	—मंत्रिमंडल
(120) Central Government	—केंद्रीय सरकार
(121) Centre	—केंद्र
(122) Security Officer	—सुरक्षा अधिकारी
(123) Member of Parliament	—सांसद/संसद सदस्य
(124) Whip	—सचेतक
(125) Starred	—तारांकित
(126) Secretariat	—सचिवालय
(127) Address	—पता
(128) Preamble	—प्रभावना/उद्देशिका
(129) Constituency	—निर्वाचनक्षेत्र
(130) Gallery	—दीर्घा/वीथी
(131) Ordinance	—अध्यादेश
(132) Amendment	—संशोधन
(133) Bilateral	—द्विपक्षीय
(134) Bureaucracy	—नौकरशाही
(135) Elected	—निर्वाचित
(136) Cut Motion	—कटौती-प्रस्ताव
(137) Administration	—प्रशासन
(138) Ambassador	—राजदूत
(139) Embassy	—राजदूतावास
(140) Visa	—विजा/प्रवेशपत्र
(141) Emergency	—आपात स्थिती
(142) Enact	—अधिनियम बनाना

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(143) Bureau	—ब्यूरो, कार्यालय, केंद्र
(144) Bye Law	—उपविधि
(145) Decorum	—शिष्टता
(146) Interim	—अंतरिम
(147) Minutes	—कार्यवृत्त
(148) Mandate	—अधिदेश
(149) Section	—अनुभाग, धारा

अंग्रेजी वाक्यों के हिंदी पर्याय

Some Expressions and Phrases

(1) As per details below	— नीचे लिखे ब्योरों के अनुसार
(2) As directed	— निदेशानुसार
(3) Like to state	— निवेदन है
(4) By Order	— के आदेश से
(5) Come into force	— लागू होना
(6) Come into operation	— चालू होना
(7) Deemed to be	— समझा जाएगा
(8) During this period	— इस अवधि में
(9) Early reply is solicited	— शीघ्र उत्तर भेजने की प्रार्थना है
(10) Eligibility is certified	— योग्यता/पात्रता प्रमाणित की जाती है
(11) Further report is awaited	— अगली रिपोर्ट की प्रतीक्षा में

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- | | |
|-------------------------------------|---------------------------------------|
| (12) Furnish details | — ब्योरा प्रस्तुत करें |
| (13) Give necessary facilities | — आवश्यक सुविधाएँ दी जाएँ |
| (14) Hard and fast rules | — पक्के नियम |
| (15) Has been dealt with suitably | — समुचित कार्रवाई की गई है |
| (16) In reply to | — के उत्तर में |
| (17) In due course | — यथावधि |
| (18) Justification for the proposal | — प्रस्ताव औचित्य |
| (19) Just below | — ठीक नीचे |
| (20) Kindly acknowledge receipt | — कृपया पावती दें |
| (21) Keeping in view | — दृष्टि में रखते हुए |
| (22) Lay before | — समक्ष रखना / सामने रखना |
| (23) Liable to disciplinary action | — अनुशासनात्मक कार्रवाई की जा सकती है |
| (24) May be considered | — विचार किया जाए |
| (25) Mentioned above | — उपर्युक्त/उपरलिखित |
| (26) Note Bene (N.B.) | — विशेष ध्यान दीजिए (वि. ध्यान) |
| (27) Necessary action may be taken | — आवश्यक कार्रवाई की जाए |
| (28) On behalf of | — की ओर से |
| (29) Objection is not valid | — आपत्ति वैध नहीं है |

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(30) Pros and Cons	— पक्ष-विपक्ष
(31) Put up	— प्रस्तुत कीजिए/ पेश कीजिए
(32) Question does not arise	— प्रश्न नहीं उठता
(33) Quote reference	— संदर्भ बताएँ
(34) Referred to above	— उपरिनिर्दिष्ट
(35) Remain in force	— लागू रहना/प्रस्तुत रहना
(36) Status quo	— यथापूर्व स्थिती
(37) So far as possible	— यथासंभव
(38) This is to certify	— प्रमाणित किया जाता है
(39) Through oversight	— नजर चूक जाने से/ भूल जाने से
(40) Under mentioned	— निम्नलिखित
(41) Until further orders तक	— अगला आदेश मिलने तक
(42) Verified and found correct	— सत्यापित किया, सही है
(43) With reference to	— के संबंध में/के प्रसंग में
(44) With respects	— सादर
(45) Yours faithfully	— भवदीय
(46) Yours attention is drawn	— आपका ध्यान आकर्षित किया जाता है
(47) Form of questions	— प्रश्नों का रूप
(48) For public benefit	— सार्वजनिक हित के लिए
(49) Lapse of time	— समय बीतना
(50) Method of disposal	— निस्तारण की रीति

संदर्भ ग्रंथ सूची —

- (१) हिंदी भाषा का सरल व्याकरण - डॉ. भोलानाथ तिवारी
- (२) व्यावहारिक हिंदी और निबंध रचना - ओम प्रकाश सिंहल, तिलकराज बडेहरा, हरीश नवल
- (३) आवेदन-प्रारूप - शिवनारायण चतुर्वेदी
- (४) प्रामाणिक आलेख और टिप्पणी - प्रो. एम. ए. विराज
- (५) अभिनव-व्यावहारिक हिंदी - परमानंद गुप्त
- (६) प्रयोजनमूलक हिंदी (वाणी प्रकाशन, नई दिल्ली) - विनोद गोदरे
- (७) प्रयोजनमूलक हिंदी : सिद्धान्त और प्रयोग (वाणी प्रकाशन, नई दिल्ली) - डॉ. दंगल झाल्टे
- (८) व्यावहारिक हिंदी और रचना (वाणी प्रकाशन, नई दिल्ली) - डॉ. कृष्ण कुमार गोस्वामी
- (९) प्रयोजनमूलक कामकाजी हिंदी (तक्षशिला प्रकाशन, नई दिल्ली) - डॉ. कैलाश चंद्र भाटिया
- (१०) मानक हिंदी - ब्रज मोहन
- (११) प्रयोजनमूलक हिंदी - रवीन्द्रनाथ श्रीवास्तव
- (१२) देवनागरी लिपि तथा हिंदी वर्तनी का मानकीकरण - केंद्रीय हिंदी निदेशालय, नई दिल्ली
- (१३) कार्यालयीन हिंदी - केशरीलाल वर्मा
- (१४) कार्यालय सहायिका - हरिबाबू कंसल

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(१५) प्रयोजनमूलक हिंदी : प्रयुक्ति और प्रयोग (छाया पब्लिशिंग हाउस, औरंगाबाद) - डॉ. माधव सोनटक्के

प्रश्नपत्र का स्वरूप एवं अंकविभाजन

- (१) (अ) मानक लिपि पर आधारित वाक्य ०८ अंक
शुद्धीकरण (१० में से ८)
- (आ) अंक लेखन पर आधारित (१० में से ८) ०८ अंक
- (२) व्याकरण पर आधारित वाक्य रचनासंबंधी अशुद्धियों के कारण बताकर शुद्ध करना १६ अंक
- (३) (अ) अंग्रेजी परिभाषिक शब्दों के हिंदी पर्याय तथा उनका वाक्य में प्रयोग (१२ में से १०) १० अंक
- (आ) अंग्रेजी पारिभाषिक वाक्यांशों के हिंदी पर्याय तथा उनका वाक्य में प्रयोग (१२ में से १०) १० अंक
- (४) (अ) पत्र का नमूना (२ में से १) ०६ अंक
- (आ) आवेदन पत्र का नमूना (२ में से १) ०६ अंक
- (५) (अ) सार लेखन/संक्षेपण पर आधारित ०६ अंक
- (आ) विस्तारण/पल्लवन/कल्पना विस्तार पर आधारित ०६ अंक
- (६) (अ) मराठी अनुच्छेद का हिंदी में अनुवाद ०६ अंक
- (आ) अंग्रेजी अनुच्छेद का हिंदी में अनुवाद ०६ अंक
- (७) कम्प्यूटर पर टिप्पणियाँ (५ में से ३) १२ अंक
- कुल १०० अंक

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**प्रयोजनमूलक हिंदी वैकल्पिक पाठ्यक्रम
प्रथम वर्ष बी. ए. हिं. प्र. १**

१. मानक लिपि और अंकलेखन
- (क) मानक लिपि
हिंदी वर्ण लिखने के प्रचलित विभिन्न प्रकार
मानक लिपि-स्वीकृत वर्णमाला का परिचय, भारत सरकार
द्वारा निर्धारित वर्तनी संबंधी अद्यतन नियम.
१. संयुक्त वर्ण, २. विभक्ति चिह्न, ३. क्रियापद,
४. हाइफन, ५. अव्यय, ६. श्रुतिमूलक, ७. अनुस्वार तथा
चंद्रबिंदु, ८. हल चिह्न, ९. स्वन-परिवर्तन, १०. विसर्ग,
११. ए, औ का प्रयोग, १२. पूर्व कालिक प्रत्यय,
१३. विरामचिह्न, १४. शिरोरेखा।
- (ख) अंकलेखन
अंकों का देवनागरी एवं भारतीय अंको का आंतर्राष्ट्रीय
रूप, अंकों का लेखन - अंको तथा शब्दों में अपूर्णांक,
दशमलव, पहाडे की भाषावली गणित के लिए उपयोगी
शब्दों एवं चिन्हों का परिचय।
२. व्याकरण
- (क) शब्द-विचार : शब्द भेद-शब्दों के आठ भेद-विकारी एवं
अविकारी, वर्तनी से उसका संबंध, वाक्यों में उनके प्रयोग,
कारकों के साथ प्रयोग, विशेषताएँ विकृत रूप एवं बहुवचन
में अंतर
वचन : कारक विभक्तियों के प्रयोग तथा विशेष प्रयोग
लिंगविचार-सामान्य गलतियों के बारे में जानकारी तत्सम,
तद्भव, देशज एवं अन्य स्रोतों के शब्दों का सामान्य
परिचय, वर्तनी की दृष्टि से उनका विचार तथा प्रयोग।

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३. पारिभाषिक शब्दावली और वाक्यांश
डाक, तार से संबंधित ७५, और २५ वाक्यांश अर्थ, उनका वाक्यों में प्रयोग। (परिशिष्ट संग्रह है।)
४. पत्रव्यवहार निमंत्रण-पत्र, अभिनंदन-पत्र, सम् वेदना-पत्र
 १. निमंत्रण-पत्र—विवाह पर उपस्थित होने के लिए निमंत्रण, चाय के लिए निमंत्रण, मध्याह्न। रात्रि भोज के लिए निमंत्रण – किसी शुभ अवसर पर उपस्थिति के लिए, निमंत्रण—सरकारी, निमंत्रण—विविध.
 २. अभिनंदन पत्र : नववर्ष पर, दीपावली पर, मंत्री को
 ३. सम् वेदना पत्र : प्रियजन के निधन पर
 ४. प्रात्यक्षिक यातायात के साधनो का आरक्षण करना – रद्द करना, विस्तारण, बदलना, तार-प्रपत्र एक बैंको के चलन आदि भरना
 ५. सारलेखन तथा संक्षेपण स्वरूप, परिभाषा, एवं महत्त्व संक्षेपण एेर सारांश में अंतर
 ६. विस्तारण। मल्लवन। कल्पना विस्तार
विस्तारण। मल्लवन। कल्पना विस्तार का अर्थ-प्रक्रिया+ शैलियाँ (शब्दसंख्या १५० से ५०० शब्दों तक)।
१. व्याकरण
 - (क) वाक्यारचना-काल-वर्तमान, तात्कालिक वर्तमान - आसन्नभूत, भूत, अपूर्णभूत, तात्कालिक भूत, संदिग्ध भूत, भविष्यकाल
 - (ख) क्रियाएँ—संयुक्त क्रियाएँ, सहायक क्रियाएँ
क्रियासंबंधी अशुद्धियाँ—सकर्मक, अकर्मक, द्विकर्मक
 - (ग) वाक्यों के प्रकार
 १. मिश्र, क्लिष्ट, सरल
 २. अर्थ— आज्ञार्थ, विध्यर्थी, प्रश्नार्थक, सकारार्थ, नकारार्थ
 ३. प्रयोग—एवं वाक्य - कर्तृवाच्य, कर्तरी, कर्मणि, भावे

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प्रयोग, कर्मवाच्य, बाववाच्य

(घ) वाक्यरचना संबंधी भूलें

उदा. न से वाक्य समाप्त करना-है का प्रयोग, सकर्मक वाक्यों को जोड़ते समय एक ही कर्ता का प्रयोग-यह का बीच में अनावश्यक प्रयोग।

२. पारिभाषिक शब्दावली और वाक्यांश
रेल, भारतीय संविधान से संबंधित ७५ शब्द और २५ वाक्यांश अर्थ, उनका वाक्यों में प्रयोग (परिशिष्ट संलग्न है)
३. पत्रव्यवहार-आवेदन। प्रार्थना पत्रों के विविध प्रकार-आवेदनपत्रों का ढाँचा प्रकार
१. छुट्टी से संबंधित, २. स्थानांतरण से संबंधित, ३. कार्यालय-कार्यजीवन से संबंधित, ४. सरकारी मकान से संबंधित, ५. वेतन के विषय में, ६. पदोन्नति के संबंध में, ७. अग्रिम-धन-विविध भुगतान से संबंधित
४. अनुवाद
१. आवश्यकता, सिद्धान्त उपयोगिता और कौशल-के बारे में सामान्य जानकारी
२. मराठी से हिंदी में अनुवाद लगभग सौ शब्दों के परिच्छेद
३. अंग्रेजी से हिंदी में अनुवाद
५. निबंध-आत्मकथनात्मक, रेखाचित्रात्मक, संस्मरनात्मक, वर्णनात्मक, सूचि और सहायत पर आधारित, कल्पनात्मक। संदर्भ पुस्तक-प्रयोजनमूलक हिंदी-लेखक पाबू देसाई।

नई पद्धती के अनुसार वार्षिक परीक्षा के १०० अंको के प्रश्नपत्रों की रूपरेखा।

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सामान्य सूचनाएँ -

१. एफ. वाय. बी. ए. / बी. कॉम., एस. वाय. बी. एस्सी. तथा एस. वाय. बी. ए. के प्रश्नपत्रों की नई रूपरेखा अप्रैल/मई १९९५ की परीक्षा से आरंभ होगी। टी.वाय.बी.ए. के प्रश्नपत्रों की नई रूपरेखा अप्रैल/मई १९९६ की परीक्षा से अमल में जाएगी।
२. नई पद्धती में प्रत्येक विषय/पेपर का प्रश्नपत्र १०० अंको का तथा ३ घंटे अवाही का होगा।
३. प्रत्येक प्रश्नपत्र में ६ प्रश्न होंगे और वे सब अनिवार्य होंगे। अंतर्गत विकल्प होंगे।
४. प्रश्नपत्र पूरे वर्ष के पाठ्यक्रम पर आधारित होंगे।

प्रथम वर्ष साहित्य

हिंदी ऐच्छिक - सामान्य प्रश्नपत्र पहिला

वार्षिक परीक्षा

समय : ३ घंटे)	(गुणांक : १००
१. गद्य पाठों पर लघूत्तरी प्रश्न (६ में से ४)	२०
२. पद्य पाठों पर लघूत्तरी प्रश्न (६ में से ४)	२०
३. ससंदर्भ व्याख्या -	
(अ) गद्य पाठों के अवतरण (४ में से २)	१०
(आ) पद्य पाठों के अवतरण (४ में से २)	१०
(इ) गद्य-पद्य पाठों पर एकवाक्यीय उत्तरवाले प्रश्न (६ में से ६) (गद्य ९ + पद्य ३)	६
४. (क) वाक्य शुद्धीकरण (६ में से ४)	४
(ख) पारिभाषिक शब्दों के हिंदी पर्याय (६ में से ४)	४

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५. (च) अनुवाद लेखन अथवा सारलेखन ७
(छ) वार्ता लेखन (२ में से १ विषयपर) ७
६. निबंध लेखन (५ में से १ विषयपर) १२

अथवा

**हिंदी ऐच्छिक -- प्रयोजनमूलक हिंदी : प्रश्नपत्र पहला
वार्षिक परीक्षा**

- समय : ३ घंटे (पूर्णांक : १००)
१. निबंध लेखन (५ में से १ विषय पर) १६
२. (अ) सारलेखन तथा शीर्षक देना ८
(आ) कल्पना विस्तार (२ में से १) ८
३. पत्रों के नमूने बनाना (४ में से २ ... निमंत्रण पत्र, सम्बेदना पत्र, अभिनंदन पत्र, आवेदन पत्र (कोई एक प्रकार का) १६
४. (क) पारिभाषिक शब्दों के हिंदी पर्याय देना (१२ में से ८) ८
(ख) पारिभाषिक वाक्यों के हिंदी पर्याय देना (१२ में से ८) ८
५. (च) मराठी अनुच्छेद का हिंदी में अनुवाद (२ में से १) ८
(छ) अंग्रेजी अनुच्छेद का हिंदी में अनुवाद (२ में से १) ८
६. (ट) वाक्यों का सकारण शुद्धीकरण (६ में से ४) ८
(ठ) मानक हिंदी वर्तनी के अनुवाद शुद्ध रूप पहचानना (६ में से ४) (प्रत्येक में ३ पर्याय दिए जाये)। ४
(ड) हिंदी अंकों का मानक हिंदी वर्तनी के अनुसार अक्षरों में लिखना (६ में से ४) ४
(ढ) कोष्ठक में दिये गये शब्दों का योग्य रूप कर योग्य फिरसे लिखिए (६ में से ४) ४
(वचन, लिंग, कारक-विभक्ती, वाक्य, काल अर्थ से संबंध वाक्य दिए जाये.)

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२. गद् की पुस्तके गद्य खंडों संसर्द्ध व्याख्या (४ में से २)
अवतरण १६
३. पद्य की पुस्तके कवि पर दीर्घोत्तरी प्रश्न १

अथवा

३. पद्य की पुस्तकी कविताओं पर लघूत्तरी प्रश्न (४ में से २) १६
४. पद्य की पाठ्यपुस्तक में से पद्य खंडों की संसर्द्ध व्याख्या
(४ में से २) १६
५. (अ) मानक हिंदी वर्तनीय के नियम तथा अंकलेखन पर आधारित
वाक्यशुद्धीकरण (१२ में से १० वाक्यों का) १०
- (आ) शब्दयुग्मों के हिंदी में अर्थ बताकर वाक्यों में प्रयोग
(८ में से ५ शब्दयुग्म) १०
६. (क) संपादक के नामपत्र का नमुना बनाना (२ में से १)
- (ख) आवेदन पत्र का नमुना बनाना (२ में से १) ८

अथवा

**हिंदी सामान्य-प्रयोजनमूलक हिंदी : प्रश्नपत्र दूसरा
वार्षिक परीक्षा**

- समय : ३ घंटे पूर्णांक : १००
१. (अ) वार्ता का नमुना बनाना (अंतर्गत विकल्प) (विषय दिया
जाय) ८
- (आ) टिप्पण का प्रारूप बनाना (अंतर्गत विकल्प)
(विषय दिया जाय) ८
२. (क) साक्षात्का का मसौदा बनाना (अंतर्गत विकल्प) (विषय दिया
जाय) ८
- (ख) रिपोर्ट का नमुना बनाना (अंतर्गत विकल्प) (विषय दिया
जाय) ८

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३. टिप्पणियाँ लिखना (६ में से ४)
(विषय : संगणक, टेलिप्रिंटर, टंकलेखन यंत्र, वाक्यों के प्रकार, पत्रलेखन, कृदन्त, डी प्रत्यत, समास, संधी, कारक, आदि पाठ्यविषयों से संबंधित होंगे।) १६
४. (च) शब्दयुग्मों के अर्थ बताकर वाक्यों में प्रयोग (६ में से ४) ८
(छ) वाक्याशुद्धीकरण (१२ में से ८) ८
५. (ट) पारिभाषिक अंग्रेजी शब्दों के हिंदी पर्याय लिखना (४ में से ४) ४
(ठ) पारिभाषिक अंग्रेजी वाक्यों के हिंदी में पर्याय लिखना (४ में से ४) ४
(ड) पारिभाषिक शब्द/वाक्यांशयुक्त अंग्रेजी वाक्यों का हिंदी में अनुवाद (८ में से ८) ८

प्रथम वर्ष बी. ए.

अंग्रेजी वाक्यांशों के हिंदी पर्याय

Some Expressions and Phrases

1. As per details below — नीचे लिखे ब्योरो के अनुसार
2. As directed — निदेशानुसार
3. Beg to state — निवेदन है
4. By Order — के आदेश से
5. Come into force — लागू होना
6. Come into operation — चालू होना
7. Deemed to be — समझा जाएगा
8. During this period — इस अवधी में

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9. Early reply is solicited — शीघ्र उत्तर भेजने की प्रार्थना है
10. Eligibility is certified — पात्रता प्रमाणित की जाती है
11. Further report is awaited — अगली रिपोर्ट की प्रतीक्षा में
12. Furnish details — ब्योरा प्रस्तुत करें
13. Give necessary facilities — आवश्यक सुविधाएँ दी जाए
14. Hard and fast rules — पक्के नियम
15. Has been delt with suitably — समुचित कार्रवाई की गई है
16. In reply to — के उत्तर में
17. In due course — यथावधि
18. Justification for the proposal — प्रस्ताव औचित्य
19. Just below — ठीक नीचे
20. Kindly acknowledge receipt— कृपया पावती दे
21. Keeping in view — दृष्टि में रखते हुए
22. Lay before — समक्ष रखना/सामने रखना
23. Liable to disciplinary action—अनुशासनात्मक कार्रवाई
की जा सकती है
24. May be considered — विचार किया जाए
25. Mentioned above — उपर्युक्त उपरिलिखित
26. Note Bene (N.B.) — विशेष ध्यान दीजिए
(वि. ध्यान)
27. Necessary action may be taken—आवश्यक कार्रवाई की
जाएगी
28. On behalf of — की ओर से

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29. Objection is not valid — आपत्ति वैध नहीं है
30. Pros and Cons — पक्ष-विपक्ष/आगा पीछा
31. Put up — प्रस्तुत कीजिए/पेश कीजिए
32. Question does not arise — प्रश्न नहीं उठता
33. Quote reference — संदर्भ बताए
34. Referred to above — उपरिनिर्दिष्ट
35. Remain in force — लागू रहना। प्रस्तुत करना
36. Status quo — यथापूर्व स्थिती
37. So far as possible — यथासंभव
38. This is to certify — प्रमाणित किया जाता है
39. Through oversight — नजर चूक जाने से/भूल जाने से
40. Under mentioned — निम्नलिखित
41. Until further orders — अगला आदेश मिलने तक
42. Verified and found correct— सत्यपित किया, सही है
43. With reference to — के संबंध में/ के प्रसंग में
44. With respects — सादर
45. Yours faithfully — भवदीय
46. Your attention is drawn — आपका ध्यान आकर्षित किया जाता है
47. Form of question — प्रश्नों का रूप
48. For public benefit — सार्वजनिक हित के लिए
49. Lapse of time — समय बीतना
50. Method of disposal — विस्तारण की रीति

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पुरवणीपत्रिका

प्रथमवर्ष बी.ए./बी.कॉम.

हिंदी व संगणकशास्त्र

पुणे विद्यापीठ

परिपत्रक क्र. ३०७/२०००

विषय : प्रथम वर्ष बी.ए./बी.कॉम. वर्गाच्या हिंदी विषयाच्या प्रश्न ६
(निबंध) स्वरूपामध्ये बदल करून त्यामध्ये संगणक
अभ्यासक्रमाचा समावेश करण्याबाबत.

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, प्रथम वर्ष बी.ए. आणि बी.कॉम. च्या प्रश्नपत्रिकेमधील प्रश्न ६ (निबंध) च्या स्वरूपात बदल करण्यात येत असून निबंधाच्या विषयामध्ये कल्पनात्मक, आत्मकथनात्मक, विवरणात्मक, विचारात्मक ह्यांपैकी एका विषयावर निबंध लिहिण्यास सांगण्यात येईल व त्यास संगणक ह्या विषयावरील प्रश्नांचा पर्याय राहिल. संगणकावरील प्रश्न केवळ टीपास्वरूपाचे असतील. त्यांमध्ये ४ पैकी ३ टीपा लिहाव्या लागतील. संगणक ह्या विषयाचा अभ्यासक्रम सोबतच्या परिशिष्टाप्रमाणे राहिल.

गणेशखिंड, पुणे-७
जावक क्र. : सीबी/४६५०
दि. २५-०९-२०००

ना. म. कदम
कुलसचिवांकरिता

पुणे विद्यापीठ

एफ.वाय.बी.ए./बी.कॉम. (हिंदी) संगणक अभ्यासक्रम

सूचना और प्राद्योगिकी के बढते प्रभाव तथा उपयोगिता की दृष्टी से प्रथम वर्ष साहित्य के पाठ्यक्रम में प्रश्न क्र. ६ (निबंध) में परिवर्तन किया जा रहा है। निबंध के विषयों में कल्पनात्मक, आत्मकथनात्मक, विवरणात्मक तथा विचारात्मक इन प्रकारों में से केवल एक ही प्रकार का कोई निबंध पूछा जाएगा।

निबंध के लिए अथवा प्रश्न संगणक का होगा।

संगणक का प्रश्न केवल टिप्पणियों का होगा। इस प्रश्न में ४ में से केवल ३ टिप्पणियाँ लिखनी होगी।

संगणक पाठ्यक्रम :

- (१) संगणक की जानकारी - परिचय
- (२) संगणक की विशेषताएँ - (I) अपने आप कार्य
(II) तीव्र गति
(III) अचूक कार्य पद्धति
(IV) सातत्य
(V) स्मरणशक्ति
(VI) कम जगह में अधिक जानकारी एकत्रित करनेकी क्षमता
(VII) बहुआयाती
(VIII) विश्वासार्हता (विश्वसनीयता)
(IX) सूक्ष्म आकार
(X) विचारशून्यता।

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- (३) संगणक कार्यक्षेत्र - विज्ञान, अंतरिक्ष, रक्षा विभाग, बैंक, चिकित्सा, व्यापार, विज्ञापना, छपाई, हवाई, जहाज, रेल्वे, पत्र-व्यवहार, शिक्षा, कल-कारखाने, तकनीकी विभाग, भूशास्त्र, कार्टून फिल्म, बुद्धिवर्धक आकर्षक खेल आदि।
- (४) संगणक की आवश्यक - (I) मॉनिटर
इकाइयाँ (II) सिस्टिम यूनिट
(III) की-बोर्ड
- (५) इ मेल - सामान्य परिचय
- (६) इंटरनेट - सामान्य परिचय

संदर्भ ग्रंथ :

- (१) कॉम्प्यूटर सीखे अपने आप - प्रका.:नेट कॉम इंडिया प्रा. लि.
पो. बॉ. १५४, जी.पी.ओ.
नई दिल्ली-११०००१.
- (२) इंटरनेट - प्रका.: नेट कॉम इंडिया प्रा. लि.
पो. बॉ. १५४, जी.पी.ओ.
नई दिल्ली-११०००१.
- (३) इन्फॉर्मेशन टेक्नॉलॉजी - खंड १, २, ३.
सी-डॉक (पुणे) द्वारा निर्मित ग्रंथ.

पत्रिकाएँ :

- (१) कॉम्प्यूटर संचार सूचना - सं. हरिशंकर व्यास
संवाद परिक्रमा प्रा. लि. २६३८-
४२, पर्ल पॅलेस, गुरुद्वारा रोड,
करोल बाग, नई दिल्ली-
११०००५.

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(7) ENGLISH

Appendix to F.Y.B.A.English Paper

Encl. to Circular No. 256

First Year B.A. Additional/Optional English

Question Paper Format 1998-99 & 1999-2000

1. (a) Poetry : general theoretical
(i) or (ii) -10 Marks
- (b) Poetry : textual
(i) or (ii) -10 Marks
2. (a) One act play : general theoretical
(i) or (ii) -10 Marks
- (b) One act play : textual
(i) or (ii) -10 Marks
3. (a) Short story : general theoretical
(i) or (ii) -10 Marks
- (b) Short story : textual
(i) or (ii) -10 Marks
4. (a) Essay : general theoretical
(i) or (ii) -10 Marks
- (b) Essay : textual
(i) or (ii) -10 Marks
5. (a) Poetry : general theoretical
(i) or (ii) -10 Marks
- (b) Poetry : two reference to context questions
Out of four -10 Marks

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* The first year B.A./Optional English question paper will have five questions each carrying twenty marks. Each question will have two sections, each carrying ten marks and having two internal options. The first section of each question will aim at testing the examinee's knowledge of or acquaintance with the nature and elements of one form of literature with the second section will ask questions on prescribed texts in Bolasion of injuxta position with other prescribed texts.

* The first question will be on poetry, the second on one-act plays, the third on short stories, the fourth on essays, and the fifth on poetry again. The second section of the fifth question will be on explaining poetry lines with reference to their contexts.

* You will have noticed that this pattern deviates from the of used pattern of essay questions that has been in use for years. The purpose is not only to break the monotony of essay type questions, but to reduce the amount of predictability which leads to rote memorization and thematic content and linguistic expressions. In all the sections except the second section of the fifth questions, the examinee will be provided help in the form of key points or a series of related questions each of which will require him/her to produce a piece of information/evaluation/appreciation. The examinee will have to looks at the points or questions in each section in their totality and produce a cogent and cohesive piece of composition exhibiting his/her mastery of the content, and elements of the form of literature and critical evaluation of them.

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(B) CLASSICAL LANGUAGE

From June 1994

(8) SANSKRIT

Appendix

पुणे विद्यापीठ

परिपत्रक क्र. १८२/२००२

विषय : प्रथम वर्ष साहित्य, प्रथम वर्ष वाणिज्य व
द्वितीय वर्ष विज्ञान संस्कृत अभ्यासक्रम.

या परिपत्रकाद्वारे सर्व संबंधितांस विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार असे कळविण्यात येत आहे की, प्रथम वर्ष साहित्य, प्रथम वर्ष वाणिज्य व द्वितीय वर्ष विज्ञान या वर्षाच्या संस्कृत या विषयासाठी सोबत पाठ्यपुस्तकांची सूची जोडण्यात येत आहे. या पाठ्यपुस्तकांचा अंतर्भाव शैक्षणिक वर्ष २००२-२००३ पासून करण्यात येत आहे.

गणेशखिंड, पुणे-४१ ००७.

जा. क्र. सीबीए/३०९०

दिनांक : १४.६.२००२

ला. फु. वसावे

कुलसचिवांकरिता

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Circular No. 182/2002
Revised from June 2002

शैक्षणिक वर्ष जून २००२ पासून पुढील वर्षासाठी
प्रथम वर्ष साहित्य (एफ.वाय.बी.ए.) संस्कृत उपसमिती
एफ.वाय.बी.ए. संस्कृत पाठ्यपुस्तक आराखडा

पद्य विभाग :

१. वालिसुग्रीवयोः द्वन्द्वम् । (रामायण - किष्किन्धाकाण्ड)
२. रन्तिदेवकथा । (भागवतपुराणम्)
३. गुर्वष्टकम् । (श्रीमच्छङ्कराचार्य विरचितम्)
४. सुभाषितानि ।
५. प्रकृतिविज्ञानम् । (अष्टाजहदय - वाग्भटकृत)
६. व्याघ्रीतनयसंवादः । (रामचंद्रलघुकाव्यसंग्रह : १९९३)

गद्य विभाग :

१. गार्ग्याः प्रश्नद्वयम् । (बृहदारण्यक उपनिषद ३.८.१-१२)
२. व्याकरण प्रयोजनानि । (व्याकरणमहाभाष्य - पस्पशाह्निक)
३. तका प्रतिष्ठितः । (शाङ्करभाष्य - २.१-११)
४. चतुर्दन्तगजकथा । (पञ्चतन्त्र)
५. कर्णभारम् । (भासकृत कर्णभार)
६. शकुन्तलायाः पतिगृहगमनम् । (कालिदासकृत अभिज्ञानशाकुन्तलम्)

F.Y.B.A. / 89

(9) PERSIAN

UNIVERSITY OF PUNE

Circular No. 197 of 2002

**Subject : Revised Syllabus in Persian at various
examinations.**

It is hereby notified for the information of all concerned that, the University Authorities have decided as below :

The syllabus of Persian for the following courses has been revised as enclosed in the appendix.

1. F.Y.B.A. (General Paper I)
2. F.Y.B.Com.
3. S.Y.B.A. (General Paper II)
4. T.Y.B.A. (General Paper III)
5. M.A. (Part I & II)

The above decision will come into force from Academic Year 2002-2003.

The Principals of all University of Pune's affiliated colleges are requested to bring the contents of this circular to the notice of all teachers, Students and others.

Ganeshkhind,
Pune-411007.
Ref. No. : CB/A/3078
Date : 14-06-2002

Sign. _____
For Registrar.

F.Y.B.A. / 90

UNIVERSITY OF PUNE

F.Y.B.A (PERSIAN) (GENERAL) PAPER-I

2002-2003, 2003-2004 and 2004-2005.

ADBIYAT-E-FARSI (Prose and Poetry)

Edited by Dr. Anant Shaikh and

Prof. Nazir Ahmed Ansari

A) Portion for the Term-End Examination

Portion Prescribed as above

Total Marks - 60 (Two hours duration)

No. of Questions - 4 (with internal choice)

Pattern for Question Paper

- i) Question on any one poet or form of poetry = 15 marks
- ii) a) Reproduction of a poem in simple persian = 10 marks
b) Figures of speech (Five out of seven) = 15 marks
- iii) Translation and explanation of verses from
the text. (five out of seven) = 20 marks

Total Marks = 60

B) Portion for the Annual Examination

Portion as prescribed above.

Total marks - 100 (Three hours duration)

No. of Questions - 5 (with internal choice)

F.Y.B.A. / 91

Pattern of Question Paper

- i) Question on any one poet or form of poetry = 15 marks
- ii) a) Reproduction of a poem in simple Persian = 10 marks
b) Figures of Speech (five out of seven) = 15 marks
- iii) Question on the author or story = 15 marks
- iv) a) Translation of passages in to Urdu,
English, Marathi OR Explain in Persian.
(Two out of four) = 20 marks
b) Translation of Couplets (Five out of
Seven) into Urdu, English Marathi
OR Explain in Persian = 15 marks
- v) Translation of an unseen English passage
into Persian = 10 marks
- _____
- Total Marks =100 marks
- _____

F.Y.B.A. / 92

(10) ARABIC

Appendix

UNIVERSITY OF PUNE

Circular No. 198 of 2002

**Subject : Revision of Syllabus in Arabic at various
examination**

It is hereby notified for the information of all concerned that, the University Authorities have decided as below :
The syllabus of Arabic for the following courses has been revised as enclosed in the appendix.

1. F.Y.B.A. (General Paper I)
2. F.Y.B.Com. (General Paper I)
3. S.Y.B.A. (General Paper II)
4. T.Y.B.A. (General Paper III)
5. M.A. (Part I & II)

The above decision will come into force from Academic Year 2002-2003.

Ganeshkhind,
Pune-411007.
Ref. No. : CB/A/3079
Date : 14-06-2002

L. Vasave
For Registrar.

F.Y.B.A. / 93

UNIVERSITY OF PUNE
Syllabus for the Academic Year
2002-2003, 2003-2004 and 2004-2005
F.Y.B.A Arabic General - I

A) First Term :

Prose with Applied grammar.

Prescribed book : Al-Qura-atul wazeha Part-I

by Waheed-U-Zzaman Keranwi

Lessons : 1 to 11, 14 to 22, 30 to 35.

B) Second Term :

1. Short History of Arabic Literature :

(a) Pra-Islamic Poetry and Prose.

(b) Eminent Poets (Imraul-Qais, Zuhair, Amr-bin Kulthum, etc.)

(c) Impact of Quran on Arabic Literature.

(d) Poetry in Early Islamic Period and eminent Poets.
(Hassan, Ibane-Rawaha, Khansa etc.)

2. Translation, (Arabic - English - Arabic)

Prescribed Book : Arabic for beginners :

By - Dr. Syed Ali

Lessons : 5 to 10.

F.Y.B.A. / 95

**Pattern of the Question Paper for the
Annual Examination**

1. Translation into English or Urdu or Marathi
(Two out of three Passages) = 20 marks
 2. General Questions
 - (a) Fill in the blanks and Exercises
from book = 07 marks
 - (b) Question-Answer in Arabic from book = 07 marks
 - (c) Singulars and Plurals etc. = 06 marks
 3. Short notes from History of Arabic Literature
(Two out of Three) = 20 marks
 4. Questions from Grammar (Two out Three) = 20 marks
 5. Translation of Passages (From Text)
 - (a) Arabic into English = 10 marks
 - (b) English into Arabic = 10 marks
- Total = 100 marks

F.Y.B.A. / 96

(11) FRENCH

UNIVERSITY OF PUNE

Circular No. 286 of 2002

**Subject : Revision of Syllabus in French
(F.Y. S.Y. & T.Y.B.A.)**

It is hereby notified for the information of all concerned that, the University Authorities have decided to revise the syllabus of F.Y.B.A S.Y.B.A. & T.Y.B.A. in French as enclosed in the Appendix

The above decision will come into force from Academic Year 2002-2003

Ganeshkhind,
Pune-411007.
Ref. No. : CB/French/4313
Date : 1-7-2002

For Registrar.

F.Y.B.A. / 97

Syllabus for F.Y.B.A., in FRENCH

Modifications and the changes in the syllabi for the first year, Second Year and the Third Year of B.A. in French are as follows.

French General

F.Y.B.A

Advanced Level

Same as before

Beginnre Level

- **The prescribed book** - "Nouveau Sans Frontiere" Cle International - printed in India, Pages 8 to 99, two units lessons 1 to 10 for F.Y.B.A. Beginners (first ten lessons)
- **Question paper**
Dictatioin 10 marks

Questions based on the text : 90 marks

1. The instructions to be given in English
2. The division of 90 marks be as follows
 - Grammer : 35
 - Civilisation : 10
 - Communication skills : 15
 - Comprehension : 10
 - Vocabulary : 10
 - Translation (French to English) : 10
3. A model question paper Annex II B

Annexure II A

F.Y.B.A. / 98

A model question paper for F.Y.B.A. (Beginners)

Q. 1. What will you say in the given situation ? Match the columns and rewrite the complete sentence (10)

A	B
1. Que est-ce?	a) Entendu monsieur.
2. Bonjour M.Dubois. Je vous presente	b) Pierre Vincent Mme Lamy.
3. Comment ça va ?	c) Non, je visite la ville.
4. Trois cafes, s'il vous plait.	d) Oui, il est dix heures cinq.
5. Comment vous appelez-vous?	e) Je vous en prie.
6. Tu habites a Paris ?	f) C'est Sylvie, une amie
7. Pardon, monsieur, vous avez l'heure"	g) Dix France cinquante
8. Merci beaucoup	h) Ça va très bien. Et toi ?
9. Pour aller à la gare, s'il vous plat?	i) Enchanté, madame.
10. C'est combien, ce gâteau au chocolat ?	j) Allez tout droit

Q.2. Rewrite the dialogue in the right order (10)

Laurent et Rémi vont dîner au restaurant

Laurent : C'est où ?

Laurent : Est-ce que c'est cher ?

Laurent : Où allons - nous ?

Rémi : Un moment, je vais faire un réservation

Laurent : Comment y va-t-on ?

F.Y.B.A. / 99

Laurent : D'accord Allons-y
Rémi : Allons 'Chez George'
Rémi : En bus ou en metro
Rémi : Au bout de la Rue Saint Honoré
Rémi : Non, pas trop, mais la cuisine est bonne.

Q. 3 Comprehension Read the passage given below and answer the question (10)

La Croix Rouge est une organisation internationale fondée (founded) en 1863 par un français, Henri Dunant Pour aider les victimes de la guerre (war). Aujourd'hui elle est présente dans tous les pays du monde. Elle aide les victimes des guerres et des catastrophes naturelles. Elle aide aussi dles malades, les pauvres et les personnes seules.

Answer the questions in French :

- 1) Que fait la Croix Rouge
- 2) Dans quels pays trouve-t-on la Croix Rouge ?

Say 'true' or 'false'

- 3) Henri Dunant est analais
- 4) La Croix Rouge n'aide pas les pauvres
- 5) La Croix Rouge est une organisation internationale.

Q. 4. Find the questions for these answers. (10)

- a) Bien sûr, j'ai des copains et des copines aussi!
- b) Non, je n'aime pas visiter les musées.
- c) Allez tout droit et tournez a gauche.
- d) Le film commence à midi.

F.Y.B.A. / 100

e) Le weekend, je regarde la télévision ou j'écoute de la musique

Q. 5. Translate into English (10)

Hélène habite un bon quartier, dans un petit studio avec salle de bains, WC et une cuisine assez grande. Elle aime ce quartier parce que les grands magasins ne sont pas loin. Souvent elle va regarder les beaux vêtements ou elle fait les courses dans les grandes surfaces. Et le soir, elle va voir un film dans le cinéma en face. C'est vraiment très agréable d'habiter au milieu de la ville.

Q. 6. Here is classified advertisement in the newspaper about an apartment for sale. Answer the questions after reading the advertisement. (5)

PARIS IVème arrondissement.

A vendre immédiatement : Appart. 4 pièces + jardin, sous-sol, 3 WC. 390 000 francs. Garage compris.

- 1) Est-ce que c'est une maison ou un appartement ?
- 2) Combien coûte-t-il ?
- 3) Combien de pièces y a-t-il ?
- 4) Est-ce qu'il y a un WC pour chaque pièce ?
- 5) Ou peut-on mettre l'auto ?

Q. 7. Where would you go in the following situations?
Fill in the blanks with the right words (5)

a) cinéma - charcutier - banque - grandes surfaces - fromagerie.

b) Pour acheter du fromage, on va à la _____

F.Y.B.A. / 101

- c) Pour acheter des saucisses on va chez le _____
d) Quand on veut faire les courses dans un seul endroit on va dans les _____
e) Pour voir un film au grand écran on va au _____
Pour retirer de l'argent on va à la _____

Q. 8. Here are the dishes that Laurent and Remi order at the restaurant. Fill in the blanks with the correct Partitive articles.

(5)

Pour commencer, ils commandent ___ salade niçoise, puis __ bouillabaisse avec ___ haricots verts.

Pour le dessert ils prennent ___ fruits. Ils ne boivent pas de vin parce qu'ils boivent ___ eau.

Q. 9. Fill in the blanks with the right adjective (5)

- a) Elle choisit une ___ (beau/belle) robe.
b) J'aime tone _____ (nouveau/nouvelle) manteau.
c) Mes chaussures sont trop ___ (vieux/vieilles).
d) Il a une famille _____ (nombreux/nombreuse).
e) Quand on n'a pas d'argent on est _____ (malheureux/malheureuse).

Q. 10. Fill in the blanks with the correct possessive adjectives (5)

Voilà une photo de ma famille. Je vous présente _____ père, _____ mère, _____ ma sœur mariée. À sa gauche, voilà _____ mari et _____ deux enfants.

F.Y.B.A. / 102

Q.11. Reply to the questions using 'oui', 'si' or 'non' (5)

- a) Vous ne parlez pas le français ? _____, un peu.
- b) Est-ce qu'ils habitent à Lyon ? _____, ils y habitent depuis dix ans.
- c) Elle a des frères ? _____, elle a seulement une sœur
- d) Vous n'aimez pas le poisson ? _____, j'aime bien le poisson
- e) Travaillent-ils dans la ville ? _____, ils travaillent loin de la ville.

Q. 12. Complétez avec les verbes au présent. (5)

- a) je (préférer) cette chemise blanche
- b) Ils (acheter) des légumes au marché
- c) Est-ce que vous (vendre) votre appartement ?
- d) Nous (choisir) une maison pas loin de la ville.
- e) Que (faire) - tu le weekend ?

Q. 13. Complete the letter written by Anil, an Indian Student. (5)

Mumbai, _____ 3 mars
_____ Pierre,
Je _____ à Mumbai depuis une semaine. Je suis
Content de rentrer chez _____ Ma famille aussi est
très _____ Lundi prochain je _____ commencer mes
cours à l'université Ici, très différente de la
France. Les classes sont _____ quelquefois il y a
cent étudiants _____ une classe.
Écris-moi _____ tu as le temps.
_____ Anil.

F.Y.B.A. / 103

FRENCH

(Revised Syllabus from June 94)

N.B. : (1) The course will consist of a continuous 1 year integrated course as detailed below. However, there will be 2 separate examinations at the end of the first term and at the end of the second term, respectively known as (a) Term-end Examination, (b) Annual Examination.

(2) The teaching of the entire course as well as both the examinations (Term-end and Annual) will be based on a course book or books to be prescribed from time to time.

(3) Supplementary/additional books and material may be used by the teachers at their own discretion for imparting instruction in a particular language skill like translation, comprehension etc.

Objective :

- (a) Ability to read simple authentic texts which illustrate the grammar and the basic structures.
- (b) Ability to express in learner's own words the contents of the text recommended, both in response to questions as well as in the form of guided composition or a personal letter.
- (c) Ability to translate simple French texts.
- (d) Ability to carry on a simple conversation on topics from everyday life.

Course Content :

- (i) Prescribed Course book and/or prescribed readings in prose and poetry (To be prescribed from time to time).
- (ii) Books recommended for reference and home use:
 - 1. A Bilingual Dictionary.
 - 2. Reference Grammar.

F.Y.B.A. / 104

Oral Test :

	(1) (a) Dictation (unseen passage) 10-12 lines	50% =
10		
	(b) Reading (unseen passage)	25% = 5
	(c) General conversation	25% = 5

		Total..
20		_____
	(2) Annual Examination will consist of only one written paper of 3 hours duration, consisting of 80 marks.	
	(a) Questions based on recommended texts	30% =24
	(b) Questions to test the ability to apply grammatical and lexical items learnt	30% =24
	(c) Translation (French into English)	10% =8
	Translation (English into French)	10% = 8
	(d) Guided composition, and/or personal letter.	20% =16

		Total.. 80

*Books recommended for the academic years
1994-95, 95-96, 96-97.*

- (i) Contes de France by Claire Roe (Orient Longmans)
- (ii) Mauger Bleu 1.

F.Y.B.A. / 105
UNIVERSITY OF PUNE
Circular No. 226 of 2000

Subject : F.Y.B.A. French Syllabus

In pursuance of the decision taken by the University authorities, it is hereby notified for the information of all concerned that F.Y.B.A. French syllabus has been divided in two branches i.e. Beginners and Advanced. The detailed syllabus of both Branches has been prescribed as given in Appendix.

Further, I am to state that (1) Two separate papers will be set and this should be clearly mentioned as options at the time of admission as well as at the time of printing Examination forms. (2) Two Separate Boards of Paper-setters will be appointed for the Question Papers. (Question Paper Pattern is enclosed herewith).

Ganeshkhind,
Pune-411007
Ref. No. CBA/3711
Date : 10-6-2001

N. M. Kadam
for Registrar

**UNIVERSITY OF PUNE
REVISED SYLLABUS OF F.Y.B.A. FRENCH
Circular No. 226/2000**

(1) F.Y.B.A. (Basic)

Text-book prescribed : Bonne Route I, Hachette, Paris
Grammar : Basic

(2) F.Y.B.A. (Advanced)

- (a) Text book prescribed - Contes de France
- (b) Poetry As Compiled by Board
- (c) Grammar of Studies.
 - Reinforcement of grammar topics studied in Junior College.
 - In addition, following topics to be taught :
 - (i) Conditionnel present,
 - (ii) Paste simple,
 - (iii) Plusque parfait,
 - (iv) Futur antérieur,
 - (v) Subjonctif.

Question Paper Pattern

- (a) Textual questions – 40
- (b) Grammar – 40
- (c) Translation – 10
(French-English)
- (d) Oral Examination – 10
(Dictation)

Total Marks – 100

**Question Paper Format/Pattern and Distribution of
Marks for F.Y.B.A. FRENCH**

1. F.Y.B.A. FRENCH—(Advanced Course)
3 Hours) (100 Marks

Course Content :

- (a) Contes de France (short stories)
 - (b) Poetry selection (as compiled by B.O.S.)
 - (c) Grammar topics.
—Reinforcement of the grammar topics done in Junior College.
—In addition following topics to be taught :
 - (1) conditional present
 - (2) passe simple
 - (3) plus que parfait
 - (4) futur anterieur
 - (5) subjoiclif.
- | | |
|--|----|
| (A) Textual Questions | 40 |
| (B) Grammar | 50 |
| (C) Translation (from French to English) | 10 |

2. F.Y.B.A. (FRENCH) (Beginner's Course)

Course Content :

- (a) Basic Grammatical Structures.
- (b) Basic Vocabulary.

Marks : 100

Division of Marks :

- | | |
|--|----|
| (a) General question | 40 |
| (b) Grammar | 50 |
| (c) Translation (from French to English) | 10 |

F.Y.B.A. / 108

(12) GERMAN

(Revised Syllabus)

(From 1994)

जर्मन

प्रथम वर्ष बी. ए. वर्गाच्या जर्मन विषयाचे क्रमिक पुस्तक सन १९९७-९८ सालीही तसेच चालू राहिले.

**Question Paper Format/Pattern and Distribution
of Marks for F.Y.B.A. GERMAN**

F.Y.B.A.

GERMAN

Duration : 3hours)

(Maximum Marks : 100

1. Content-oriented longish-answer questions on the prescribed Texts (2 out of 3/4). 12
2. Content-oriented short-answer questions of the prescribed Texts (6 out of 7/8). 18
3. A short guided composition or a personal letter. 15
4. Grammar and Vocabulary tests (Questions to test the ability to use core grammar, structures and lexical items).
5. EITHER :
 - (a) Translation of a German (unseen) passage into English or Marathi. 15

OR

- (b) Answering comprehension questions on the same passage. (Questions to be asked and answered in German). 15

F.Y.B.A. / 109

N.B. :

(1) The course will consist of a continuous one-year integrated course as detailed below. There will be two separate examinations at the end of the first term and at the end of the second term, respectively known as (a) Term-End Examination, (b) Annual Examination.

(2) The teaching of the entire course as well as both the examinations (Term-End and Annual) will be based on a course-book or books to be prescribed from time to time.

(3) Supplementary/additional books and material may be used by the teachers at their own discretion for imparting instruction in a particular language skill, like translation, comprehension etc.

(4) Since the examination pattern has very little scope to test conversational skill, the teaching should avoid over-emphasis on the unilingual—the so called direct method, irrespective of the prescribed course-book.

Objectives :

- (a) Ability to read fluently easy authentic texts which illustrate the “core grammar” and the “basic structures”.
- (b) Ability to express in the learners’ own words the contents of the texts which have been read, both in response to short-answer and long-answer questions, as well as in the form of guided composition, or a personal letter to relative or friend.
- (c) Ability to translate unseen German texts of the same level as that of the texts envisaged in (a) above.

F.Y.B.A. / 110

- (d) Ability to vary on a simple conversation with the teacher/examiner on topics texts and everyday life.

Course Content :

- (i) Prescribed course-book and/or recommended readings in prose and poetry (To be prescribed from time to time).
- (ii) Books recommended for reference and home use :
1. A bilingual dictionary
 2. Reference Grammar.

Annual (i.e. Final Year-End) Examination will consist of only one written paper :

Duration : Three hours

Max. Marks : 80

Books prescribed for the Academic Years : 1994-95, 1995-96 and 1996-97 (i.e. Annual Examinations in 1995, 1996 and 1997).

1. Prescribed course-book : Any one of the following :
 - (a) Sprachkurs Deutsch 1 by Ulrich Haussermann et al.

OR

- (b) Deutsche Sprechlehre für Ausländer by Schulz and Griesbach.
2. Recommended for reference :
 - (a) Langenscheidt's German-English and English-German Dictionary (Paperback edition or pocket dictionary).
 - (b) Gerhard Helbig / J. Buscha-Kurze Deutsche Grammatik für Ausländer (Leipzig).

F.Y.B.A. / 111

3. Prescribed for textual study :
Schroeder and Kirchhoff : Wir lesen Deutsch-Erster
Teil.
First Term : “B” and “C” Texts from Lektionen
IV to IX.
Second Term : “B” and “C” Texts from Lektionen
X to XV.

F.Y.B.A. / 112

(13) RUSSIAN

Objectives :

1. To develop oral and reading comprehension as well as ability to write freely on day-to-day topics.
2. To speak and understand the basic structures in Russian.

First Term

Course Content : Portion to be covered (Lessons 1-15)

Books Prescribed :

'Russian' by V.N.Wagner and Y.G.Ovsienko,
Printed by People's Publishing House, New Delhi.

Second Term

Course Content :

Portion to be covered (Lessons : 15-26).

Books Prescribed :

'Russian' by V.N.Wagner and Y.G.Ovsienko,
Printed by People's Publishing House, New Delhi.

F.Y.B.A. / 113

(a) Middle Indo-Aryan Language

(14) PALI

कुसुमांजली-चतुर्थो भागो, पाठ क्र. १ ते ८

Translation of unseen passage

For Term End : **पाठ क्र. १५ ते १७.**

Translation of unseen passage.

F.Y.B.A. / 114

(15) ARDHAMAGADHI

प्रथम वर्ष बी. ए. अर्धमागधी (प्राकृत)
प्राकृत गद्य-पद्य वेचे : क्रमांक ५

F.Y.B.A. / 115

(16) PHILOSOPHY

**Appendix for
F.Y.B.A. Philosophy**

पुणे विद्यापीठ

परिपत्रक क्र. १७२ / २००२

**विषय : एफ.वाय.बी.ए. तत्त्वज्ञान विषयाच्या सुधारित
अभ्यासक्रमाबाबत.**

या परिपत्रकाद्वारे सर्व संबंधितांस विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार असे कळविण्यात येत आहे की, एफ.वाय.बी.ए. तत्त्वज्ञान, तर्कशास्त्र आणि गांधीयन थॉट विषयाचा सुधारित अभ्यासक्रम शैक्षणिक वर्ष २००२-२००३ पासून सोबतच्या परिशिष्टानुसार अमलात आणण्यात येत आहे. तसेच सदर विषयांचे एफ.वाय.बी.ए. आणि टी.वाय.बी.ए. वर्षासाठी अभ्यासक्रमाचा आराखडा सोबत जोडला आहे.

गणेशखिंड, पुणे-४११ ००७
जावक्र. सी.बी./३०६१
दिनांक : १४.६.२००२

एम. सी. खानवेलकर
कुलसचिवांकरिता

F.Y.B.A. / 116

FYBA PHILOSOPHY

G-I

ETHICS-WESTERN AND INDIAN

(Alternative Course)

Objective : To explain the basic concepts/concerns/framework of Indian and Western thought dealing with moral behaviour and to sensitise students to some important ethical issues confronting us today.

1. Introduction
 - 1.1 Ethics as a branch of Philosophy.
 - 1.2 Morality as the subject matter of Ethics : Customary/reflective morality. Individual/social morality.
 - 1.3 Nature of ethical reasoning : normative, meta-ethical, applied.
 - 1.4 Kinds of moral judgement : Deontic (moral obligation)/Aretaic (moral value).
2. Major trends in Western normative ethics
 - 2.1 Teleology : Egoism, Hedonism, Utilitarianism, Hedonistic calculus.
 - 2.2 Deontology : Good will, Duty, Categorical Imperative.
3. Major concepts/concerns in Indian normative ethics
 - 3.1 Dharma, Rta, Rna, Preyas, Shreyas.
 - 3.2 Karma, Purushartha.
 - 3.3 Jynana, Karma, Bhakti Yoga.
 - 3.4 Four Noble Truths and the Eight fold path.
 - 3.5 Triratna, Vratas, Yama-niyama.

4. Major areas of socio-ethical issues :
 - 4.1 Freedom :
 - (i) Occurent/dispositional; positive/negative; freedom from/to.
 - (ii) Varieties of constraints : internal/external; positive/negative.
 - (iii) Liberty, permission, ability.
 - (iv) Self-restraint.
 - 4.2 Rights and Duties :
 - (i) Legal/moral-fundamental, human, ideal.
 - (ii) Correlation between rights and duties : logical/moral.
 - 4.3 Justice :
 - (i) Equality and equity.
 - (ii) Comparative/distributive.
 - (iii) Principles of distributive justice : merit, desert, need, effort, contribution.
5. Ethical issues concerning right to Life :
 - 5.1 Abortion, Suicide, Euthanasia, Capital Punishment.
 - 5.2 Ecology.

Suggested Books :

1. Ethics for Today — H. Titus.
2. Social Philosophy — J. Feinberg.
3. Ethics — W. Frankena.
4. Practical Ethics — P. Singer
(Cambridge University Press).

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5. नीतिमीमांसा — प्रा. श्री. ह. दीक्षित
6. नैतिक आणि सामाजिक तत्वज्ञान — प्रा. श्री. ह. दीक्षित
7. पाश्चात्य नीतिशास्त्राचा इतिहास — प्रा. मे. पुं. रेगे
8. गीतारहस्य — बा. गं. टिळक

For References :

1. Applied Ethics—Ed. P. Singer (Oxford University Press).
2. Ethics : A Brief Introduction, R. Solomon—(McGraw Hill).
3. Ethics in Perspective—K. J. Struhl & Struhl (Random House).
4. Jain Ethics, Bhargava Dayanand—(Motilal Banarsidas) 1968.
5. Buddhist Ethics—Saddhatissah (Allen Unwin) 1970.
6. Quest after Perfection—M. Hiriyanna, (Kavyalaya Publication), Mysore, 1982.
7. मानवी स्वातंत्र्य—प्रा. कृ. ना. वळसंगकर (मराठी अनुवाद).

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FYBA PHILOSOPHY

G-1

EDUCATION IN HUMAN VALUES

(Alternative Course)

Objective :

- * To make students aware of the importance of human values in life.
 - * To sensitise students to the plurality of value systems by which men seek to live their lives.
 - * To install in students an appreciation of the values of our Indian Constitution.
- I. (a) Notion of Value.
- (b) Kinds of value :
- (i) Individual / social
 - (ii) Moral / non-moral
 - (iii) Instrumental / intrinsic.
- (c) Importance of Education in Human Values.
- II. Conceptions of a “Good Life”
- (i) Some indicators :
Pursuit of excellence, altruism, honesty, transparency, accountability etc.
 - (ii) Religious value systems :
 - (a) Hindu
 - (b) Buddhist
 - (c) Jain

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- (d) Sikh
- (e) Muslim
- (f) Christian.

III. Value crises of today : (Contributing factors)

- (a) Lack of expected values (tolerance, honesty, equity, accountability).
- (b) Changing values.
- (c) Inconsistency, conflict of values.
- (d) Confusion in understanding values.
- (e) Ambiguity in values.

IV. Some contemporary value orientations

- (a) Marxist.
- (b) Gandhian (Sarvodaya).
- (c) Green movement.
- (d) Feminism.
- (e) Ambedkarism.

V. Values of our Indian Constitution within the framework of Democracy, Socialism, Secularism

- (a) Liberty.
- (b) Equality.
- (c) Fraternity.
- (d) Justice.

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Suggested Books :

For Reading

1. Eternal Human Values and World Religions —R. P. Dhokalia, NCERT.
2. Indian Constitution : A Philosophical Critique—B. R. Joshi, Pune.
3. Annihilation of Caste—Dr. Ambedkar.
4. Today's Isms—Ebenstein.
5. Ethics for Today—H. Titus.
6. समता : विचार, व्यवहार, भवितव्य—(सं.) प्रा. रावसाहेब कसबे, दादासाहेब रूपवते फाउंडेशन, मुंबई (निवडक प्रकरणे).
7. वैदिक संस्कृतीचा विकास—तर्कतीर्थ लक्ष्मणशास्त्री जोशी, प्राज्ञपाठशाळा, वाई.
8. हिंदुधर्मसमीक्षा —तर्कतीर्थ लक्ष्मणशास्त्री जोशी, प्राज्ञपाठशाळा, वाई.
9. सर्वधर्मसमीक्षा —तर्कतीर्थ लक्ष्मणशास्त्री जोशी, प्राज्ञपाठशाळा, वाई.
10. भ्रष्टाचार : स्वरूप आणि संदभ—प्रा. नागोराव कुंभार, श्री महात्मा बसवेश्वर महाविद्यालय, लातूर.
11. समाजवादी डॉ. बाबासाहेब आंबेडकर—डॉ. बी. आर जोशी, सुगावा प्रकाशन.

For Reference :

1. Dalit Identity and Politics— G. Shah, Sage Publication.
2. Marx, Phule, Ambedkar —S. Patil.
3. भारतातील समाजवाद, शोध आणि बोध —डॉ. बी. आर जोशी, पुष्प प्रकाशन, पुणे

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4. डॉ. बाबासाहेब आंबेडकर यांची घटनासमितीतील भाषणे— डॉ. बी. आर. जोशी (अनुवाद), सुगावा प्रकाशन, पुणे.
 5. राजकीय तत्त्वप्रणाली : सिद्धान्त आणि व्यवहार — प्रा. विजय कसबेकर, प्रकाशक : प्रा. शिवाजीराव भोर रावसाहेब शिंदे षष्ट्यब्दीपूर्ती गौरव समिती
 6. विसावे शतक आणि समाजवाद— प्रा. कृ. ना. वळसंगकर (अनुवाद), महाराष्ट्र साहित्य संस्कृती मंडळ, मुंबई.
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(17) GENERAL PSYCHOLOGY

N.B. : Topic Nos. 1 to 5 are meant for the Term-End Examination.

Topic 1 : The nature of Psychology and its scientific methods

- 1:1 *A definition of Psychology.
- 1:2 *The work of Psychologists (Branches of Psychology).
- 1:3 *Psychology as a science : Empirical observation; systematic approach and theory, measurement, definition of terms.
- 1:4 *Scientific methods in Psychology : Scientific observation, Experimental method.

Topic 2 : Brain, Behaviour and Experience

- 2:1 *Neurons, structure and functions.
- 2:2 *Central nervous system, spinal cord, Brain stem, reticular formation; Forebrain-Thalamus, hypothalamus, cerebrum, limbic system.
- 2:3 *Major and minor cerebral hemispheres-left hemisphere and Language, right hemisphere, Divided brains.

Topic 3 : Motivation Conflict and Emotions :

- 3:1 The nature of motivation, motivational cycles.
- 3:2 Biological motivation.
- 3:3 Learned goals, drives and needs.
- 3:4 Social motives : Achievement, Affiliation, Power.
- 3:5 Exploration, competence and self-actualization.
- 3:6 Frustration and conflict - Sources of frustration, Types of conflict.
- 3:7 Emotion : Expression and Perception of emotions. Sources of emotional feeling. Pleasure, Fear and Anxiety, Anger and hostility, Depression and grief.

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3:8 The Physiology of Emotions.

Topic 4 : Psychological Testing

- 4:1 Introduction and brief history of psychological testing.
- 4:2 Kinds of Tests (Classification)—Achievement, Ability, Personality etc.
- 4:3 Characteristics of a good Test. Reliability, Validity and Norms.
- 4:4 Uses and Limitation of Psychological Tests.
- 4:5 Measurement of Intelligence.
- 4:6 History and definition of intelligency testing e.g. Stanford - Binet Scale Wechsler Scale.
- 4:7 Concept of M.A. and I.Q.
- 4:8 Distribution of intelligencye.

Topic 5 : Personality

- 5:1 *Introduction : Meaning of the term personality
- 5:2 *Traits; Types, Approaches
- 5:3 *Personality as a striving and coping
- 5:4 *Defence Mechanisms as coping patterns
- 5:5 *Determinants of personality development
 - 5:5:1 *Family, Heredity - Environment
 - 5:5:2 *Peer-group
 - 5:5:3 *School
 - 5:5:4 *Society
- 5:6 *Personality Measurement
 - 5:6:1 * Paper and Pencil tests - Questionnaires, MMPI EPPS
 - 5:6:2 * Projective methods—IAT Rorschach, Sentence completion.

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Topic 6 : Sensory processes

- 6:1 *Sensory channels : Receptor stimulation
- 6:2 *Vision :
 - 6:2:1 *The physical stimulus for vision
 - 6:2:2 *Structure of the eye and seeing
 - 6:2:3 *Retina and Seeing
 - 6:2:4 *Visual experience of form, hue and brightness
- 6:3 *Hearing :
 - 6:3:1 *Physical stimulus for hearing (Delete measurement of physical sound intensity and complex waveforms)
 - 6:3:2 *Structure and functioning of the ear
 - 6:3:3 *Auditory experience of pitch, loudness and timbre

Topic 7 : Attention and Perception

- 7.1 *Nature of attention
 - 7.1.1 *Determinants of attention,
 - 7.1.2 *Phenomena of attention—span of attention; distraction and fluctuation of attention, division of attention.
- 7.2 *Perception
 - 7.2.1 *Form perception—figure and ground, contours, organization
 - 7.2.2 *Constancy of perception : size and brightness
 - 7.2.3 *Depth perception : Monocular and Binocular
 - 7.2.4 *Movement perception : Real and apparent motion.

Topic 8 : Learning

- 8:1 *Definition of learning, different methods of learning.
- 8:2 *Trial and Error—Thorndike Insightful Learning Kohlor

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8:3 *Classical conditioning

- * Introduction - Basic concepts
- * Classically conditioned responses
- * Extinction and Spontaneous Recovery in classical conditioning
- * Stimulus generalization and discrimination in classical conditioning
- * Significance of classical conditioning

8:4 Operant Conditioning :

- * Introduction
- * The basics of operant conditioning
- * Shaping
- * Comparison of classical and operant conditioning

8:5 * Primary and secondary reinforcement positive and negative

8:6 * Negative reinforcement

8:6:1 * Punishment : difference between punishment and negative reinforcement. Determinants of effective punishment, Uses of punishment

8:6:2 * Significance of Operant Conditioning

Topic 9 : Human Learning and Memory :

9:1 *Memory Stages : Introduction

9:1:1 *Atkinson-Shiffrin model of Memory.

9:1:2 *The sensory register

9:1:3 *The short term store and rehearsal buffer

9:1:4 *The long term store

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- 9:2 *Levels of processing and amount of elaboration
 - 9:2:1 * Comparison of 'Stages' view and 'levels' view;
 - * Elaboration.
- 9:3 *Long-term Memory
 - 9:3:1 * Encoding and storage of information, Role of organization and imagery, encoding for retrieval.
 - 9:3:2 * Long-term memory organization : The tip of the tongue phenomenon, semantic and episodic memory.
 - 9:3:3 * Retrieval for Long-term Memory.
- 9:4 *Forgetting :
 - 9:4:1 * Methods of measuring memory
 - 9:4:2 * Encoding, Organization and retrieval problems
 - 9:4:3 * Interference (Delete Memory of texts)
- 9:5 *Efficient Learning and Remembering
 - 9:5:1 * Skill learning : Stages, Role of feedback, distribution of practice and transfer
 - 9:5:2 * Study methods and verbal learning : Planning, elaborated rehearsal, organization, feedback, Review, Transfer effects in verbal learning.

Topic 10 : Thinking and Problem Solving

- 10:1 *The Thinking Process.
 - 10:1:1 *Introduction
 - 10:1:2 *Images,
 - 10:1:3 * Verbal Thinking.

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- 10:2 *Concepts :
 - 10:2:1 *Definition.
 - 10:2:2 *Types of Concepts :
 - (i) Conjunctive, (ii) Disjunctive, (iii) Relational
 - 10:2:3 *Factors affecting concept attainment :
 - (i) Transfer
 - (ii) Distinctiveness
 - (iii) Ability to manipulate the materials
 - (iv) Instructional set,
 - (v) Simultaneous availability of relevant information.
- 10:3 *Problem Solving :
 - 10:3:1 *Rules in problem solving
 - 10:3:2 *Habit and set in problem solving
- 10:4 *Decision Making
 - *Heuristics and biases in decision making :
Representativeness, Availability, Adjustment
 - *Weighing alternatives.
- 10:5 *Creative Thinking :
 - 10:5:1* Introduction
 - 10:5:2* Insight in creative thinking
 - 10:5:3 * Stages in creative thinking
 - 10:5:4 * Nature of creative thinking : Convergent and divergent, reaction with intelligence.
 - 10:5:5 *Personality traits of creative thinkers.

Books Recommended

Text Books :

1. Morgan, King and Robinson :
Introduction to Psychology, 7th Edn., Mc Graw-Hill
Introduction to Psychology, by Kimble and other,
Wiley Eastern.

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2. Parmeshwaran E.G., C.Beena :
Invitation to Psychology, Tata-McGraw-Hill Publishing
Company Ltd., New Delhi.
3. Garrett : General Psychology, E.P.H.

Reference Books

1. Munn and others : Introduction to Psychology, Oxford.
2. Atkinson, Hilgard : Introduction to Psychology,
Oxford.
3. Sarason & Others - Introduction to Psychology, Wiley.
4. Mayber - Introduction to Psychology, Wiley.

मराठी संदर्भ ग्रंथ

१. र. वि. पंडित - सामान्य मानसशास्त्र (म. वि. ग्रं. नि. मंडळ)
२. डॉ. बोरुडे, डॉ. देशपांडे - माध्यमिक मानसशास्त्र (गो. य. राणे
प्रकाशन)
३. गोगटे, देशपांडे, भागवतवार - सामान्य मानसशास्त्र (पत्र ३ व ४).
४. डॉ. पांढरीपांडे - प्रारंभिक मानसशास्त्र.

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PSYCHOLOGY

G1 : General Psychology Syllabus

1. To acquaint the student with the basic concepts of psychology.
2. To help the student to understand the relations of biological and psychological aspects of behaviour.
3. To relate the fundamental principles of psychology to everyday life.
4. To arouse intellectual curiosity and build an appreciation of how psychology can increase students' understanding of the world around them.

Topic I : Nature, scope and methods of psychology

(Total periods for teaching : 8)

Periods per unit

- (2) 1.1 Definitions and historical Perspective
- (2) 1.2 Branches of psychology
 - (A) Physiological
 - (B) Abnormal
 - (C) Comparative
 - (D) Developmental
 - (E) Social
 - (F) Industrial and Organizational behaviour
 - (G) Clinical and counselling
 - (H) Educational
 - (I) Sports psychology
 - (J) Psychology of women
- (1) 1.3 Schools of psychology
Structuralism, Functionalism, Gestalt, Psychoanalysis, Behaviourism, Humanistic.
- 1.4 Scientific methods : scope and limitations
- (3) (A) Introspection (B) Naturalistic observation
(C) Systematic observation (D) Experimental Method.

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Topic 2 : Biological bases of behaviour

(Total periods for teaching 12)

periods per unit

- (3) 2.1 Neurons : Its structure and function, synapse and neurotransmitters.
- (3) 2.2 Central nervous system : Structure and function of spinal cord and brain.
- (3) 2.3 Peripheral nervous system : Autonomic nervous system (ANS) and Somatic nervous system (SNS)
- (3) 2.4 Endocrine Glands : Functions and effects of pituitary, pineal, thyroid, parathyroid, adrenal, gonads and thymus glands.

Topic 3 : Motivation and emotion

(Total periods for teaching 12)

periods per unit

- (1) 3.1 Nature of motivation : Definition and motivational cycle.
- (2) 3.2 Maslow's hierarchy:ordering *motivational needs*.
- (3) 3.3 (A) Biological needs : Hunger, thrust, sex, maternal drive.
(B) Social motives : Achievement, affiliation, power, frustration and conflict of motives
- (3) (A) Sources of frustration : Environmental and personal
(B) Various types of conflict
 - (a) Intrapersonal (b) Interpersonal
 - (c) Intragroup (c) Intergroup.
- 3.4 Emotion
- (3) (A) Nature and definitions
(B) Physiological bases of emotions.
(C) Fundamental emotion : Pleasure, love, fear and anxiety, anger and hostility.
(D) Emotional expression.

Topic 4 : Consciousness

(Total periods for teaching 12)

periods per unit

- (3) 4.1 Levels of consciousness
 - (A) Sleep : Definition, stages, types, abnormalities in sleep. (B) Dream : Nature and definition, theories of dream, importance of dream.
- (3) 4.2 Hypnosis : Nature and definition, characteristics, theories of hypnotism, uses of hypnotism.
- (3) 4.3 Meditation : Definition, biological and mental experiences in meditation, techniques of meditation.
- (3) 4.4 Drugs and their effects
 - (A) Stimulants (B) Depressants
 - (C) Narcotics (D) Hallucinogens

Topics 5 : Human abilities

(Total periods for teaching : 12)

periods per unit

- (1) 5.1 Nature and definitions of Intelligence
- (3) 5.2 Theories of intelligence
 - (A) Spearman's old and revised model
 - (B) Thurstone's multi factor Theory
 - (C) Garden's theory of multiple-intelligence
 - (D) Guilford's structure of intelligence
 - (E) Sternberg's triarchic theory.
- 5.3 Measurement of Intelligence
 - (2) (A) Basic concepts : C.A., M.A., I.Q., D.Q.
 - (B) Distribution of Intelligence in population
- (2) 5.4 Individual differences in intelligence
 - (A) Mental retardation (B) The gifted
- (2) 5.5 The Aptitude : Nature definition and measurement of aptitude.
- (2) 5.6 Creative thinking
 - (A) Nature of creative thinking : convergent and divergent
 - (B) Stages in creative thinking
 - (C) Insight in creative thinking
 - (D) Personality traits of creative thinkers.

Topic 6 : Personality

(Total periods for teaching : 12)

period per unit

- (3) 6.1 Nature and definition
 - (A) Misconceptions about personality
 - (B) Allport's definition of personality
- (3) 6.2 Type and trait Model
 - Allport, Cattell, Eysenck, and Big five Model
- (3) 6.3 Development of Personality
 - (A) Stage Model : Freud, Erikson
- (3) 6.4 Assessment of Personality
 - (A) Self-report inventories
 - (B) Projective methods
 - (C) Behavioural measures

Topic 7 : Sensation

(Total periods for teaching : 12)

period per unit

- 7.1 Vision
 - (4) (A) Structure and function of the eye
 - (B) Phenomena related to vision
 - Duplicity theory of Photoreceptors, colour vision, theories of colour vision.
 - (C) Abnormalities in vision Night blindness, colour blindness.
- 7.2 Audition
 - (4) (A) Structure and function of ear,
 - (B) Physical characteristics and auditory experiences. Frequency, amplitude, pitch, loudness, timber, beats, difference in tone.
- 7.3 Other senses
 - (4) (A) Chemical senses
 - (smell and taste)
 - (B) Tactile senses.

Topic 8 : Perception

(Total periods for teaching : 10)

period per unit

- (2) 8.1 Attention : Definition and nature
- 8.2 Nature of perception
 - (A) Definition
 - (B) The Gestalt laws of organization.
- (4) Closure, proximity, similarity, simplicity, figure and ground.
 - (C) Feature analysis
 - (D) Top-down and Bottom-up processing
- 8.3 Perceptual phenomenon
- (4) (A) Perceptual constancy
- (B) Motion perception
- (C) Perceptual illusions.

Topic 9 : Learning

(Total periods for teaching : 12)

period per unit

- (2) 9.1 Definition and contemporary views of learning
- 9.2 Methods of learning I :
 - (3) (A) Trial and error method : Thorndike's laws of learning
 - (B) Insight learning : Kohler's experiments
- 9.3 Methods of Learning II :
 - (A) Classical conditioning.
Association, extinction, spontaneous recovery, generalization, discrimination, higher order conditioning.
 - (B) Operant conditioning
- 9.4 (C) Comparison of classical conditioning and operant conditioning
- (D) Role of reinforcement in conditioning
- 9.5 Cognitive Approaches to Learning
- (2) (A) Latent Learning
- (B) Observational Learning

Topic 10 : Memory

(Total periods for teaching : 10)

period per unit

10.1 Memory

- (A) Definition
- (B) Types of memory
- (3) (a) Short-term memory
- (b) Long-term memory
Declarative, procedural, semantic,
episodic, TOT

10.2

- (3) (A) Atkinson and Shiffrin Model of memory
(Encoding, storage and retrieval)
- (B) Levels of processing
- (C) Flashbulb Memories

10.3 Forgetting :

- (A) Nature & causes of forgetting
- (2) (a) Trace decay theory
- (b) Interference theory

10.4 Improvement in Memory

- (A) Mnemonic Devices
- (B) Effective learning methods

Important Note :

1. As far as possible the weightage for per topic should be equal.
(Approximate 10% or 24 marks)
2. Essay type questions should cover at least three subunits of the topic.
3. If an essay type question is asked on a particular topic, short answer question should not be asked on the subunits of that topic already covered in essay type.

List of Books

1. Feldman, R. S. : Understanding Psychology, McGraw-Hill, New York, 1996, 4th ed.
2. Bernstein D. A., Roy E. J., Srull T. K., Wickens C. D. : Psychology, Houghton Mifflin, Boston, 1991, 2nd ed.
3. Gleitman H. : Basic Psychology, W. W. Norton, N. Y., 1996, 4th ed.
4. Davideft L. L. : Introduction to Psychology, McGraw-Hill, N. Y., 1987, 3rd ed.
5. Morgen C. T. : King R. A. et al Introduction to Psychology (TMH) Tata Mc-Graw-Hill, Delhi, 1993, 7th ed.

(18) EDUCATION

Unit I :

- 1.1 Meaning of education and educational process :
 - (a) General concept of education.
 - (b) Process of Education-Bipolar-Tripolar.
- 1.2 Relation of education and philosophy :
 - (a) What is philosophy ? Its meaning, nature and need.
 - (b) Their inter-relationship with special reference to aims and curriculum of Education.

Unit II :

- (a) Roussou's thoughts on education :
 - (i) Stages of child development.
 - (ii) Negative education.
 - (iii) Curriculum.
- (b) Pestalozzy :
 - (i) His educational experiments
 - (ii) His contribution to methodology and "Teacher Education" and curriculum.
- (c) Herbert Spencer :
 - (i) Principles of curriculum.
 - (ii) Maxims of teaching.
- (d) John Dewey : John Dewey and his activity approach to education with reference to project method and problem solving method.

Unit III :

Aims of Education :

- (a) Characteristics of Gurukula system.
- (b) Aims of education (Ancient India).
 - (i) Infusion of party and religiousness.
 - (ii) Character formation.
 - (iii) All sided development of personality.
 - (iv) Inculation of civic and social duties.
 - (v) Promotion of social efficiency and social happiness.
 - (vi) Preservation and spread of national culture.

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- (c) Aims of education in modern times with reference to 'Kothari Commission'
 - (i) Promotion of national productivity.
 - (ii) Modernization.
 - (iii) Social and national integration.
 - (iv) Development of democratic values.
 - (v) Development of moral and religious values.
- (d) Constitutional provisions. Equality of educational opportunity.

Unit IV : Individual and social aims of education :

- (i) Individual aims.
- (ii) Social aims.
- (iii) Their reconciliation.

Unit V : Sociology and Education :

- (i) The subject matter of Sociology-General Idea.
- (ii) Concept of educational sociology and its characteristics.
- (iii) Role and functions of Educational Sociology.

Unit VI : School as a social institution :

- (i) Criteria of a social institution.
- (ii) School as social institution.
- (iii) Role and functions of school in developing character of students.
- (iv) Role and functions of school in developing national integration.
- (v) Role and functions of school in developing democratic citizenship.

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Unit VII : Pre-Primary and Primary Education :

- (a) Pre-Primary and Primary Education in Maharashtra.
 - (i) Concept of Pre-Primary Education.
 - (ii) Need and importance of Pre-Primary Education today.
 - (iii) Objectives of Pre-Primary Education.
 - (iv) The Present position of Pre-Primary Education in Maharashtra.
- (b) Constitutional provision and present position in Maharashtra.
- (c) Problems of wastage and stagnation.
 - (i) Single-teacher.
 - (ii) Equipments.

Unit VIII : Role of mass media in education :

- 1.1 Meaning of mass media.
- 1.2 Functions of mass-media (Press, Radio, T.V. media).
 - (a) Recreation.
 - (b) National outlook.
 - (c) Provision of updating knowledge.
 - (d) Promoting social awareness and international understanding.

Books for Study

1. Doctrines of the Great Educators—Robert R. Rusk, The Macmillan Press Ltd.
2. Some Great Western Educators—S.P. Chaube, Ram Prasad and Sons, Agra 3.
3. पाश्चात्य शिक्षणातील विचारप्रवाह - प्रा. विश्वंभर कुलकर्णी, प्रा. रा. तु. भगत, युनिव्हर्सल पब्लिकेशन, कोल्हापूर.

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4. Seven Indian Educationists— A. Bishwas and J. C. Agrawal, Publication—Arya Book Depot, New Delhi.
5. Recent Educational Philosophies in India — S.P. Choube,
6. शिक्षणाचे शिल्पकार - बोकील आणि बापट.

Reference Books

1. Development of Educational Theory and Practice — R. N. Sataya and B. D. Shaid, Dhanpal Rai and Sons, Jullunder, Delhi.
2. Principles and Methods of Education — J. S. Wadis, Paul Publishers, N.N.11, Gopalnagar, Jullunder.
3. Sri Arobindo and the Master of Education, Publication—Sri Arobindo Ashram, Pondichery.
4. महात्मा ज्योतीराव ते कर्मवीर भाऊराव - लेखक रा. तु. भगत.
5. Ancient Indian Education — G. S. Altekar.
6. Report of the Indian Education Commission, 1964./166 (Kothari Commission).
7. लोकसंख्या शिक्षण - शिक्षणशास्त्र संस्था, पुणे.
8. शैक्षणिक तत्त्वज्ञान आणि शैक्षणिक समाजशास्त्र - म. बा. कुंडले
9. प्राचीन काळातील शिक्षण (ग्रीक, रोम, चीन व भारत) - प्रा. के. ना. देशपांडे व प्रा. आ. ल. माळी, नूतन प्रकाशन, पुणे-३०.
10. मध्ययुगीन शिक्षणाचा इतिहास - प्रा. के. ना. देशपांडे, प्रा. आ. ल. माळी, नूतन प्रकाशन, पुणे-३०.

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(19) HISTORY

General Paper I

Indian Freedom Movement (1857-1947)

	Period required
1. Rise and growth of British power in India—	
1.1 A brief survey	2
1.2 Impact of the British policies on Indian Social and economic life	3
1.3 Indian Renaissance - Raja Ram Mohan Roy	2
2. Rising of 1857	6
2.1 Causes	
2.2 Nature	
2.3 Extent	
2.4 Consequences	
3. Social and Religious Reform Movements	
3.1 Dayanand Saraswati	1
3.2 Vivekanand	1
3.3 Mahatma Phule	1
3.4 Savarkar	1
3.5 Chh. Shahu	1
3.6 Dr. Ambedkar	1
3.7 Impact of the reform movements on Indian Social life and thought	2
4. Administrative Policies of the British Government	
4.1 Famine	2
4.2 Education	2
4.3 Judiciary	1
4.4 Press	1
4.5 Local Self Government	1

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5. Indian National Congress	
5.1 Events and ideas leading to the foundation of the Indian National Congress	3
5.2 Achievement of the Congress from 1885 to 1905	3
5.3 Work of the moderates	4
(a) Dadabhai Naoroji (b) Phirozshah Mehta	
(c) Ranade (d) Gokhale	
5.4 Partition of Bengal	2
6. Lokmanya Tilak and the rise of the extremists	
6.1 Lokmanya Tilak	2
6.2 Surat Congress and the Split	1
6.3 Morley-Minto Reforms	2
6.4 Home Rule Movements	1
6.5 Revolutionary Movement and the Revolutionary Societies	3
(a) The Anushilan Samiti (b) Abhinav Bharat	
(c) Ghadar Party	
7. The Mont-Ford Reforms	
7.1 Circumstances leading to the reforms	2
7.2 Contents	1
7.3 Dyarchy	2
8. Mahatma Gandhi and the National Movement	
8.1 Non Co-operation Movement	2
8.2 Swarajya Party	2
8.3 Civil Disobedience Movement, 1930	2
8.4 Round Table Conference	2
9. Government of India Act, 1935	
9.1 Outline	2
9.2 Significance	2

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10. Muslim League and the National Movement	4
10.1 Foundation of Muslim League	
10.2 Lucknow Pack	
10.3 Khilaphat Movement	
10.4 Two-Nation Theory	
11. Last phase of the Freedom Struggle	
11.1 Cripps Mission	1
11.2 Quit India Movement	2
11.3 Subhaschandra Bose and Azad Hind Fauz	2
11.4 Wevell Plan	1
11.5 Cabinet Mission	1
11.6 Mountbatten Plan and Partition of India	2
11.7 The Indian Independence Act, 1947.	1

Books for Study

1. Ram Gopal—British Rule in India.
2. Suda, J. P.—The Indian National Movement.
3. Mahajan, V. D.—Fifty Years of Modern India.
4. Gupta, D. C.—Indian National Movement.
5. Bipin, Chandra, Tripathi and Barun De—Freedom Struggle.
6. कुलकर्णी, पाटील, देशपांडे – आधुनिक भारताचा इतिहास.
7. जावडेकर, श. द. – आधुनिक भारत.
8. देशपांडे, प्र. न.०१५० आधुनिक भारताचा इतिहास.

Books for Reference

1. Ram Gopal—How India Struggle for Freedom ?
2. Shiva Rao, B.—Indian Freedom Movement.
3. Majumdar, R. C.—History of Freedom Movement.
4. Indian Council of Historical Research, New Delhi—Makers of Modern India
5. प्रधान, ग. प्र.—स्वातंत्र्याचे महाभारत.
6. पंडित, नलिनी—महाराष्ट्रातील राष्ट्रवादाचा विकास.
7. तळवलकर, गोविंद—नवरोजी ते नेहरू.
8. बेडेकर व भणगे—भारतीय प्रबोधन.
9. तळवलकर, गोविंद—सत्तांतर, भाग १ व २.

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परिपत्रक क्र. १२७/१९९९

विषय : एफ.वाय.बी.ए. इतिहास विषयासाठी संदर्भ ग्रंथ.

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, एफ.वाय.बी.ए. इतिहास विषयासाठी खालील संदर्भ ग्रंथ म्हणून मान्यता देण्यात आलेली आहे :

पुस्तकाचे नाव	लेखक	वर्ग
---------------	------	------

भारताचा स्वातंत्र्य संग्राम	प्रा. स. मा. गर्गे व	एफ.वाय.बी.ए.
	प्रा. सुहास राजदरेकर	

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(20) MUSIC

Note : The student will not be permitted to learn 'Music' as private candidate.

Portion under G-1 (Sem.I) and G-2 (Sem.II) will constitute General Paper I under 85-Pattern. Portion under G-1 (Sem.I) will be prescribed for the Term-End examination.

Theory

Paper will be of 40 marks and of 2 hours' duration for the term-end examination and the annual examination.

Practical (I)

There will be practical examination at the end of the first term and will coincide with the term-end examination. This will be of 20 marks and the portion prescribed for this will be the same as that prescribed for the practical under G-1 (Sem.I).

Practical (II)

There will be another and final practical examination that will coincide with annual examination and will be of 40 marks. Portion prescribed for this will be the same as that prescribed under practical for G-2 (Sem.II). However 25% marks will be for the portion under Practical I Examination. The above scheme will be applicable for all the remaining papers under this course.

(Passing in both theory and practical examination is compulsory.)

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- (ii) Sing (or play) the Raga (रागविस्तार) of the above mentioned (Vistar) (राग) Ragas.
- (iii) Know and recite the Theka-Bolas (ठेका बोल) of the Talas (ताल) while Tabla is being played :
1. त्रिताल, 2. एकताल, 3. दादरा, 4. विलंबित एकताल, 5. तिलवाडा.
- (iv) Recognise the Ragas studied from the Swar-Samoohas (स्वरसमूह) sung or played by the examiner.

THEORY

1. Notation writing of :
- Chhota-Khyal (छोटा ख्याल) or Rajakhani-Gat (रजखानी गत) from the following Ragas (राग) :
1. शंकरा, 2. भैरव, 3. बागेश्री, 4. देस.
2. General knowledge of the following topics :
- The Talas (ताल) studied in the first term.
1. नादांचे गुणधर्म 2. प्रचलित दहा थाट व त्यांचे स्वर
3. स्वरलेखन पद्धती 4. रागांच्या जाती 5. चतुरंग
6. तंबोरा 7. धृपद 8. आधुनिक व्यवस्था
9. मार्गी व देशी संगीत 10. विवाद स्वर 11. समकृति राग.
3. Detailed theoretical description of the Raga mentioned above.
4. Ability to write the 'Raga-Vistar' (रागविस्तार) of the Ragas mentioned above.
5. Topics for Essay :
1. जीवनात संगीताचे स्थान 2. हिंदुस्थानी वाद्ये व त्यांचे प्रकार
3. 'स्वरलेखन पद्धती'—एक वरदान 4. संगीताचे सांस्कृतिक महत्त्व
5. संगीतात तालाचे महत्त्व.

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PRACTICAL

1. Ability to :

(i) Sing (or play) one Vilambit-Khyal (विलंबित ख्याल) or-Maseetkhani-Gat (मसीतखानी गत) with Swar-Vistar (स्वरविस्तार), Alap (आलाप) and Tana (ताना) or Alap Jod (जोडा), Tode (तोडे) and Zala from the following Ragas :

1. शंकरा 2. भैरव 3. बागेश्री 4. देस.

(ii) Sing Chhota-Khyal (छोटा ख्याल) or Rajakhani-Gat (रजाखानी गत) in the Ragas mentioned above.

(iii) Know and recite the Theka-Bolas (ठेका बोल) of the Talas (ताल) studied in the first term.

(iv) Recognize Shuddha - Vikrut-Swaras (शुद्ध विकृत स्वर) and Ragas sung or played by the examiner, as well as reproduction of the Swaras (स्वर) or Songs heard on the spot.

(v) Sing (or play) :

1. तराना 2. भजन किंवा धून 3. चतुरंग.

सांगीतिक मानसशास्त्र व संगीत शिक्षणाची आधुनिक पद्धती (१९८२), लेखक डॉ. एस.आर. नाईक, धुळे, प्रकाशक : पुणे विद्यापीठ.

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**(20 b) TABLA
THEORY**

Time : 2 Hours

1. Notation writing of :

ठेकाबोल (ताल) (ताल व नोटेशन)

- | | | |
|-----------------------------|--------------------------|------------|
| 1. त्रिताल (विलंबित व मध्य) | 2. एकताल (विलंबित द्रुत) | |
| 3. झपताल | 4. चौताल | 5. दीपचंदी |
| 6. भजनी ठेका | 7. धुमाळी | 8. दादरा |
| 9. केरवा | 10. रूपक (तिहाई) (तुकडे) | |

(मुखडे).

2. Definitions of the following technical terms :

- | | | |
|------------------------|-----------|-----------|
| 1. लय (ठाय-मध्य-द्रुत) | 2. मात्रा | 3. आवर्तन |
| 4. ठेका | 5. सम | 6. मुखडा |
| 7. तुकडा | 8. मोहरा | 9. पल्टा |
| 10. दुगुण | 11. काल. | |

3. Topics for Essay :

1. चर्म-वाद्यांत तबल्याची लोकप्रियता
2. तबला व मृदंग यांचे ताल व वैशिष्ट्ये
3. तबल्याचा उगम व विकास
4. गायनाची व वाद्यांची साथसंगत करण्याच्या पद्धती
5. भारतीय तालवाद्यांची परंपरा.

PRACTICAL (40 Marks)

1. Talas prescribed :

- | | | |
|-----------------------------|----------------------------|-----------|
| 1. त्रिताल (विलंबित व मध्य) | 2. एकताल (विलंबित व द्रुत) | |
| 3. झपताल | 4. चौताल | 5. दीपचंद |
| 6. भजनी ठेका | 7. धुमाळी | 8. दादरा |
| 9. केरवा | 10. रूपक. | |

हे ताल मूळ लयीत व दुपटीस वाजविता येणे. त्याचप्रमाणे हाताने ताल देऊन हे ठोके मूळ लयीत व दुपटीने तोंडाने म्हणता येणे.

2. Knowledge of :

1. तिन्ही लयींचे ज्ञान.
2. खालील बोल तबल्यावर वाजविता येणे. ना, धीं, धीं, ता, तीं, तिरिकट, ब्रक, तिट, तूना, धिरिकट, धागे, कडांधा, कत्ता, गै, क्कितक, धागेना, धात्रक, दिनगिन.

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THEORY

1. Notation writing of the following Talas (ताल) in Dugun (दुगुण) and Chougun (चौगुण) showing Matras (मात्रा), Khand (खंड), Sam (सम) and Khali (खाली) :

- | | | |
|------------|-----------|-----------|
| 1. त्रिताल | 2. एकताल | 3. झपताल |
| 4. चौताल | 5. रूपक | 6. दीपचंद |
| 7. दादरा | 8. केरवा. | |

2. Knowledge of the following topics :

- | | |
|---|----------------------|
| 1. तालाच्या उत्पत्तीची कारणे | 2. तबल्याचे दहा वर्ण |
| 3. तबला स्वरात मिळविण्याची पद्धत व नियम | |
| 4. तबल्याची बाज घराणी | |
| 5. तबला-डग्गा व पखवाज यांची माहिती | |

3. Short accounts of the contributions of the following artists to Tabla :

- | | |
|----------------------------|----------------------|
| 1. उस्ताद अहमदजान थिरकवाँ | 2. पं. कंठे महाराज |
| 3. पं. सामता प्रसाद | 4. श्री. लालजी गोखले |
| 5. श्री. नारायणराव इंदोरकर | |

PRACTICAL

1. त्रिताल व झपताल यांत चार सरळ कायदे, चार मुखडे, चार तुकडे व तिहाई वाजविता येणे.
2. एकतालातील तीन तुकडे, तीन तिहाई, दोन कायदे व दोन रेले वाजविता येणे.
3. दादरा व केरवा यांत काही प्रकार वाजविता येणे.
4. गाण्याची व वाद्य वादनाची साथ-संगत करता येणे.

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(20) (c) VOCAL LIGHT MUSIC

First Term

THEORY

1. Notation writing of :
 - (i) Stage-Songs in the following Ragas :
 1. आसावरी 2. हमीर 3. पटदीप 4. देस.
 - (ii) The following Talas (ताल) :
 1. त्रिताल 2. केरवा 3. द्रुत एकताल
 4. दादरा 5. झपताल 6. रूपक
2. General knowledge of :
 1. पद 2. अभंग 3. लोकगीत 4. लावणी.
3. Writing of 'Raga-Vistar' (रागविस्तार) of the Ragas mentioned above.
4. Detailed theoretical description of the Ragas mentioned above.
5. Short accounts of the contribution of the following artists to stage music :
 1. कै. बालगंधर्व 2. कै. श्रीमती हिराबाई बडोदेकर
 3. कै. सवाई गंधर्व 4. श्रीमती ज्योत्स्ना भोळे.

PRACTICAL

Ability to :

- (i) Recognize and reproduce Shuddha-Vikrut-Swaras (शुद्ध विकृत स्वर) of song-heard on the spot.
- (ii) Sing at least one stage song, song in each of the following Ragas with Alap and Tana (आलाप व ताना) :
 1. आसावरी 2. हमीर 3. पटदीप 4. देस.

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- (iii) Know and recite the Theka-Bolas (ठेकाबोल) of the following Talas (ताल) while Tabla is being played:
- : 1. त्रिपाल 2. केरवा 3. द्रुत एकताल
4. झपताल 5. रूपक 6. दादरा.
- (iv) Sing 'जनगणमन', 'वंदेमातरम्' and 'भारतीय ध्वजगीत'
- (v) Sing Raga-Vistar (राग-विस्तार) of the Ragas mentioned above.
- (vi) Recognize the Ragas from the Swara-Samoohas (स्वर-समूह) sung (or played) by the examiner.
- (vii) Sing 'Abhang' (अभंग) or Devotional Song (भक्तिगीत).

Second Term

THEORY

1. Notation writing of :
 - (i) The Stage Songs in the following Ragas :
 1. बागेश्री 2. शंकरा 3. भैरव 4. भूप.
 - (ii) The Talas (ताल) prescribed for Term.
2. Detailed theoretical description of the Ragas mentioned above.
3. Definitions of the following technical terms :
 1. स्वर 2. कणस्वर 3. मींड
 4. आलाप 5. वक्रस्वर 6. विवादी स्वर
 7. अनुवादी स्वर 8. ताल 9. लय
 10. मात्रा 11. सम 12. ठेका
 13. आवर्तन.

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4. Writing of the 'Raga-Vistar' (राग-विस्तार) of the Ragas mentioned above.
5. Topics for Essays :
 1. महाराष्ट्रातील नाट्यसंगीत
 2. सिनेसंगीत
 3. भावगीत गायन
 4. लोकसंगीत
 5. लोकनाट्याचे संगीत.

PRACTICAL

Ability to :

- (i) Sing at least one Stage-Song (नाट्यगीत) in each of the following Ragas with Alap (आलाप) and Tana (ताना) :
 1. बागेश्री 2. शंकरा 3. भैरव 4. भूप.
- (ii) Know and recite the Theka Bolas (ठेकाबोल) of the Talas (ताल) prescribed for Term-I, while Tabla (तबला) is being played.
- (iii) Sing two traditional Abhangas (पारंपरिक अभंग) or Devotional Songs (भावगीते).
- (iv) Sing Samooaha Geet (समूहगीत), Swatantrya-Geet (स्वातंत्र्यगीत) and Bhavgeet (भावगीत).
- (v) Sing Raga-Vistar (राग-विस्तार) of the Ragas mentioned above.
- (vi) Recognize the Raga from the Swar-Samooahas (स्वर-समूह) sung (or played) by the examiner.

**(21) ANCIENT INDIAN HISTORY AND
CULTURE AND ARCHAEOLOGY**

1. Source of Ancient Indian History.
2. Pre-Mauryan Political History :
(i) Shishunaga Dynasty (ii) Nandas
3. Foreign Invasions :
(i) Persian Invasion.
(ii) Greek Invasion with special reference to
Alexander's Invasion.
4. Mauryas.
5. Shungas and Kanva Dynasties.
6. Satavahanas.
7. Shaka-Kshatrapas and Kushanas.
8. Guptas.
9. Vakatakas
10. Pallavas
11. Huna Invasion
12. Vardhanas
13. Chalukyas.

Books Recommended

9. प्रा. गायधनी, रं. ना. व डॉ. राहुकर व. ग.— प्राचीन भारताचा
सांस्कृतिक इतिहास, पुणे, १९५८, कॉटिनेंटल प्रकाशन.

Books for Reference

1. Ed. Mujumdar, R. C.—The Age of the Imperial Unity,
Bombay, 1951.
2. Ed. Mujumdar, R. C.—The Classical Age, Bombay,
1951.
3. Dandekar, R. N.—History of the Guptas, Pune, 1941.
4. मिराशी, वा. वि.—वाकाटकनृपती आणि त्याचा काळ, नागपूर,
१९५७.

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5. डॉ. म. के. ढवळीकर, प्रा. गायकवाड, डॉ. गो. वा. देगलूरकर
– प्राचीन भारतीय इतिहास आणि संस्कृती (Maharashtra
Vidya-peeth Granth Nirmiti Mandal, Nagpur).
6. वा. वि. मिराशी – सातवाहन-शक-क्षत्रप नृपतीचे कोरीव लेख
(महाराष्ट्र साहित्य संस्कृती मंडळ, मुंबई)
7. लोहार, र. मु. – प्राचीन भारतीय संस्कृती.
8. Bash—The Wonder that was India.
9. Mahajan V.D. - Ancient India.

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(22) ECONOMICS

Appendix to
F.Y.B.A. Economics

पुणे विद्यापीठ

परिपत्रक क्र. १७०/२००२

विषय : प्रथम वर्ष अर्थशास्त्र विषयाच्या सुधारित
अभ्यासक्रमाबाबत.

या परिपत्रकाद्वारे सर्व संबंधितांस विद्यापीठ अधिकार मंडळाने घेतलेल्या
निर्णयानुसार असे कळविण्यात येत आहे की, प्रथम वर्ष अर्थशास्त्र विषयाचा
सुधारित अभ्यासक्रम जून २००२ पासून अमलात आणण्यास येईल.

गणेशखिंड, पुणे-४११ ००७
जावक्र. सी.बी./३०५९
दिनांक : १४.६.२००२

एम. सी. खानवेलकर
कुलसचिवांकरिता

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F.Y.B.A. Economics-General Paper-I

(Revised Syllabus)

From June 2002

Circular No. 170/2002

G-1-INDIAN ECONOMY

SECTION-I

1. INDIAN ECONOMY AT THE TIME OF INDEPENDENCE

- 1.1 Salient features of Indian Economy at the time of Independence.
- 1.2 Characteristics of the Indian Economy as a less developed economy.

2. STRUCTURE OF THE INDIAN ECONOMY & ECONOMY OF MAHARASHTRA.

- 2.1 Features : Natural Resources- Land, Water and Forest Resources.
- 2.2 Population :- Broad features, size and growth rates- sex composition --Rural Urban Migration occupational distribution- Problems of over population, population policy.

3. NATIONAL INCOME

- 3.1 Concept & measurement of National Income.
- 3.2 Trends in National Income.
- 3.3 Difficulties in measuring National Income in India.

4. PLANNING IN INDIA

- 4.1 Background of Indian planning-National Planning, Committee, Bombay Plan, Peoples Plan, Gandhian Plan, The Planning Commission.
- 4.2 Objectives & Strategy of Indian Planning.
- 4.3 Achievements & Failures of Five-Year Plan.

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- 4.4 Current Five Year Plan - Objectives, Allocations & Targets.
- 4.5 New Economic Reforms.
- 4.6 Planning in Maharashtra Objectives & Strategies.

SECTION-II

5. AGRICULTURE

- 5.1 Place of Agriculture in Indian Economy.
- 5.2 Agricultural Productivity-Causes of Low Productivity.
- 5.3 Land Reforms - Abolition of Intermediaries, Tenancy Reforms Ceiling on Land Holdings.
- 5.4 Green Revolution.
- 5.5 Sources of Agricultural Finance.
- 5.6 Agricultural Marketing - Defects & Remedies.
- 5.7 Broad Features of Agricultural Economy of Maharashtra.
- 5.8 Agro-based industries in Maharashtra.

6. INDUSTRY

- 6.1 Industrial Development during the planning period.
- 6.2 Industrial Policy of 1948, 1956, 1977, 1991, (F.E.M.A.)
- 6.3 Growth & Problems of Small Scale Industries.
- 6.4 Industrialization in Maharashtra.

7. FOREIGN TRADE

- 7.1 Role of Foreign Trade.
- 7.2 Composition & direction of India's Foreign Trade.
- 7.3 Concept of Balance of Trade & Balance of Payments.

8. POVERTY & UNEMPLOYMENT

- 8.1 Concept of Poverty- Measurement of Poverty - Causes of Poverty- Measures for removal of Poverty.
- 8.2 Nature & Types of Unemployment.

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BASIC READING LIST

- * Datt, R and Sundharam, K.P.M. (2001), Indian Economy, S. Chand & Co. Ltd. New Delhi.
- * Dhingia, I.C. (2001) The Indian Economy - Environment & Policy, Sultan Chand & Sons, New Delhi.
- * Misra, S. K. & Puri, V. K. (2001), Indian Economy - its development experience, Himalaya Publishing House, Mumbai.

ADDITIONAL READING LIST

- * Government of India, Economic Survey (Annual), Economic Division, Ministry of Finance New Delhi.
- * Planning Commission (1999) Ninth Five-Year Plan, Government of India, New Delhi.
- * Ahluwalia, I.J. and Little I.M.D. (Eds.) (1999), India's Economic Reforms and Development (Essays in honor of Manmohan Singh), Oxford University Press, New Delhi.
- * Jalan, B. (1992), The Indian Economy : Problems and Prospects, Viking, New Delhi.
- * Parikh K.S. (1999), India Development Report- 1999-2000, Oxford University Press, New Delhi.
- * Datt, R. (Ed.) (2001), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.

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F.Y.B.A. Economics-General Paper-I
G-1-Agricultural Economics
(From June 2002)

PREAMBLE :

The importance of agriculture in the Indian Economy hardly needs to be emphasized. The paper on agricultural economics highlights important aspects of the agricultural development & Planning in India. The paper is split into many chapters, each chapter discusses an aspect of Indian agriculture & role of agriculture in Indian Economy.

SECTION-I

1. RURALECONOMY OF INDIA

- 1.1 Characteristics of Rural Economy.
- 1.2 Diversification of agriculture - agriculture & allied activities (Fisheries, Horticulture, Floriculture)
- 1.3 Forestry in India - Growth, Problems & State Policy
- 1.4 Cattle Wealth of India & Dairying

2. DEVELOPMENT OF AGRICULTURE

- 2.1 Role & Importance of Agriculture in Economic Development.
- 2.2 Trends in Agricultural Growth, since 1950-51.
- 2.3 Agricultural Productivity - Regional Variations, Causes of Low Productivity, Remedies.
- 2.4 Cropping Pattern in India, since 1951, factors affecting cropping pattern - physical, Technical & Economic.
- 2.5 Irrigation in India.

3. LAND REFORMS IN INDIA

- 3.1 The abolition of Intermediaries.
- 3.2 Tenancy Reforms
- 3.3 Ceiling on Land Holdings
- 3.4 An appraisal of Land Reforms

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4. TECHNOLOGICAL CHANGES IN AGRICULTURE

- 4.1 Traditional & Modern Technology in Agriculture.
- 4.2 New agricultural Strategy & Green Revolution.
- 4.3 Dry land farming
- 4.4 Use of Bio-Technology
- 4.5 New Agricultural Technology & Employment

SECTION-II

5. AGRICULTURAL FINANCE

- 5.1 Need for agricultural credit
- 5.2 Sources of agricultural credit in India–Non Institutional & Institutional.

6. AGRICULTURAL MARKETING

- 6.1 Problem of agricultural Marketing in India
- 6.2 Measures adopted to solve this problem
- 6.3 Regulated Markets
- 6.4 Co-operative Marketing
- 6.5 Warehousing in India

7. AGRICULTURAL PRICES

- 7.1 Incentives in agriculture - Price & Non Price incentives - input subsidies.
- 7.2 Agricultural Price Policy in India - Objectives, instruments & evaluation.
- 7.3 Commission for agricultural costs & prices.

8. 50 YEARS OF INDIAN AGRICULTURE

- 8.1 An overview of agricultural development.
- 8.2 Under employment & unemployment in the rural Economy.
- 8.3 Globalization & its effects on Indian agriculture.

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BASIC READING LIST

1. Indian Economy : (44th Revised edition 2001)
Ruddar Datta and KMP
Sundarm
2. Agricultural Problems in India : (3rd edition)
Sadhu A.N. and J. Singh
(Himalaya Publishing
House, Mumbai)
3. An Introduction to Agricultural: (2nd edition)
Economics Bilgrami S.A.R. (2000)
(Himalaya Publishing
House, Mumbai)
4. Rural Development : (3rd edition)
Sundaram I.S.
(Himalaya Publishing
House, Mumbai)
5. Indian Economy : Latest edition
Agrawal, A. N.
(Vishwa Prakshan-
New Delhi)

ADDITIONAL READING LIST

1. Government of India, Economic Survey (Annual), New Delhi.
2. Government of India, Ninth Five-Year Plan (1997-2002)
Vol.I & II, Planning Commission, New Delhi.
3. Reserve Bank of India, Hand Book of Statistics on Indian
Economy (Annual).
4. Leading Issues in Agricultural Economics (2000) -- Soni R. N.
(Arihant Press, Jalandhar).

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F.Y.B.A - ECONOMICS - G 1
MAHARASHTRA IN INDIAN ECONOMY
(Optional Paper)
(Old Course)

SECTION I

	Lectures	Marks
1. Features of Economy of Maharashtra and its place in the Indian Economy Natural Resources, Human Resources State Income. Per capita income, relative Population of Maharashtra since 1061 onwards-standard of living poverty and unemployment	10	10
2. Agriculture in Maharashtra : Agricultural productivity-problem and policies-Irrigation-Green Revolution Agricultural price policy Monopoly Purchase of cotton-Employment Guarantee scheme of Maharashtra Co-operative credit to agriculture in Maharashtra	10	10
3. Industry in Maharashtra : Growth of Industry—structure of Industry-Factors affecting Industrialisation in Maharashtra-small scale and cottage Industries-problems and prospects	10	10

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SECTION II

4. Indian Agriculture :
Agricultural Development during
8th plan-Agricultural Finance in India
Institutional : Co-operative, commercial
banking and NABARD - Agricultural
Marketing problems and policies, Price
Policy for Agricultural products 15 10
5. Industrial Development :
State of Industrialisation on the eve
of New Industrial Policy, 1991.
Structure of Indian Industry :
Public sector, private sector, joint
sector, Definition and nature of
organised large industries and small
scale, Tiny industries, New Industrial
Policy, 1991. concept of liberalisation,
Foreign Direct Investment, Quality of
Industrial Production, ISI and AGMARK 10
6. Regional imbalances in India - courses
and remedies 3 10
7. Collection and Tabulation of Economic Data :
Frequency distribution, Preparation and
presentation of charts, graphs, and diagrams
on Economic information, measures of central
tendency-mean, mode, median, quartiles. 15 20
N. B. : - There shall be a compulsory question of Twenty
marks on topic No. 7. including internal option.

संदर्भ ग्रंथ - पुस्तके - वाचन साहित्य - यादी

- (1) Indian Economy and the Economic problems of Maharashtra (page 221 to 408) - Dr. Mukund Mahajan, Nirali Prakashan, Pune-2.
- (2) भारतीय अर्थव्यवस्था आणि महाराष्ट्राची अर्थव्यवस्था – डी. संतोष दास्ताने, प्रो. वि. ज. गोडबोले, श. द. गीत, सेठ पब्लिकेशन, पुणे-२.
- (3) महाराष्ट्र कृषि अर्थव्यवस्था- प्रा. दत्ताजीराव साळुंके, प्रा. जगन्नाथ पवार, महाराष्ट्र विद्यापीठ ग्रंथनिर्मिती मंडळ, नागपूर.
- (4) महाराष्ट्राची संक्षिप्त सांख्यिकी, १९९१, अर्थ व सांख्यिकी संचालनालय, महाराष्ट्र शासन, मुंबई.
- (5) Report of the act Finding Committee on Regional Imbalance in Maharashtra - V. M. Dandekar Committee, Govt. of Mahatrashttra Planning Dept., Bombay, 1984.
- (6) Industrial in Maharashtra - Dr. B. R. Sabade, Maharatta Editor, Maharatta Chamber of Commerce and Industry, Tilak Road, Pune - 2.
- (7) Economy of Maharashtra - Edited by S. H. Deshpande, Samaj Probodhan Sanstha, Pune.
- (8) महाराष्ट्र, १९९५-९६ – संतोष दास्ताने, दास्ताने रामचंद्र आणि कं., पुणे.
- (9) शेती व पाणी (नियोजन व धोरणासंबंधी काही प्रश्न) - अण्णासाहेब शिंदे.
- (10) Indian Economy - Problems of Development and Planning - A. N. Agrawal, Vikas Publishing Hosue, New Delhi (Latest ed.).
- (11) Indian Economy - Dutt and Sundharam, (Latest ed.).
- (12) Indian Economy-Misra and Puri, (Latest Ed.)
- (13) Practical Business Mathematics - Bari, S. A. New Literature Publication Company, 65, M. G. Road, Mumbai 1.
- (14) Fundamentals of Statistics - S. C. Gupta, Himalaya Publishing House.

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F.Y.B.A.—BANKING

ECONOMICS—G 1

Optional Paper

(Old Syllabus)

SECTION I

Marks	Lectures
1. Evolution of Banking : Definition of bank and banking, Origin of the concept of bank and banking as a business. Evolution of Banking in the West and in India.	4 10
2. Classification of Banks : (a) Functional Classification : Commercial banks, Agricultural banks, Industrial banks, Co-operative banks, Central banks, Savings banks, Exchange bank, International banks, Deposite and Investment Banking.	10 05
(b) Organizational Classification : Unit banking, branch banking, Group banking, features, advantages and disadvantages, Bank in Public Sector, Private Sector and Co-operative Sector-Objec-	

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tives, organisation and working.	10	05
3. Functions of Commercial Banks :		
(a) Primary Functions :		
Acceptance of deposits, mobili- sation of saving, different types of deposits, scheme of deposit, mobilisation, Advancing loans, Discounting of Bills.		
(b) Secondary Functions :		
Credit creation, Process of credit creation and limitations. Lending and investment policy of bank, balance sheet of a Commercial bank, investment policy-safety, liquidity, profit- ability and social responsibility concepts.	16	20
4. Categories of Customers :		
Individual and institutional, Methods of remittance : Draft, Mail transfer, Telegraphic transfer, Types of cheques, Opening and Operations of bank accounts. Consumer protection to Bank customer.	8	10

SECTION II

5. Money Market and Capital Market :		
Definitions–Difference between money and capital market, characteristics of Indian money market, and capital market	8	10

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|----|--|----|----|
| 6. | Central Bank :
Functions of Central Bank, Instruments of credit control, Quantitative and selective credit controls, concept of development bank and non-banking financial institutions, Distinction between a Bank and non-banking financial institutions. | 20 | 20 |
| 7. | Accounting Practices :
Computation of interest on saving recurring and time deposits, Simple and compound interest, Discounting of bill of exchange, Average due date simple annuities, valuation of shares. Valuation of assets as security against loans. | 20 | 20 |

N.B. : There shall be a compulsory questions of Twenty marks on topics No. 7 including internal option.

Books Recommended

- (1) Modern Banking—R. S. Sayers, Oxford, Clarendon Press, London.
- (2) Banking Law and Practice in India—N. L. Tandon, 3rd Edition, Butter Worth and Company Ltd.
- (3) Modern Banking—M. C. Vaish, Oxford and IBH Publishing Company, New Delhi, Bombay and Calcutta.
- (4) Banking Theory and Practice—K. C. Shekhar, Vani Education Books, New Delhi.

F.Y.B.A. / 169

- (5) Modern Banking : Nature and Problems-Vasant Desai (Latest Edition), Himalaya Publishing House, New Delhi.
- (6) RBI : Functions and Workings, RBI Publication, Bombay (only for related topics), 1984.
- (7) बँक व्यवसाय व वित्तीय संस्था – प्रा. बी. डी. कवडे, अजब पुस्तकालय, कोल्हापूर.
- (8) अधिकोश व नाणेबाजार – डॉ. श्री. आ. देशंपाडे, विद्याप्रकाश, नागपूर.
- (9) बँक व्यवसाय व बँका – रा. का. बर्वे, गाज प्रकाशन, अहमदनगर.
- (10) बँकिंगची मूलतत्त्वे आणि प्रात्यक्षिक बँकिंग – डॉ. एस. एन. कुलकर्णी, डॉ. आर. आर. बेराड, प्रा. सुहास काणे, प्रा. (सौ.) लीला कुलकर्णी : निराली प्रकाशन, पुणे.
- (11) Practical Business Mathematics—Bari, S. A. New Literature Publishing Company, 65, M. G. Road, Mumbai 1.
- (12) Fundamentals of Statistics—S. C. Gupta, Himalaya Publishing House, Mumbai.

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F.Y.B.A.
Economics of Industries (Old)
Optional Paper

Marks		Lectures
	SECTION I	
	1. <i>Business Unit</i> : Plant, Firm and industry, Optimum Firm Factors influencing the optimum size of firm-Growth of the Firm-Expansion. Vertical and Horizontal, Diversification.	15 10
	2. <i>Forms of Industrial Organisation</i> : Proprietorship, Partnership, Joint stock-companies. Forms of organisation of Public enterprises : Departmental—Under takings, Public corporations and company, Autonomy and Accountability.	15 20
	3. <i>Industrial Location</i> : Weber's Theory and Florence's Theory of Industrial Location—Factors influencing Location of industry.	20 20
	SECTION II	
	4. <i>Localization of Industry</i> : Concentration of Industries; meaning, factors leading to concentration, Effects of concentration, Measures of Dispersal Advantages of Decentralisation.	15 20

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- | | | |
|--|----|----|
| 5. Sources of Industrial Finance :
Deposits, equity shares, preference
shares, bonds and debentures, loans
and advances. | 10 | 05 |
| 6. Industrialisation & Economic Development :
Concept of Industrial sickness and
remedial measures, Quality of Industrial
production, ISI, AGMARK | 5 | 05 |
| 7. Quantitative problems on ratio and
proportions, percentages. Index
Numbers of Industrial production and
prices, profit and loss A/C, Dividend
distribution, Insurance claims. | 18 | 20 |

N.B. : There shall be a compulsory question of
Twenty marks on topic No. 7 including
internal Option.

Books Recommended

1. A Beacham and Cunningham : Economics of Industrial Organisation, Pitman Publishing, London.
2. R. R. Barthawal : Industrial Economics, Wiley Eastern Ltd., New Delhi.
3. P. L. Gadgil and P. C. Gadgil : Industrial Economy of India, S. Chand and Company (1985 Edition).
4. E. A. G. Robinson : Structure of Competitive Industry, London.
5. A. K. Mukherjee : Economics Indian Industry, Chand and Company Ltd., New Delhi (1986, Edition).
6. प्रा. शांता पाटील, प्रा. लीला पाटील : औद्योगिक अर्थशास्त्र, महाराष्ट्र विद्यापीठ ग्रंथनिर्मिती मंडळ, नागपूर.

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7. S. A. Bari : Practical Business Mathematics, New Literature Publishing Company, Bombay.
8. S. C. Gupta : Fundamentals of Statistics, Himalaya Publishing House, Bombay.
9. विलस ँकबोटे, विद्या ँकबोटे : औद्योगिक अर्थशास्त्र.
10. दास्ताने-कुलकर्णी बेराड : औद्योगिक अर्थशास्त्र, सेठ पब्लिशर्स, पुणे, १९९४.

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F.Y.B.A. ECONOMICS (G)

**Demography and population Education Old
(Optional Paper) Introduced from June 1998**

Objectives of the Course/Paper

1. To acquaint to the with the knowledge of principles of population.
2. To emphasis the relationship between population and economic development.
3. To inculcate among students the desire to have a smaller family in future and a sence of responsible perent hood.

SECTION I

	Lectures	Marks
1. Demography–Definition, Meaning Nature, scope, Demography and its relation with economics and Geography.	10	10
2. Population Theories Mathas Theory of Population optimum Theory of Population-Theory of Demographic Transition Population Dynamics, Density and growth of world Population over time.	18	20
3. Size and composition of Population Physical Characteristics of population age, sex, race Social Characteristics/Vertical Maths, residence, Literacy and education religion Economic characteristics occupation, Industry,		

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SECTION II

- | | | |
|--|----|----|
| 4. Condition of Indian Population (1991)
Urban distribution, sex, ratio, Distribution
of Population by age and occupation.
Population in India and environment Dynamics of
Population growth in India 1951-1991. Population
Policy in India since 1976. Role of NSC
and media in Population Education. | 13 | 10 |
| 5. Concept of Population Need for
Population Education. Objectives of
Population education in India-Population
education and quality of Life. Quality
consumption and consumer protection
Act 1986. | 15 | 20 |
| 6. Measure of Population density and
Distribution Economic and Geographic
density of Population Central tendency
of Population distribution crude birth rate
and crude death rate. Net reproduction
rate, population projection. | 20 | 20 |

N.B. : There will be a compulsory question of
Twenty marks on topic No. 6 Including
option internal option.

Books Recommended

1. Dr. Bhende Asha & Kanitkar Tara 'Population Studies' Himalaya, Mumbai 6th Ed. 1994.
2. Malthus An essay on principles of population
"Edited by A. Fle., Pelican classes Penguin Books
1970."
3. Sharma C. 'Population Resources, Environment and
Quality of Life' Handbook on Population Education,
Mumbai 1981, P 67 to 75.

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4. Misra S. D. 'An Introduction to the study of population South Asian publication Pvt. Ltd., 2nd Edn. 1995.
5. Srivastav O. S. 'Demography and population studies' Vikas Publication House, New Delhi, 2nd Ed. 1994.
6. Sadawarte A. D. 'Population Education' States Institute of Education, Pune, 1982.
7. Govariker Vasant 'Inevitable A Billion plus N.B.T. New Delhi, 1994.
8. Sing Yashoda 'Population Trends and population Education'. Seth Publishers, Mumbai 1981.
9. कानिटकर तारा, कुलकर्णी सुमती, "लोकसंख्या शास्त्र", विद्या प्रकाशन, पुणे, १९७९
10. अहिरराव वा. र. व इतर, "लोकसंख्या", निराली प्रकाशन, पुणे -२, १९९४.
11. World Bank, 'World Development Report, 1997, Oxford University Press, 1997 (Latest Preferred)
12. Department of family welfare New Delhi, Lecturer Series on Population Education, New Delhi, 1962, pp.3 to 14.
13. Bari 'Practical Business Mathematics', New Literature, Publishing Co. Mumbai.
14. Gupta 'Fundamentals of Statistics', Himalaya Publishing House Mumbai.

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परिपत्रक क्र. १२८/१९९

विषय : एफ. वाय. बी. ए. अर्थशास्त्र विषयासाठी क्रमिक पुस्तक व संदर्भ ग्रंथ.

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, “लोकसंख्याशास्त्र व लोकसंख्या शिक्षण” डॉ. एस. एन. कुलकर्णी व डॉ. सतीश श्रीवास्तव या लेखकांचे पुस्तक एफ. वाय. बी. ए. च्या “लोकसंख्याशास्त्र व लोकसंख्या शिक्षण” या विषयासाठी क्रमिक पुस्तक म्हणून व डॉ. र. पु. कुरूलकर यांचे “महाराष्ट्राची अर्थव्यवस्था” हे पुस्तक एफ. वाय. बी. ए. या वर्गाच्या “भारतीय अर्थव्यवस्थेतील महाराष्ट्र” या पेपरसाठी संदर्भ ग्रंथ म्हणून नेमण्यात येत आहे.

(23) POLITICS

(From June 1996)

G 1—Modern Political Ideologies

1. Nationalism—
 - (a) Meaning, Definition, Evolution
 - (b) Elements of Nationalism
 - (c) Typology of Nationalism.
2. Democracy—
 - (a) Meaning, Definition, Evolution
 - (b) Types of Democracy
 - (c) Evolution of Democracy.
3. Democratic Socialism—
 - (a) Democracy and Socialism
 - (b) Types of Democratic Socialism
 - (c) Fabianism, Guild Socialism, Syndicalism
 - (d) Democratic Socialism in India.
4. Marxism—
 - (a) Materialistic interpretation of History—Historical Dialecticism
 - (b) Class Conflict
 - (c) Whithering away of the State.
5. Fascism—
 - (a) Rise of Fascism
 - (b) Fascist State
 - (c) Is Fascism an ideology ?
6. Gandhism—
 - (a) Bases of Gandhian Thought
Satya, Ahimsa, Satyagraha
 - (b) Gandhi on State
 - (c) Gandhian Economic Ideas
 - (d) Evaluation and Relevance.

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List of Books

Texts—

1. Verma V. P. : Political Philosophy, Laxminarayan Publications, Agra, 1980.
2. Verma V. P. : Modern Political Theory, Vikas Publication House, Delhi, 1985.
3. Verma S. L. : Modern Political Theory, Meenakshi Publications, New Delhi and Meerat, 1980.
4. तिजारे, रा. अ. पेशवे आ. अ. आणि पांढरीपांडे : आधुनिक राजकीय सिद्धान्त, मंगेश प्रकाशन, नागपूर, १९९३.
5. गर्दे, दि. का. : राज्यशास्त्र सिद्धान्त, कॉटिनेंटल प्रकाशन पुणे, १९७५.
6. नवलगुंदकर, अ. ना. : सुलभ आधुनिक राज्यशास्त्र व सिद्धान्त, अनमोल प्रकाशन, पुणे, १९७४.
7. बाचल, वि. मा. : आधुनिक राजकीय तत्त्वप्रणाली, सुविचार प्रकाशन पुणे, १९७८.

References—

1. Ebenstein : Today's Isms, Prentice Hall, New Delhi.
2. International Encyclopaedia of Social Sciences, 1975.
3. गर्गे, स. मा. (संपा.) : भारतीय समाजविज्ञान कोश, समाजविज्ञान मंडळ, पुणे-५
4. कसबेकर विजय : राजकीय तत्त्वप्रणाली, सिद्धान्त आणि व्यवहार, अँड. रावसाहेब शिंदे गौरव समिती, श्रीरामपूर, १९९३-९४.

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OR

Optional Paper

**Local Self Government in India
(Special Reference to Maharashtra)**

1. Local Self-Government : Meaning and Significance.
2. Democratic Decentralization in Independent India—
 - (a) Concept and meaning
 - (b) Committees on Democratic decentralization.
 - (i) Balwantrai Mehta Committee
 - (ii) Naik Committee
 - (iii) Patil Committee.
3. Panchayat Raj Institutions in Maharashtra—
 - (a) Organizations
 - (b) Powers
 - (c) Functions
 - (d) Finance of—
 - (i) Zilla Parishads
 - (ii) Taluka Panchayat Samiti
 - (iii) Grampanchayats.
4. Urban Local Bodies in Maharashtra—
 - (a) Organization
 - (b) Powers
 - (c) Functions
 - (d) Finance of—
 - (i) Municipal Corporations
 - (ii) Municipal Councils.
5. Election process and leadership in Local Self-Government Institutions in Maharashtra.
6. Evaluation : Role and Performance of Local Government Bodies in Maharashtra.
 - (i) Panchayat Raj Institutions
 - (ii) Urban-Local Bodies.

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List of Books

Texts—

1. Maheshwari S. R.: Local Self Government in India, Orient Longman, 1971.
2. Avasthi A. (ed.): Municipal Administration in India, L. N. Agrawal, Agra, 1972.
3. Mutahib M. A. : Theory of Local Government, Sterling Publications, New Delhi.
4. Sharma M. P. : Local-Self-Government in India, Munshiram Manoharial, New Delhi, 1978.
5. बाचल वि. मा. : नायगावकर सुधाकर, स्थानिक स्वराज्य, सुविचार, पुणे.
6. दर्शनकार अर्जुन, लोकप्रशासन, पंचशील प्रकाशन, औरंगाबाद

प्रथम वर्ष राज्यशास्त्र क्रमिक पुस्तक (जून १९९७ पासून)

१. प्रा. देशमुख, डी. के. : आधुनिक राजकीय विचारप्रणाली

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परिपत्रक क्र. १२६/१९९९

**विषय : प्रथम वर्ष कला वर्गाच्या राज्यशास्त्र विषयासाठी
संदर्भ ग्रंथ.**

विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार सर्व संबंधितांना कळविण्यात येते की, “आधुनिक राजकीय विचारप्रणाली” प्रा. अ. ना. कुलकर्णी, विद्या प्रकाशन, नागपूर हे पुस्तक एफ.वाय.बी.ए. वर्गासाठी क्रमिक पुस्तक म्हणून नेमण्यात येत आहे.

(24) SOCIOLOGY
(General Sociology) G-1

	No. of Lectures
I. Nature and Scope of Sociology	8
(a) Definition of Sociology	2
(b) Brief review of the development of Sociology	2
(c) Subject-matter and Scope of Sociology	2
(d) Importance and uses of Sociology	2
II. Basic Concepts–(Meaning and Characteristics only)	
(a) Sociology Likeness, Difference, Interdependence and Cooperation	2
(b) Social structure, Institutions, Norms, values, Sanctions, Role and Status	6
(c) Functions and Disfunctions–Manifest and Latent.	
(d) Social system	3
(e) Social organization	2
III. Social Groups	
(a) Meaning and Nature	2
(b) Typology of Social groups	2
(c) Meaning, nature and importance of :	3
(i) Primary and Secondary	
(ii) In–group out-group	
(iii) Reference groups	
IV. Culture (Refer Johnson also)	9
(a) Meaning and Nature	2
(b) Characteristics of culture	2
(c) Structural elements, knowledge, belief, norms and values, symbols	2
(d) Functions of culture	2
(e) Ethnocentrism and cultural relativism	1

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- V. Socialization (Refer K. Davis) 8
- (a) Definition, meaning and essential elements, biological bases and conditions of socialization 3
 - (b) Agencies of Socialization—Authoritarian and equalitarian Family, Peer Group Educational Institution 2
 - (c) Adult Socialization
 - (d) Re-Socialization 3
- VI. Social Processes
- (a) Co-operation
 - (b) Competition
 - (c) Conflict
 - (d) Accommodation
 - (e) Assimilation
- VII. Religion (Refer K. Davis)
- (a) Meaning, Nature Sacred and Profane
 - (b) Theories of the origin of Religion Animism, Naturism
 - (c) Functions and Dye Functions
 - (d) Religion and Magic
 - (e) Religion and Science
- VIII. Social Stratification
- (a) Meaning and Nature
 - (b) Social Stratification and Social differentiation
 - (c) Types of stratification (Caste and Class)
 - (d) Social Mobility and types of Mobility—vertical, Horizontal Intra and Inter-generational mobility
 - (e) Open and closed society
 - (f) Functional necessity of Stratification

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- IX. Social Control (Refer Johnson)
(a) Meaning, nature and need
(b) Conformity and deviation
(c) Formal and informal means of Social Control.
- X. Social Change
(a) Meaning and nature
(b) Rate and direction of change
(c) Theories of Social change—cyclical, linear, deterministic, evolutionary
(d) Factors of social change—Biological, Physical, Technological, Cultural.

Books Recommended

1. Vidyabhushan and Sachadev — Introduction of Sociology.
2. K. Davis—Human Society
3. H. M. Johnson – A Systematic—Introduction to Sociology.
4. Horton and Hunt—Sociology.
5. मा. शं. सोमण - समाजशास्त्र
6. नागमोडे - समाजशास्त्र
7. भगवान बारबिंड् - सामाजिक संस्था

तृतीय वर्ष साहित्य वर्गाच्या समाजशास्त्र (सामान्य / विशेषस्तर)

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विषयाच्या प्रश्नपत्रिकेचे स्वरूप/आराखडा)

- (१) गुणपत्रिका एकूण १०० गुण.
(२) वेळ ३ तास.
(३) प्रत्येक पेपरला १०० गुण.
(४) प्राश्निकांनी पुढील सूचना लक्षात घेऊन पेपर तयार करणे.
(५) सर्व प्रश्न सोडविणे आवश्यक
(६) सर्व प्रश्नांना समान गुण.
- प्रश्न १ : निबंधवजा पहिल्या सत्राच्या २०
किंवा अभ्यासक्रमावर
निबंधवजा २०
- प्रश्न २ : निबंधवजा दुसऱ्या सत्राच्या २०
किंवा अभ्यासक्रमावर
निबंधवजा
- प्रश्न ३ : खालीलपैकी कोणत्याही दोनची उत्तरे लिहा : २०
(अ) पहिल्या आणि दुसऱ्या
(ब) सत्राच्या अभ्यासक्रमावर
(क) प्रत्येकी दोन
(ड) प्रश्न असतील
- प्रश्न ४ : खालीलपैकी कोणत्याही चारवर टीपा लिहा : २०
(अ)
(ब) पहिल्या
(क) सत्राचा
(ड) अभ्यासक्रम
(ई)
(फ)
- प्रश्न ५ : खालीलपैकी कोणत्याही चारवर टीपा लिहा : २०
(अ)
(ब) दुसऱ्या
(क) सत्राचा
(ड) अभ्यासक्रम
(ई)
(फ)

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(25) GEOGRAPHY

UNIVERSITY OF PUNE

Circular No. 258 of 2002

Subject : Revised Syllabus of F.Y.B.A Geography

It is hereby notified for the information of all concerned that, the University Authorities have decided as below : One paper of F.Y.B.A and three papers of F.Y.B.Sc. are revised as enclosed.

The above decision will come into force from Academic Year 2002-2003.

Ganeshkhind,
Pune-411007.
Ref. No. : CB/S/Geogr/4124
Date : 19.6.2002

Sign. _____
For Registrar.

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F.Y.B.A. - GEOGRAPHY

Course No.Gg - 110 - Physical Geography (G-1)

OBJECTIVE OF THE PAPER/COURSE :

- i) To introduced the student the basic concepts in Physical Geography.
- ii) To acquaint the student with the utility and application of Physical Geography in different areas and environment
- iii) To make the students aware of the need of protection and conservation of different landforms.

**SECTION - I
LITHOSPHERE**

NO.	UNIT	SUB-UNIT	NO. OF PERIODS
1.	Introduction to Physical Geography	a) Meaning, nature and scope b) Elements and branches of Physical Geography	02
2.	Lithosphere	a) The earth - its interior, composition and structure b)Crustal movements, Wagner's Theory of Continental drift, Isostacy and Plate Tectonic Theory	03 06 03
3.	Diastrophic Movement	a) Process of folding & faulting, causes and effects b)Volcanism and earthquake, causes effects c) Causes, Consequence and distribution of earthquakes in India	03 03 03

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4. Rocks	Classification of rocks on the basis of origin. Properties of different rocks.	03
5. Weathering	a) Meaning and types of weathering (Physical, Chemical, Biological) b) Definition, types of mass movement and land slides	03 03
6. Agents of Erosion and Deposition	a) Landforms of river erosion and deposition b) Landforms created by Sea Waves c) Landforms of mountains and Valley Glaciers d) Landforms created by wind	03 03 03 02

SECTION - II

ATMOSPHERE AND OCEANOGRAPHY

7. Atmosphere	a) Composition b) Structure	02 03
8. Insolation	a) Heat budget of the earth b) Horizontal distribution of temperature c) Vertical distribution of temperature	06
9. Atmospheric Pressure and Wind System	a) Formation of Pressure Belts and their relation with winds b) Monsoon winds and associated Weather	05 03
10. Atmospheric Moisture and Precipitation	a) Humidity and its type b) Forms of condensation and Precipitation	02 04

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11. Air Masses and Fronts	a) Formation and types of air masses and fronts	02
	b) Tropical Air Masses, Mid latitudinal air Masses	03
	c) Berkjness Theory	02
12. Submarine Relief of Ocean	General idea of Sub-marine relief	02
13. Properties and Movement of Ocean Water	a) Factors affecting temperature of ocean water	02
	b) Factors affecting salinity and density ocean water	02
	c) Causes and effects of Ocean Curreents	02

Reference Books

1. *Physical Geography* - A. N. Strahler
2. *Morphology and Landscape* - H. Robinson
3. *General Climatology* - H. J. Critchfield
4. *The face of the Earch* - Penguins 1980 - Dury G. H.
5. *Elements of Geomorphology* - Oxford University Press - Calcutta 2001 - Kale V. and Gupta A.
6. *Geomorphology* - Prayag Pustakalaya, Allahabad, 1998 - Singh S.
7. *Atmospher, Wather and Climate* - Routledge 1998 - Barry R. G. & Chorley R. J.
8. *Climatology* - Mc Graw - Hill, New York 1974 - Mather J. R.

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9. Foundation of Climatology - Surjeet Publications,
Delhi 1982 - Stringer E. T.
10. An Introduction to climate - International students
edition Mc Graw Hill,
New York, 1980 -
Trewartha G. J.
11. General oceanography - An introductoin, John
Wiley & Sons, NewYork
1980 - Graid, S.
12. प्राकृति भूविज्ञान - अरविंद भागवत, श्रीकांत
कार्लेकर
13. सुगम प्राकृतिक भूविज्ञान - प्रा. दाते, सौ. दाते
14. प्राकृतिक भूगोल भाग १ व २ - अहिरराव, वराट, अलिझाड

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(26) LINGUISTICS

Introduction to General Linguistics

1. Language as symbolic system and as a social institution.
2. Subsystems of language : Phonetic, Phonemic, Grammatical and Semantic subsystems.
3. Articulatory Phonetics : Organs of speech cavities and articulators and their functions in speech production.
4. Classification of Consonants : Place of articulation and Manner of articulation.
5. Classification of Vowels : Tongue Height, Tongue advancement and lip position.
6. Phonemics : Definition of Phone, Allophone and Phoneme.
7. Morphology : Definition of Morph, Allomorph and Morpheme : Morpheme and word. Derivation and inflection.

Text Book

Gleason, H.A. Jr.—An Introduction to Descriptive Linguistics (Indian Edition : Oxford and IBM). Chapters 1, 5, 15, 16.

Reference Books

Hockett, C. F. A.—Course in Modern Linguistics, Indian Edition.

Bloch, Bernard Trager, George L.—Outline of Linguistics Analysis, Indian Edition.

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(27) DEFENCE & STRATEGIC STUDIES

(from June 1994)

G-1—Modern Warfare

OR

Evolution of Western Art of War

1. The general content of all courses will be historical and descriptive in nature.
2. The Courses—G—1 Modern Warfare
G—2 India's National Security
G—3 Study of War and Peace and
S—1 Geopolitics and Military
Geography are introduces various concepts relevant to the understanding of the discipline. The level of teaching is to be limited to the introduction of these concepts and understanding of their context and meaning.

G—1 : Modern Warfare

1. War : Meaning, definition, causes, principles and consequences.
2. Conventional Warfare : Aspect of Conventional Warfare, Limited War and Total War.
3. Nuclear Warfare :
 - (i) Origin and development of the concept.
 - (ii) Nuclear strategy, arms race and its effect.
 - (iii) Theory of deference.
4. Cold War : Meaning and evolution, means of operation, impact.
5. Detente : Decline of cold war, concept and meaning of detente.

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6. Guerrilla Warfare :
 - (i) Meaning, principles and characteristics.
 - (ii) Views on war
 - (iii) Lenin.
7. Chemical Warfare : Historical development natures, types, methods and objectives and preventive measures of chemical warfare.
8. Biological Warfare : Meaning, nature, means and objectives of biological warfare.
9. Psychological Warfare : Meaning, nature, means and objectives of psychological warfare.
10. Economic Warfare : Concept and meaning.
11. Insurgency and counter insurgency.

Books

1. Calrocovessi Peter—World Politics since 1945.
2. Halperin Morton—Contemporary Military Strategy.
3. Maverick Clark—Reading in the Economics of War.
4. Brodie—Strategy in the Missile Age.
5. Schilling—Arms and Influence.

OR

G—1 : Evolution of Western Art of War

1. Military System of the Greeks—Organizations, weapons, art of warfare etc., Alexander the Great.
2. Military Systems of Roman—General Organizations, weapons tactes etc., Julius Cesar.
3. Hanibal and Scipio—Contribution of the Art of War —Battle of Zama, Battle of Canne.
4. The Age Cavalry.
5. Revival of Infantry.
6. Gun powder and fire arms.
7. Assessment Gustavus Adolphus, Fredrick the Great and Napoleon.

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8. Causes of World War I.
9. Schlieffen Plan of German Offensive.
10. Various Kinds of Warfare—General, Trench Warfare, Tank Warfare, Gas Warfare, Psychological Warfare.
11. Roll of “U” Boats in World War I.
12. Treaty of Versailles.
13. Background of World War II.
14. Biltakrieg Technique and Panzer Division of Germany.
15. Rise of Japan as Military Power and its attack on Pearl harbour.
16. Tactical and Strategic use of Air Power in World War I.
17. Development of Artillery during World War II.

Selected Readings

1. Montross L.—War through the Ages.
2. Earl E. M.—Makers of Modern Strategy.
3. Fuller J. F. C.—Conduct of War.
4. Bullock H.—Military History of the Western World War I, Vol. I.
5. Cyrill Fall—A Hundred Years of War.
6. Montgomery V.—A History of Warfare.
7. Fuller, J. F. C.—The American Civil War, 1861–65.
8. Fuller, J. F. C.—Machine Warfare.
9. Fuller, J. F. C.—Armaments and History.
10. Fuller, J. F. C.—Military History of the Western World War I.
11. Fuller, J. F. C.—Decisive Battles of the Western World.
12. Brodie, B.—From Arrow to Atom Bomb.
13. Harkabi, Y.—Nuclear War and Nuclear Peace.
14. Robin, C.—We All Fall Down.

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15. Colder Nihil—Unless Peace Comes.
16. Indu Prakash—Science of War.
17. Emme, E. M.—The Impact of Air Power.
18. Brown, F. J.—Chemical Warfare and Study in Restraints.
19. Mao Tse Tung—Guerrilla Warfare.
20. Brodie, B.—Strategy in the Missile Age.
21. Andre Beaufre—Deterrence and Strategy.
22. Halperin, M. H.—Contemporary Strategy.

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(28) HISTORY OF CIVILIZATION

HISTORY OF CIVILIZATION (UPTO 1453) G—I

(From June 1992)

	<i>Periods required</i>
1. <i>The Beginnings of Mankind :</i>	
1.1 Palaeolithic and Neolithic Cultures - Social Life and religious ideas.	5
1.2 Origin and nature of civilization. Factors responsible for the development of civilization.	2
2. <i>Early Civilization in West Asia :</i>	
2.1 Egypt : Art, architecture, religion and philosophy, Social and economic Life.	5
2.2 Mesopotamia : Summer, Babylonia, Assyria and Chaldea. Art, architecture, law, social and economic Life, State and politics.	5
2.3 Persia (Iran) Art, architecture literature and religion - importance of Iranian imperialism - relations with India.	3
3. <i>Early Civilization in East Asia :</i>	
3.1 India : Social and economic life, Philosophy, Art and Literature - Contribution to Science- Relation with other civilizations.	6
3.2 China : Arts, Religion and Philosophy - Social and economic life - Contribution to Science.	4
4. <i>Latin American Civilization :</i> The Incas, The Mayas the Aztecs - A brief survey of their achievements.	3

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5. *Greek Civilization* :
The Aegean Civilization. Athens and Sparta–Social and political life. Development of philosophy, Art and Architecture–Contribution to Science–Legacy of Greece. 7
6. *Rome* : State and Society - Conflict with Carthage - Republicanism - Law and administration - Rise and growth of imperialism - Art and architecture - Scientific ideas - Decline and fall - The legacy of Rome. 10
7. *Religions of Ancient World* :
Zoroastrianism, Christianity, Islam and religions of India–Hinduism, Jainism and Buddhism. 10
8. *Feudalism* :
 - 8.1 Origin and nature, basic features, Social and economic Life, Guilds. 5
 - 8.2 Charlemagne. 2
9. The Catholic Church, organization of the Church, growing power of the Church–Conflict between the Church and the State. 6
10. The Crusades - Causes and effects.
11. *Rise and growth of Islamic power* :
 - 11.1 The Arabs; Art and architecture, philosophy, literature - Contribution of Science 2
 - 11.2 The Turks : The Selzüks, the Ottomans, Decline and fall of the Eastern Roman Empire. 2

Books for Study

1. Swain J. E. : A History of World Civilization.
2. Loon Henrik Van : The Story of Mankind.
3. Wallbank, Taylor and Balkey : Civilization : Past and Present.

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4. Brinton, Christopher and Wolff : A History of Civilization, Vol. I.
5. Lucas, Henry : A Short History of Civilization.
6. Webster, Hutton : History of Civilization - Ancient and Medieval.
7. Hayes, Baldwin and Cole : History of Western Civilization.
8. ओतुरकर, पोतनीस, महाजन : जगाचा इतिहास (अ. वि. गृह प्रकाशन, पुणे).

Books for Reference

1. Toynbee A.J. : Mankind and Mother Earth.
2. Durant, Will : The Study of Civilization, Vol. I (our Oriental Heritige).
3. Wells, H.G. : Outline of History.
4. Turner Ralph : The Great Cultural Tradition (2 Vols.).
5. Luigi Pareti : History of Mankind, Vol. II, The Ancient World.
6. Fenley R. and Weech W.N. : World History : The Growth of Western Civilization.
7. कुलकर्णी, अ. रा. : प्राचीन भारत - इतिहास आणि संस्कृती.
8. राजे, पोतनीस, कुलकर्णी : विज्ञान इतिहास.
9. डांगे, स. अ. : भारतीय धर्म व तत्त्वज्ञान
10. वर्णेकर श्री. भा. : भारतीय धर्म व तत्त्वज्ञान.
11. माटे म. श्री. : प्राचीन भारतीय कला.

(29) LOGIC AND METHODOLOGY OF SCIENCE

Revised Syllabus (From June 2002)

Objective : To explain the basic principles of correct reasoning and to provide students ample scope to exercise their reasoning based on the above principles.

Ist Term : **Traditional Logic**

1. The Nature of Logic as the study of Inference :
 - * Deductive and Inductive branches of logic.
 - * Argument and argument form; Proposition and propositional form; Difference between proposition and sentence.
 - * Formal character of Deductive logic.
2. Traditional Western understanding of Propositions and their classification :
 - * Basic subject-predicate structure and components: Quantifier, subject term, copula, predicate term.
 - * Classification of propositions into Categorical, Hypothetical, Disjunctive.
 - * Four-fold scheme of Categorical Propositions (A E I O).
 - * Distribution of Terms in A E I O propositional forms.
3. Traditional Western understanding and classification of Inference :
 - * Immediate Inference : Opposition, Conversion, Obversion.

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- * Mediate Inference : Categorical Syllogism, Mixed Disjunctive Syllogism, Mixed Hypothetical Syllogism, Dilemma.
4. Fallacies :
- * Formal fallacies (All those pertaining to kinds of Inference in item 3 above).
 - * Non-formal fallacies : Division, Composition, Accident, Converse Accident, Many Questions, False Cause, Petitio Principii.
 - * Ignoratio Elenchi : Argumentum : ad baculum, ad misericordiam, ad hominem, ad ignorantiam, ad verecundiam, ad populum.
5. Basic concepts/issues from Indian traditions of logic :
- * Nyaya theory of Inference (Anuman) and Hetvabhasa.

Ind Term : Propositional Logic

1. (a) Symbolic logic : nature, scope and applications.
- (b) Modern classification of Propositions into :
 - * Simple.
 - * Truth-functionally compound.
- (c) Nature and use of :
 - * Propositional variables,
 - * Propositional constants,
 - * Logical constants.
- (d) Symbolizing propositions using the above.

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2. Basic truth-functions :
 - * Negation.
 - * Conjunction.
 - * Disjunction.
 - * Material Implication.
 - * Material Equivalence.
3. (a) Propositional forms : Tautology, Contradiction, Contingency.
(b) Decision Procedures : Truth Table, Shorter Truth Table, Truth Tree.
(c) Use of Decision Procedures to identify propositional forms.
4. Deductive Proof :
 - * Rules of Inference; Rules of Replacement.
 - * Kinds of Proof : Direct, Conditional, Indirect.
 - * Proof of arguments using the above kinds of proof.
 - * Proof of Tautologies using either Conditional or Indirect proof.
5. Method of demonstrating invalidity of Arguments :
 - * Use of the method of assigning truth-values to demonstrate the invalidity of invalid arguments.

Books for Study :

1. Introduction to Logic — I. M. Copi (Tenth Edition).
2. Relevant Chapters from : Tarkasangraha—Athale & Bodas.
3. तर्करेखा (भाग १)—डॉ. सुरेंद्र बारलिंगे आणि डॉ. मो. प्र. मराठे.
4. सुगम आकारिक तर्कशास्त्र—डॉ. श्री. र. कावळे आणि लीला गोळे.

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Books for Reference :

1. Symbolic Logic— I. M. Copi, (Relevant Chapters).
2. History of Indian Logic— S. C. Vidyabhusan, Motilal Banarsidas, 1978.
3. Elements of Logic— Stephen Barker.
4. आकारिक तर्कशास्त्र— प्रा. मे. पुं. रेगे.
5. तर्कसंग्रह— श्री. कुरुंदकरशास्त्री.
6. तर्कसंग्रह— श्री. मुसळगावशास्त्री.

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(30) GANDHIAN THOUGHT

INTRODUCTION TO GANDHIAN PHILOSOPHY

(Objectives : To acquaint students with the major incidents in Gandhiji's life and the major aspects of Gandhian thought and help them to understand it theoretically and critically).

Ist Term

1. Major incidents in Gandhiji's life.
2. Sources of Gandhian thought (Upanishads, Gita and Jainism, Bible, Ruskin and Tolstoy).
3. Significant characteristics of Gandhian philosophy :
 - (a) Consistency between words and action.
 - (b) Emphasis on spirituality.
 - (c) Purity of means.
4. Basic concepts in Gandhian philosophy :
 - (a) Satya and Ahimsa (Truth and non-violence).
 - (b) Faith, inner-voice and God.
 - (c) Anasakti yoga (Non-attachment).
 - (d) Dignity of Labour.

II Term

5. Gandhiji's views regarding :
 - (a) Untouchability.
 - (b) Status of women in society.
 - (c) Science and Technology.
 - (d) Decentralization.

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6. Gandhiji's nation Satyagraha :
 - (a) Its meaning and various techniques.
 - (b) An ideal satyagrahi.
 - (c) Its efficacy in solving problems at the international, national, individual level.
7. Gandhiji's critique of modern civilization :
 - (a) Unemployment.
 - (b) Exploitation.
 - (c) Dehumanization.
 - (d) Violence.
8. Relevance of Gandhiji for today.

Suggested books for Study :

1. An Autobiography, Vol. 1— M. K. Gandhi, Navjeevan Publishing House.
2. In Search of the Supreme— M. K. Gandhi, Navjeevan Publishing House.
3. Selections from Gandhi— N. K. Bose, Navjeevan Publishing House.

Reference Books :

1. The Philosophy of Mahatma Gandhi— Datta D. M. Wisconsin.
2. Gandhian Thought, Tikekar Indu— Sarvasevasangha Press, Varanasi.
3. India of my Dreams— Gandhi M. K., Gandhi Vangmaya Prakashan, Pune.
4. Towards Understanding Gandhi— D. K. Bedekar, Popular, 1975.

(31) HOME ECONOMICS

Section I : General and Household Economics :

1. What Economics is–Relation with other social science–Economics Laws–Economics systems.
2. Demand and Supply–Market mechanism–Demand, Schedule Law of demand-Demand elasticity-Measurement of elasticities; its importance–Cross elasticity, Supply Schedule, Law of Supply–Supply elasticities–Effect of shift in supply and demand : Consumer’s movement.
3. Income & Expenditure–Sources of family income–Mean supplementing family income–Family budget–Personal budgets, Account keeping–Standard of living in India–Problems of poverty.
4. Money–Functions of types near money Banks–Types of banks - Commercial - Co-operative– Savings–Their functions.
5. Money and Prices–Prices level-inflation–Definition–Effections economy and different income groups.
6. Public Revenue and Expenditure - Effects on Household incomes–Incidence of Taxation–Sales Tax–Lump Tax–Taxable capacity.

Section II : Home Management :

1. Meaning of Home Management.
2. Role of Human values and goals in Home making. Standard of life.
3. Nature and importance of decision–making in Home Management.
4. House planning for lower-middle and high income groups with reference in size of family, occupation of family members.
5. Interior and Exterior maintenance of home–aesthetically, functionally and hygienecally.

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Reading Material—Section I

1. Micro-economic Theory : Dewett K.K., S. Chand Publication, Agra.
2. Paul Samuelson : Economics (International Students' Edition), Tenth Edition, McGraw Hill, Kogakusha Ltd.

Reading Material—Section II

1. Nickell, P. and Dorsey J. : Management in Family Living.
2. Gilberth, T. : Management in the Home.
3. Hall and Paolueci : Teaching of Home Economics.
4. Devdas, R.: Text-Book of Home Economics.
5. Brown Effa : Color in Home Decoration.
6. Whitean Sheril : The Elements of Interior Decoration.

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(32) ANTHROPOLOGY

(From June 1997)

P 1 : Introduction to Social Anthropology

G-1 : Cultural

First Term :

- I. (a) Nature and scope of Anthropology.
 - (b) Its main branches :
 - * Physical
 - * Social
 - * Cultural.
 - (c) Its main characteristics/features :
 - (i) The holistic/comprehensive study of Man.
 - (ii) The comparative perspective.
 - (iii) The study of primitive communities.
 - (iv) The science of Man.
 - (d) Relationship with :
 - (1) Sociology (2) History
 - (3) Biology (4) Psychology.
 - (e) The scope of Anthropology—The study of Society and Culture :
 - * All aspects of culture.
 - * Inter-relationships among these aspects.
 - * The primitive society—particular emphasis.
 - (f) The uses of Anthropology.
- II. *The Concept of Culture :*
 - (a) Culture and Society.
 - (b) Definitions of Culture—general.
 - E. B. Tylor.
 - Iravati Karve.
 - Emphasis on explanations.

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- (c) The four elements of culture.
- (d) The attributes of culture.
- (e) Culture and personality.
- (f) Culture and Civilizations.
- (g) Features of Indian civilization and culture :
 - (i) Material
 - (ii) Non-material aspects of culture.
- (h) The theories of Culture changes :
 - (i) Evolution
 - (ii) Diffusion
 - (iii) Acculturation
 - (iv) Innovation
- (j) Race and racism
Race, Culture and environment.

III. *Social Organization* :

- (a) The family—definitions.
- (b) Types—Patrilinae
—Matrilinae.
- (c) Functions and characteristics of Joint and Nuclear families.
- (d) Marriage—definitions :
 - Function of marriage.
 - Features and characteristics.
 - The rules of exogamy and endogamy.
 - Age at marriage among Adivasis.
 - Preferential types of marriage.
 - The cross cousin, levirate, sororate.
 - Divorce—the customary practice among the tribals.
 - Orthodox means of marriage.
 - Unorthodox means of marriage.

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- (e) Kinship :
 - (i) Family, Kin, Clan.
 - (ii) Types of Kin.
 - (iii) Clan Kinship system.
 - (iv) Functions of Clan and Kinship.
 - (v) Kinship usage :
 - (i) Avoidance
 - (ii) Joking relationships.
 - (iii) Tecknonomy.
 - (iv) Avunculate.
 - (v) Couvade.

Second Term :

IV. *Economic Organization :*

- (a) Characteristics of Primitive economic system.
- (b) Types of economic activities.
- (c) The stages of economy :
 - Food Collection
 - Hunting and pastoral stage.
 - Agriculture.
- (d) The concept of property (Tribal).
- (e) Inheritance of property.
- (f) Shifting cultivation.

V. *Political Organization :*

- (a) Definition.
- (b) Nature of deviance—culture Specific-traditional.
- (c) The means of social control.
- (d) Law and Justice.
- (e) Punishments.
- (f) Nature of Tribal leadership—Headmen; indigenous, hereditary etc.

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VI. *Religious Organization :*

- (a) Religion—belief and ritual.
- (b) Magic.
- (c) Religion, Science, Magic.
- (d) Types of magic-white, black, characteristics and the aims of magic.
- (e) Forms of religion :
 - Animism
 - Animatism
 - Naturism.
- (f) Totem.
- (g) Taboo.
- (h) Shaman (Bhagat).

Prescribed Books

1. Majumdar and Madan : Introduction to Social Anthropology.
2. S. Fucus : Origin of Man and his Culture.
3. N. S. Vaidya : Anthropology.
4. Y. S. Mehendale : Sanskrit Anthropolgy.
5. Vilas Sangve : Samajik Anthropology.

Recommended Books

1. Raymond Firth : Human Types.
2. Keesing and Keesing : Cultural Anthropology.
3. Govt. of India : Adivasis.
4. D. N. Majumdar, Races and Cultures of India.

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(33) MATHEMATICS

University of Pune

Circular No. 212 of 2003

Subject : Regarding option at BA(Sp1) mathematics.

It is hereby notified for the information of all concerned that, the University Authorities have decided as below:

The students willing to opt. Mathematics at BA (Special) are advised to offer FMG-1 (B) at F.Y.B.A. level which is identical to F.Y.B.Sc. Paper-III Analytical Geometry and differential equations.

The above decision will come into force from academic year 2002-2003.

Ganeshkhind,
Pune-411007.
Date : 11.6.2002

Sign. _____
for Registrar.

F.Y.B.A. / 212

**University of Pune
Circular No. 209 of 2003**

Subject: Regarding F.Y.B.A./F.Y.B.Sc./F.Y.B.Sc.
(Computer Science) Mathematics syllabus.

It is hereby notified for the information of all concerned that, the University Authorities have decided to implement F.Y.B.A./F.Y.B.Sc./F.Y.B.Sc. (Computer Science) Mathematics revised syllabus as enclosed in appendix.

The above decision will come into force from academic year 2002-2003.

Ganeshkhind,
Pune-411007.
Date : 13/14.6.2002

Sign. _____
for Registrar.

F.Y.B.A. / 213

F.Y.B.A. (Mathematics)

MG-I : Algebra

This will be the same as F.Y.B.Sc. Paper I

AMG-I : Calculus

This will be the same as F.Y.B.Sc. Paper II.

FMG-I (A) : Financial Mathematics

FIRST TERM

1. Simple Interest

1. Rate of interest.
2. Simple interest
3. Exact and ordinary simple interest
4. Exact and approximate time
5. Present value of a debt
6. Equations of value. (9 lectures)

2. Compound interest

1. Compound amount
2. Nominal and effective rates of interest.
3. Approximation of interest rate and time
4. Present value
5. Equations of value
6. Equated time. (9 lectures)

3. Annuity

1. Amount and present value of an annuity.
2. Ordinary annuities certain.
3. Rate of interest. (9 lectures)

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4. Functions

1. Functions and their graphs.
2. Slopes and intercepts.
3. Graphs of non-linear functions.
4. Limits and continuity. (9 lectures)

SECOND TERM

5. Differentiation

1. The derivative and the rules of differentiation.
2. The slope of a curvilinear functions.
3. Differentiability and continuity.
4. Derivative notations.
5. Rules of differentiation.
6. Higher order derivatives.
7. Implicit differentiation. (18 lectures)

6. Application of Derivative.

1. Increasing and decreasing functions.
2. Concavity and convexity.
3. Relative extrema.
4. Inflection points.
5. Curve sketching.
6. Optimization of functions.
7. Marginal Concepts.
8. Optimizing economic functions.
9. Price elasticity of demand and supply.
10. Relationship among total, marginal and average concepts.

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References:

1. Frank Ayers Jr., Mathematics of Finance, Schaum's outline series, 1983.
2. E.T. Dowling, Mathematical Economics, Schaum's outline series, 2nd edition, 1992.

FMG-I (B) : Analytical Geometry and Differential Equations

This will be the same as F.Y.B.Sc. Paper III.

Note: The students willing to offer Mathematics at B.A. (special) are advised to take FMG-I (B).

(34) APPLIED MATHEMATICS

CALCULUS (AMG 1)

(From 1996–97)

FIRST TERM

1. Real Numbers—Properties of absolute value function
g.l.b., l.u.b. completeness axion. (6 Lectures)
2. Limit and Continuity—Real valued Function of a Real
variable, Limit of a Function, Continuous Functions,
Algebra of Continuous functions, properties of
Confinous Functions on closed and bounded interval :
(i) Boundedness, (ii) Attains sup and Inf.
(iii) Intermediate Value Theorem. (15 Lectures)
3. Differentiability, The Derivative of a Function, Mean
value Theorems—(i) Rolle's Theorem, (ii) L.M.V.T.,
(iii) Cauchy's M.V.T. Indeterminate forms, L. Hospital's
Rule (Problems only), Successive Differentiation.
Leibnitz Theorem (with proof). (15 Lectures)

SECOND TERM

4. Sequences—Real Sequences, Convergent sequences,
Monotonic sequences, Convergences of $1 + \frac{1}{n}$
(7 Lectures)
5. Series—Convergence of Series, Series of Positive Terms
Comparison Test, Ratio Test, Root Test. (7 Lectures)
6. Power Series—Taylor's Series, Maclaurin Series
(without proof) some basic functions—Exponential,
Logarithmic, Trigonometric and hyperbolic. (6 Lectures)

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7. Integration—Revision, Integration by partial fractions
(i) Linear repeated factors, (ii) Quadratic non-repeated factors, (iii) One linear and one quadratic factor.
(8 Lectures)
8. Applications of Integration—Area of Plane regions. Rectification, length of plane curves, Volume and Surface Revolution.

List of Books

1. Calculus, Vol. I and II —T. M. Aostol. (Wiley International Edition).
2. Differential Calculus—Shanti Narayan.
3. Integral Calculus—Shanti Narayan.
4. Introduction to Real Analysis — R. G. Bartle and D. R. Sherbert (John Wiley & Sons).
5. Introduction to Calculus and Analysis Vol. I—R. Courant and Fiilz John (Springer Verlag Pub.).

(35) INDUSTRIAL MATHEMATICS IMG 1

Section One : Business Mathematics (I)

1. *Simple and Compound Interest* :
 - (i) Construction and uses of formulae for computation of interest and amount.
 - (ii) Quarterly and half yearly periods.
2. *Annuity* :
 - (i) Annuity by simple and compound interest.
 - (ii) Recurring deposits. Present value.
3. *Graphs* :
 - (i) Tracing of linear, quadratic and hyperbolic graphs meaning of polynomial curves.
 - (ii) Slope of a curve. Equations of tangent and normal. Intersection of two curves and its interpretation.
 - (iii) Solution of simultaneous linear equation by graphs Inter-section of a line and a quadratic graph. (Examples from social sciences are preferable).

Section Two : Business Mathematics (II) : Syllabus identical to existing syllabus (periods 12)

1. *Calculus of Finite Differential* :
 - (i) Forward and backward differences.
 - (ii) Knowledge of the operators D , \tilde{N} and E and their relations (no proofs).
 - (iii) Factorial notation.

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2. *Interpolation* :

- (i) Interpolation with equal intervals, Interpretation.
- (ii) Newton's formula for forward interpolation.
- (iii) Linear interpolation by groups. Meaning of linear and quadratic interpolation.

3. PERT AND CPM :

- (i) Planning and scheduling network.
- (ii) Arrow diagrams. Activity-on-node diagrams.
- (iii) Critical path. Slack.

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(36) STATISTICS

UNIVERSITY OF PUNE

Circular No. 253 of 2002

**Subject : Regarding F.Y.B.A Statistics Revised
Syllabus**

It is hereby notified for the information of all concerned that, the University Authorities have decided to implement F.Y.B.A. Statistics (36) Statistics, (37) Mathematical Statistics and (38) Applied Statistics revised syllabus as enclosed in the Appendix.

The above decision will come into force from Academic Year 2002-2003.

Ganeshkhind,
Pune-411007.
Ref. No. : CB/S/Stat/4119
Date : 19.6.2002

Sign. _____
For Registrar.

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STATISTICS

Circular No. 253/2002 Revised Syllabus

Paper I—Descriptive Statistics

Objective :

The main objective of this course is to acquaint students with some basic concepts in Statistics. They will be introduced to some elementary statistical methods of analysis of data.

At the end of this course students are expected to be (i) to compute various measures of central tendency, dispersion, skewness and kurtosis, (ii) to compute the correlation coefficient from ungrouped bivariate data and interpret them. (iii) to tabulate statistical information given in descriptive form. (iv) to analyse the data pertaining to attributes and to interpret the results. (v) to summarize and analysing the data using computer.

FIRST TERM

Contents :

1. *Introduction to Statistics :* (4)
 - 1.1 Definitions : Webster's, Bowley's, Yule and Kendall's and Secrist's definitions of Statistics.
 - 1.2 Importance of Statistics.
 - 1.3 Scope of Statistics : In industry, Biological Sciences, Medical Sciences, Economics, Social Sciences, Management Sciences.
 - 1.4 Statistical organizations in India : CSO, ISI, NSS, Bureau of Economics and Statistics, their names and functions.
2. *Population and Sample :* (4)
 - 2.1 Notion of a statistical population, types of populations and a sample from a population with illustrations.

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- 2.2 Description of simple random sampling with and without replacement (SRSWR and SRSWOR), stratified random sampling, systematic sampling, cluster sampling, two stage sampling.
- 3. *Types of Statistical Data* : (6)
 - 3.1 Attributes : Nominal scale and ordinal scale.
Variables : Interval scale, ratio scale, Discrete and continuous variables, raw data.
 - 3.2 Classification : Discrete frequency distribution, continuous frequency distribution, inclusive and exclusive methods of classification, cumulative frequency distribution, relative frequency.
 - 3.3 Graphical representation of statistical data : Histogram, frequency polygon and frequency curve, ogive curves, diagrammatic representation of data using stem and leaf chart.
 - 3.4 Examples and problems.
- 4. *Tabulation* : (4)
 - 4.1 Need and definition of tabulation.
 - 4.2 Construction of statistical tables : Parts of a table, rules of tabulation, uses of tabulation, Construction of tables with one, two and three factors of classifications.
 - 4.3 Requirements of good statistical table.
 - 4.4 Examples.
- 5. *Measures of Central Tendency* : (10)
 - 5.1 Concept of central tendency of statistical data : Statistical average. Requirements of a good statistical average.
 - 5.2 Arithmetic Mean (A.M.) : Definition, effect of change of origin and scale, combined mean of a number of groups, merits and demerits.

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- 5.3 Geometric Mean (G.M.) : Definition, merits and demerits.
 - 5.4 Harmonic Mean (H.M.) : Definition, merits and demerits.
 - 5.5 Mode : Definition, formula for computation (without derivation), graphical method of determination of mode, merits and demerits.
 - 5.6 Median : Definition, formula for computation (without derivation), graphical method of determination of median, merits and demerits.
 - 5.7 Imperical relation between mean, median and mode.
 - 5.8 Partition Values : Quartiles, Deciles and Percentiles, Box Plot.
 - 5.9 Weighted Means : Weighted A.M., G.M. and H.M.
 - 5.10 Situations where one kind of average is preferable to others.
 - 5.11 Examples and problems.
6. *Measures of Dispersion* : (10)
- 6.1 Concept of dispersion. Requirements of a good measure of dispersion.
 - 6.2 Range : Definition, merits and demerits.
 - 6.3 The semi-interquartile range (quartile deviation).
 - 6.4 Mean Deviation : Definition, merits and demerits, minimal property (without proof).
 - 6.5 Mean Square Deviation : Definition, Minimal property of mean square deviation, variance and standard deviation : Definition, merits and demerits, effect of change of origin and scale.

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- 6.6 Absolute and relative measures of dispersion, coefficient of quartile deviation, coefficient of variation (C.V.).
- 6.7 Examples and Problems.
- 7. *Moments* : (4)
 - 7.1 Moments about an arbitrary constant.
 - 7.2 Raw moments (m_r) for ungrouped and grouped data.
 - 7.3 Central moments (m_r) for ungrouped and grouped data. Sheppard's corrections, effect of change of origin and scale.
 - 7.4 Relations between central moments and raw moments.
- 8. *Skewness* : (4)
 - 8.1 Concept of skewness of a frequency distribution, positive skewness, negative skewness, symmetric frequency distribution.
 - 8.2 Bowley's coefficient of skewness : Proof that Bowley's coefficient of skewness lies between - 1 to 1.
 - 8.3 Karl Pearson's coefficient of skewness.
 - 8.4 Measures of skewness based on moments.
 - 8.5 Examples and Problems.
- 9. *Kurtosis* : (2)
 - 9.1 Concepts of Kurtosis, Leptokurtic, Mesokurtic and Platykurtic frequency distributions.
 - 9.2 Measures of Kurtosis based on moments.
 - 9.3 Examples and Problems.

SECOND TERM

10. *Correlation* : (20)
- 10.1 Bivariate data.
 - 10.2 Concept of correlation between two variables, positive correlation, negative correlation.
Properties :
 - 10.3 Scatter diagram, conclusion about the type of correlation from scatter diagram.
 - 10.4 Covariance between two variables (m_{11}) :
Definition, computation, effect of change of origin and scale.
 - 10.5 Karl Pearson's coefficient of correlation (r) :
Definition, computation for ungrouped and grouped data and interpretation.
Properties (i) $-1 \leq r \leq +1$ (with proof).
(ii) effect of change of origin and scale (with proof).
 - 10.6 Spearman's rank correlation coefficient :
Definition, computation and interpretation (with and without ties), Spearman's rank correlation coefficient proof of the formula for without ties.
 - 10.7 Only simple numerical examples and problems.
11. *Regression* : (18)
- 11.1 Lines of regression, fitting of lines of regression by the least square method.
 - 11.2 Regression coefficients (b_{yx} b_{xy}) : definition, computation. Properties :
 - (i) $(b_{yx} b_{xy}) = r^2$
 - (ii) $(b_{yx} b_{xy}) \leq 1$

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(iii) $b_{yx} = r \frac{sy}{sx}$, $b_{xy} = r \frac{sx}{sy}$

(iv) Effect of change of origin and scale.

(v) Slopes of lines of regression.

(vi) Angle between the two lines of regression.

11.3 Explained and unexplained variation, coefficient of determination.

11.4 Nonlinear regression : (i) Second degree curve, (ii) exponential curve of type $y = ab^x$, fitting of such curves by least squares method.

11.5 Examples and Problems.

12. *Theory of Attributes* : (10)

12.1 Attributes : Notation, dichotomy, class-frequency, order of class, positive class-frequency, negative class-frequencies, ultimate class-frequency, relationships among different class-frequencies (upto two attributes).

12.2 Concept of independence and association of two attributes.

12.3 Yule's coefficient of association

12.4 Examples and problems.

Note :— In theory examination, in question paper, the weightage to the numerical problems should not exceed 40%.

Books Recommended

1. Goon, Gupta and Dasgupta—Fundamentals of Statistics Vol. I and II., Ed. 5 (1971) and Vol. II, ed. 6(1986) world Press, Calcutta.
2. S. P. Gupta—Statistical methods, ed. 12 - Sultan Chand & Sons, New Delhi (1979).
3. Snedecor and Cochran—Statistical Methods, sixth edition, Oxford and IBH Publishing Co. (1967).
4. Croxton, F. E. and Cowden, D. J.—Applied General Statistics, Second Edition, Sir Isaac Pitman & Sons Ltd., London.
5. Walker and Lev—Elementary Statistical Methods - Oxford & IBH Publishing Co., Calcutta, First Indian Edition (1965).
6. Sarma K.V.S. - Statistics mde simple - Do it yourself on P.C., Prentice Hall of India, New Delhi (2001).

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(37) MATHEMATICAL STATISTICS

UNIVERSITY OF PUNE

Circular No. 264/2002

**Subject : Mathematical Statistics at F.Y.B.A
change of group.**

It is hereby notified for the information of all concerned that, the University Authorities have decided as below :

F.Y.B.A. Mathematical Statistics is shifted from Group J to Group E Politics/Mathematical Statistics.

The above decision will come into force from Academic Year 2002-2003.

Ganeshkhind, Pune-411007.

Sd. / xxx

Ref. No. CBS/Statistics/4144

for **Registrar**

Date : 19-6-2002

MATHEMATICAL STATISTICS

(Circular No. 253/2002) Revised Syllabus

**Paper—II : Discrete Probability and Probability
Distributions**

Objectives :

The main objective of this course is to introduce to the students the basic concepts of probability; axiomatic theory of probability, concept of random variable probability distribution (univariate and bivariate) of discrete random variables, expectation and moments of a probability distribution.

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By the end of the course students are expected to be able :

- (i) to distinguish between random and non-random experiments.
- (ii) to find the probabilities of events.
- (iii) to obtain a probability distribution of a random variable (one or two dimensional) in the given situation and
- (iv) to apply the standard discrete probability distribution to different situations.

FIRST TERM

Contents :

1. Sample space and events : (10)
 - 1.1 Experiments and random experiments. Ideas of deterministic and non deterministic models.
 - 1.2 Definition of : (i) sample space, (ii) discrete sample space : finite and countably infinite, (iii) event, (iv) elementary event, (v) certain event, (vi) impossible event.
 - 1.3. Concept of occurrence of an event.
 - 1.4. Union and intersection of two or more events.
Occurrence of :
 - (i) at least one of the given events,
 - (ii) none of the given events, and
 - (iii) all of the given events.
 - 1.5 Mutually exclusive events, complementary events.
(denote complement of event A by A^c).
 - 1.6 Symbolic representation of given events :
Description of events given in symbolic form.
 - 1.7. Examples and Problems.

2. Probability : (For Finite sample space only) : (16)

- 2.1. Classical definition of Probability.
- 2.2. Probability with reference to a finite sample space : Probability assignment approach. Probability of an event.
- 2.3. Equiprobable sample space, probability of an event.
- 2.4. Axioms of probability.
- 2.5. Probability of union of two events.
 $P(A \cup B) = P(A) + P(B) - P(A \cap B)$.
 Statement of extension of this result to union of three or more events.
- 2.6. To prove
 - (i) $P(A^c) = 1 - P(A)$.
 - (ii) If $A \supset B$, $P(A) \geq P(B)$.
 - (iii) $P\left(\bigcup_{i=1}^k A_i\right) \leq \sum_{i=1}^k P(A_i)$
 - (iv) $P\left(\bigcap_{i=1}^k A_i\right) \geq \sum_{i=1}^k P(A_i) - (k - 1)$.
- 2.7. Examples and Problems.

3. Conditional Probability and Independence of events : (12)

- 3.1. Definition of independence of two events :
 $P(A \cap B) = P(A) \cdot P(B)$.
- 3.2. Pairwise independence and mutual independence for three events.
- 3.3. Definition of conditional probability of an event.
- 3.4. Multiplication theorem.
 $P(A \cap B) = P(A) \cdot P(B/A)$.
- 3.5. Baye's Theorem.
- 3.6. Examples and Problems.

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4. Univariate Probability Distribution : (Defined on finite sample space) : (10)
 - 4.1 Definition of discrete random variables.
 - 4.2. Probability mass function (p.m.f.) and cumulative distribution function (c.d.f.), $F(\cdot)$ of a discrete random variable, properties of c.d.f.
 - 4.3. Mode and median of a univariate discrete probability distribution.
 - 4.4. Examples and Problems.

SECOND TERM

5. **Mathematical Expectation** (Univariate random variable) (18)
 - 5.1 Definition of expectation
 - 5.2 Definition of expectation of a random variable, expectation of a function of a random variable.
 - 5.3 Definition of mean, variance of univariate probability distribution. Effect of change of origin and scale on mean and variance.
 - 5.4 Definitions of raw, central and factorial moments of univariate probability distribution and their interrelations.
 - 5.5 Examples and Problems.
6. **Bivariate Probability Distributions** (Defined on finite sample space) (12)
 - 6.1 Definition of two dimensional discrete random variable, its p.m.f. and distribution function.
 - 6.2 Computation of probabilities of events in bivariate probability distributions.
 - 6.3 Concepts of marginal and conditional probability distributions.

- 6.4 Independence of two discrete random variables.
- 6.5 Probability Distribution of function of two jointly distributed random variables.
- 6.6 Examples and Problems.
- 7. **Mathematical Expectation** (Bivariate random variable) (12)
 - 7.1 Definition.
 - 7.2 Theorems on expectation of sum and product of two jointly distributed random variables.
 - 7.3 Conditional expectation.
 - 7.4 Definitions of conditional mean and conditional variance.
 - 7.5 Definition of raw and central moments.
 - 7.6 Definition of covariance, correlation coefficient (r), Does $r = 0$, imply independence of variables?
 - 7.7 Variance of linear combination of variables.
 - 7.8 Examples and Problems.
- 8. **Some Standard Discrete Probability Distributions:** (16)
 - 8.1 Uniform discrete distribution on integers 1 to n : p.m.f., mean, variance, situations where this distribution arises.
 - 8.2 Bernoulli Distribution : p.m.f., mean, variance, moments, distribution of sum of independent identically distributed Bernoulli variables.
 - 8.3 Binomial Distribution : p.m.f.

$$p(x) = \begin{cases} p^x q^{n-x} & x=0, 1, 2, \dots, n \\ 0 & \text{otherwise} \end{cases}$$

Notation :- $X \sim B(n, p)$

Recurrence relation for successive probabilities, computation of probabilities of different events, mode of the distribution, mean, variance, moments, skewness (comments when $p = 0.5$, $p > 0.5$ and $p < 0.5$.) additive property of binomial variates, conditional distribution of X given $X + Y$ where X and Y are independent $B(n_1, p)$ and $B(n_2, p)$ variates.

8.4 Hypergeometric Distribution :-

$$\begin{aligned} \text{p.m.f., } p(x) &= \frac{\binom{M}{x} \binom{N-M}{n-x}}{\binom{N}{n}} \quad x = 0, 1, 2, \dots, \min(n, M) \\ &= 0 \quad \text{otherwise} \end{aligned}$$

Notation :- $X \sim H(N, M, n)$

Computation of probability, situations where this distribution is applicable, binomial approximation to hypergeometric probabilities, mean and variance of the distribution.

8.5 Examples and Problems.

Books Recommended

1. **Hogg, R. V. and Craig, R. G.**
Introduction to Mathematical Statistics. Ed. 4 (1989)
Macmillan Pub. co New York.
2. **Hoel, P. G.**
Introduction to Mathematical Statistics., (1962)
John Wiley and sons, New York.

3. Feller, W.

Introduction to Probability Theory and its Applications
Vol. I (1969) Asia Publishing House Bombay.

4. Mood, A.M. and Graybill, F.A. and Boes D.C.E.

Introduction to Theory of Statistics. Ed. 3, (1974) Mc
Graw - Hill and Kagakusha Ltd. London.

5. Meyer, P. N.

Introduction to Probability and Statistical Applications.
(Addison - wesley publicity Company, Massachusetts.

6. Mukhopadhyay, P.

Mathematical Staticcs (1996) New Central Book
Agency Calcutta. Introduction to Mathematical Statis-
tics. Ed. 4 (1989) Macmillan Pub. co.

(38) APPLIED STATISTICS
(Circular No. 255/2002) Revised Syllabus
Paper I - Descriptive Statistics

Contents :

1. Population and Sample : (2)
 - 1.1 Notion of Statistical population, types of population and sample from a population with illustrations.
2. Frequency distributions : (8)
 - 2.1. Definition : attributes and variables, discrete variables and continuous variables, raw data.
 - 2.2. Construction of frequency distribution.
 - 2.3. Graphical representation of frequency distribution : histogram, frequency polygon, ogive curves (forequal class intervals).
 - 2.4. Examples and problems.
3. Types of Statistical Data : (4)
 - 3.1. A discrete series of observations on discrete variable.
 - 3.2. A grouped frequency distribution of a discrete variable.
 - 3.3. A grouped frequency distribution of a continuous variable.
 - 3.4. Data pertaining to attributes.
Inclusive and exclusive methods of classification.
4. Diagramatic representation : (6)
 - 4.1 One dimensional bar diagram, sub divided bar diagram, percentage bar diagram, multiple bar diagram and pie diagram.

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5. Measures of Central Tendency : (12)
 - 5.1. Concept of central tendency of statistical data, statistical average. Requirements of a good statistical average.
 - 5.2. Arithmetic mean (A.M.) : definition, effect of change of origin and scale, combined mean of a finite number of groups, merits and demerits.
 - 5.3. Harmonic Mean (H.M.) : definition, merits and demerits.
 - 5.4. Mode (for equal classes) : definition formula for computation (without proof), graphical method of determination of mode, merits and demerits.
 - 5.5. Median : definition formula for computation (without proof), graphical method of determination of median, merits and demerits.
 - 5.6. Partition values :
Quartiles, deciles and percentiles, graphical method of determination of quartiles, deciles and percentiles.(for group frequency distribution of a continuous variable)
 - 5.7. Weighted A.M.
 - 5.8. Simple numerical problems.
6. Measures of Dispersion : (10)
 - 6.1. Concept of dispersion, requirement of a good measure of dispersion.
 - 6.2. Range : definition, merits and demerits.
 - 6.3. Semi-interquartile range (Quartile Deviation) : definition, merits and demerits.
 - 6.4. Mean deviation : definition, merits and demerits.
 - 6.5. Mean Square Deviation; definition, variance and standard deviation : definition, merits and demerits, effects of change of origin and scale.

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- 6.6. Measures of absolute and relative dispersion :
coefficient of quartile deviation, coefficient of
variation (c.v.).
- 6.7. Simple numerical problems.
- 7. Moments :
 - 7.1. Raw moments about origin for an ungrouped and
grouped data (Upto order 4).
 - 7.2. Central moments for an ungrouped and grouped
data (Upto order 4).
 - 7.3. Relations between central moments and raw
moments (about origin) upto order 4 (statement only)
 - 7.4. Simple numerical problems.

SECOND TERM

- 8. Skewness : (8)
 - 8.1. Concept of skewness of a frequency distribution,
positive skewness, negative skewness, symmetric
frequency distribution.
 - 8.2. Bowley's coefficient of skewness, Karl Pearson's
coefficient of skewness, Measures of skewness
based on moments.
 - 8.3. Simple numerical problems.
- 9. Kurtosis : (3)
 - 9.1. Concept of kurtosis, leptokurtic, mesokurtic and
platykurtic frequency distributions.
 - 9.2. Measures of kurtosis based on moments.
 - 9.3. Simple numerical problems.
- 10. Correlation : (12)
 - 10.1. Bivariate data.

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- 10.2 Concept of correlation between two variables, positive correlation, negative correlation.
- 10.3.Scatter diagram, conclusion about the type of correlation from Scatter diagram.
- 10.4.Karl Pearsons' coefficient of correlation (r) :
For ungrouped data definition, computation and interpretation, Properties (Without proofs) :
 - (i) – $-1 < r < 1$,
 - (ii) invariant to change of origin and scale.
- 10.5.Spearman's rank correlation coefficient : definition, computation and interpretation.
- 10.6.Simple numerical problems.
- 11. Regression : (7)
 - 11.1.Lines of regression. Interpretation of the parameters.
 - 11.2.Regression coefficients (b_{yx} , b_{xy}) definition, computation, properties : of the regression coefficients (statements only).
 - 11.3.Simple numerical problems.
- 12. Theory of attributes :
 - 12.1.Attributes and variables; Notation, dichotomy class frequency order of a class, positive class frequency, negative class frequency, ultimate class frequency, relationships among different class frequencies. (Upto two attributes).
 - 12.2.Fundamental set of class frequencies : definition, To determine whether a given set of frequencies is a fundamental set or not (upto two attributes).

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- 12.3. Notion of consistency of statistical data, conditions of consistency in terms of positive class frequencies (upto two attributes).
- 12.4. Concept of independence and association of two attributes.
- 12.5. Yule's coefficient of association (Q).
- 12.6. Simple numerical problems.
- 13. Time Series (10)
 - 13.1 Meaning of Time Series
 - 13.2 Various components of a time series (Explanatoin and illustrations for each component.)
 - 13.3 Additive and Multiplicative models for analysis of a time series.
 - 13.4 Methods of estimating secular trend.
 - (i) Freehand or Graphical method.
 - (ii) Method of semi-averages.
 - (iii) Method of moving averages.
 - (iv) Method of least squares.
 - 13.5 Simple numerical problems.

Books Recommended

1. Yule G. U. and Kendall M. G. : An Introduction to Theory of Statistics.
2. Goon. Gupta & Dasgupta : Fundamental of Statistics Vol. I. Ed. 5. World Press, Calcutta 1986.
3. Gupta S. P. Statistical Methods, Ed. 12, Sultaan chand and sons, New Delhi.

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4. Gupta S. C. Fundamentals of Statistics - by Himalaya Publishing House.
5. Walpole R. F. Introduction to Statistics : Macmillan Co. New York. 1969
6. Lipschutz Theory and problems of probability : Publisher - Schaum's outline series, New York.
7. Gupta S. C. and Kapoor V. K. Fundamentals of Applied Statistics. Ed. 3 Published by Sultan Chand and Sons, New Delhi - 1987.
8. Goon Gupta Dasgupta : Fundamentals of Statistics Vol. II, Ed. 6 Publisher : - Shripati Bhattacharjee for the World Press Pvt. Ltd. Calcutta. 1986.

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(39) MATHEMATICAL PRE-REQUISITES

SECTION I

Terminology

Constants, Variables, Parameters and Coefficients.
Functions.
General Vs. Specific Functions.
Graphs, Slopes and Intercepts.
Inverse Functions.
Solutions.

Economic Applications of Graphs and Equations

Relative scope of Graphs and Equations.
Supply and Demand Analysis.
Income Determination Models. IS - LM Analysis.

The Derivative and the Rules of Differentiation

The Slope of a Curvilinear Function.
The Derivative.
Derivative Notation.
Rules of Differentiation.
Higher-Order Derivatives.

Use of the Derivative in Economics Marginal Concepts

Maximization and Minimization of a Function.
Price Elasticity.
Relationship among Total, Marginal and Average Concepts.

SECTION II

Calculus of Multivariable Functions

Partial Derivatives. Second Order Partial Derivatives.
Differentials.
Total and Partial Differentials.
Total Derivatives.

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Implicit and Inverse Function Rules.
Optimization of a Multivariable Function.
Constrained Optimization.
The Lagrangian Multiplier.

Calculus of Multivariable Functions in Economics

Marginal Productivity.
Income Determination Multipliers.
Partial Elasticities.
Incremental Changes.
Maximization and Minimization of Multivariable
Functions in Economics.
Maximization and Minimization of Economic
Functions under Constraint.
Inequality Constraints.

Text Book

Mathematics for Economics — Edward T. Dowling.
(Schaum's outline series : McGraw Hill Book
Company).

Note : Students offering Economics are advised to offer
this subject as an optional paper.

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(40) STATISTICAL PRE-REQUISITES

(General)

The Courses in 'Statistical Pre-requisites' may be offered only by candidates offering one of the Social Sciences as their Special subject at the B.A. Degree Examination.

The Courses in 'Mathematical / Statistical Pre-requisites' cannot be offered by those who offer any of the Courses in the Mathematics / Statistics Groups for their B.A. Examination.

First Term

Statistical Methods I :

1. Statistical Tables.
2. Theory of Attributes.
3. Association of Attributes.
4. Manifold Classification.
5. Frequency Distributions.
6. Averages and other Measures of Location.
7. Measures of Dispersion.
8. Graphic Presentation - Curves using Arithmetic Scales.
9. Graphic Presentation - Semi-logarithmic or Ratio Charts.
10. Graphic Presentation - Other Types of Charts.

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References

Croxton and Cowden : Applied General Statistics,
Chs. III-X.

Yule and Kendall : An Introduction to the Theory
of Statistics, Chs. 1-6.

Second Term

Statistical Methods I :

1. The Problems of Time Series.
2. Analysis of Time Series - Secular Trend.
3. Other Trend Types.
4. Periodic Movements.
5. Types of Seasonal Movements.
6. Cyclical Movements.
7. Fundamentals in Index Number Construction.
8. Index Number Theory and Practice.

Reference

Croxton and Cowden : Applied General Statistics,
Chs. XIV to XXI.

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(41) COMMERCE

(General)

Double Entry Book-keeping and Cost Accounting

First Term

Double Entry Book-keeping :

1. Book-keeping–Meaning objects, importance, Elements of Double Entry.
2. Rules of Journalising - Classification for Accounts - Journal and Ledger Accounts.
3. Subsidiary Books.
4. Cash Book with Cash, Bank and Discount Column - Petty Cash Book.
5. Bank Reconciliation Statement.
6. Trial Balance and Rectification of errors.
7. Final Accounts of Sole Trader - Trading Account, Profits and Loss Account and Balance Sheet.

Second Term

Cost Accounting :

1. Cost Accounting - Introduction, Meaning, Objects, Importance, Limitation of Financial Accounting.
 2. Elements of Cost–Cost Sheet.
 - (a) *Material* : Purchasing procedure, Stores routine, Methods of valuing, Material issues : LIFO and FIFO Methods.
 - (b) *Labour* : Time Keeping and Time booking - various methods of remunerating labour.
 - (c) *Overheads* : Types of overheads.
- Note* : Problems be set on Cost Sheet, Tender LIFO and FIFO Methods of Material Pricing.

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Reference Books

1. Advanced Accounting by Shukla and Grewal.
2. Book-Keeping and Accountancy by M.G.Patkar.
3. Book-Keeping and Accountancy by D.H.Choudhary and L.N.Chopda.
4. Cost-Accounting by B.K.Bhar.
5. Cost-Accounting by Jain Narang.

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COMMERCE (GENERAL)

Section I

1. Organization of Home Trade : Wholesale trade, Its organization, Buying, Selling and Credit policies of wholesalers, Position of wholesaler in the channel of distribution, Elimination of Wholesalers, Auction sale. Retail Trade, Organization, Buying, Selling and Credit policies of retailers, Consumers co-operative stores, Meaning, Features, Merits and limitations. Hire purchase trading and instalment selling, Meaning features, Merit and demerits, Position and scope in India.

2. Foreign Trade : Nature of foreign trade, Need for a special procedure, Indent house, Procedure of import and export trade, Documents in foreign trade, Financing of foreign trade, Export promotion, Agencies for export promotion.

3. State in relation to trade : Need for an importance of trading, Organization, Functions and working of Food Corporation of India and State Trading Corporation.

Section II

4. Trade Association and Chamber of Commerce : Functions, Organization, Types of transactions, Meaning of Maratha Chamber of Commerce, Maharashtra Chamber of Commerce and Federation of India Chambers of Commerce and Industries.

5. Commodity and Stock Exchange : Functions, Organization, Types of transactions, Meaning of terms, bull, bear, corner, support, coverage, Organization and working of Bombay Stock Exchange.

6. Office Management : Commercial office, Office routine, Flow of office work, Office service, Mail messenger, Office manual, Planning and scheduling of office work, Measurement of office work, Control of office expenditure, Public Relations, Importance, Public Relation Officer-His role and functions.

Recommended Books

- (1) Organization of Commerce—Acharya and Govekar (A. R. Seth and Co., Bombay 2).
- (2) Commercial Organization—Vaidya, Date and Godha (Anamol Prakashan, Pune 2).
- (3) Structure of Commerce—E. Thomas (Cassel, London).
- (4) Principles and Practice of Commerce—Stephanson (Sir Issac Pitman and Sons Ltd., London).
- (5) Text Book of Office Management—Leffingwell and Robinson (McGraw Hill Book Co. Inc., London).
- (6) Chamber of Commerce and Business Association in India—Dr. M. R. Dhekney (Popular Prakashan, Bombay).
- (७) व्यापार संघटन आणि पद्धती—प्रा. चिं. ग. वैद्य व प्रा. सि. काळे (महाराष्ट्र विद्यापीठ ग्रंथनिर्मिती मंडळ, नागपूर).

(42) SOCIAL WORK

Social Reform Movements in India

1. **Social Reform Movements in India by various social reform groups**
 - (i) Arya Samaj
 - (ii) Brahmo Samaj
 - (iii) Prarthana Samaj
 - (iv) Ramakrishna Mission.
2. **Social Reform Movement by Mahatma Gandhi**
 - (i) Removal of Untouchability.
 - (ii) Work for Backward Classes (Harijans).
3. **Sarvodaya Movement, Antyodaya Movement, Gramdan Movement, Bhoodan Movement.**

Books

1. Indian Social Problems : G.R.Madan.
2. History and Philosophy of Social Work in India : A.R.Wadia, Ed. TISS, 1961.
3. A Century of Social Reform in India : S.Natarajan.

Second Term

Introduction to Social Welfare and Social Services

Content : Topics :

- a) Definitions of terms : **Social Welfare, Social services, Social reforms, Social work and Social reconstruction.**
- b) History of Social Service : Origin, development of service through pre-British. British and post-independence periods (an overview).
- c) **Specific Social Service for the disadvantaged, deprived weaker and handicapped sections of the society.**

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- d) Post-independence reform movements, for realization of Social Justice and ensuring rights of the weaker sections of the Society.
- e) Planned provisions for social services in India (general) and Maharashtra in particular.

Reference Books

1. Social Welfare in India - Planning Commission.
2. Social Welfare in India - Dr. S.K.Khindakar.

(४३) योगविद्या

कृती

१. योगाच्या संबंधात अस्तित्वात असलेल्या भ्रामक कल्पना.
२. योगाचे व्यापक स्वरूप - व्याप्ती व परिभाषा.
३. योगाचे ऐतिहासिक स्वरूप - सिंहावलोकन आणि विकासाचा आढावा.
४. योगातील विभिन्न प्रणालींची ओळख - अष्टांगयोग, हठयोग, ज्ञानयोग, मंत्रयोग, भक्तियोग.
५. योगप्रक्रियांची दैनंदिन जीवनाशी सांगड - योगाद्वारे शारीरिक, मानसिक स्वास्थ्यरक्षण.

कृती

१. योगवाङ्मयाचा संक्षिप्त परिचय - भगवद्गीता, हठप्रदीपिका घेरण्डसंहिता, योगोपनिषदे.
२. पातञ्जलयोगसूत्रातील समाधिपाद व साधनपाद यांचा सविस्तर अभ्यास.

प्रात्यक्षिक

स्वस्तिकासन, अर्धपद्मासन, पद्मासन, सिद्धासन, वज्रासन, भुजंगासन, अर्धशंलभासन, ताडासन, पर्वतासन, चक्रासन, श्यासन, धनुरासन, उत्कटासन, वृक्षासन, नौकासन, पादहस्तासन, विपरीतकरणी, हलासन, मत्स्यासन, सुप्तवज्रासन, उडियाबंडी, ब्रह्ममुद्रा, अनुलोमविलोम (कुंभकरहित), उज्जायी, (कुंभकरहित), ओम् जप व स्वाध्याय (आवडीनुसार कोणत्याही प्रार्थनेचे पठण).

संदर्भ

१. योगविद्या - श्री. श. खानवेलकर, महाराष्ट्र ग्रंथभांडार, कोल्हापूर.
2. Yoga and Depth Psychology and Parapsychology, Vol. I - Historical Background— C.T.Kenghe, Bharat Manish, Varanasi.

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3. History of Yoga - Vivian Worhington.
४. योगिक प्रक्रियांचे मार्गदर्शन - म. ल. घरोटे, कैवल्यधाम.
५. पातञ्जलयोगसूत्र अर्थात् भारतीय मानसशास्त्र - कृ. के. कोल्हटकर, के. भि. ढवळे प्रकाशन, मुंबई.
6. Hathapradipika - Swami Digambarji and R.G.Kokje Shastri, Kaivalyadhama, Lonawala.
७. हठप्रदीपिका (मराठा भाषांतर) - व. ग. देवकुळे.
८. घेरण्डसंहिता (मराठी भाषांतर) - व. ग. देवकुळे.
9. Gherand Samhita - Swami Digambarji and M. L. Gharote, Kaivalyadhama, Lonawala.
10. Asanas - Swami Kaivalyananda.
11. Pranayama - Swami Kaivalyananda.
१२. योगदीपिका - बी. के. एस. अय्यंगार.
१३. योगासने - व. ग. देवकुळे.

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(44) PUBLIC ADMINISTRATION

General : Paper I

Indian Administration :

SECTION I

1. Institutional framework of Indian Administration.
2. Central Government :
 - (a) Framework.
 - (b) Organization of the Central Secretariat of India.
 - (c) Theory and Practice of Officer oriented system in India.
 - (d) Executive Agencies.
 - (e) Planning Commission, National Development, Council.
 - (f) Advisory Committees.
 - (g) Administration of Public Undertakings.
 - (h) Central Public-Services.

Books

1. Maheshwari S.R. : Indian Administration (New Delhi, Orient Longmans, 1968).
2. Bhambhari C.P. : Public Administration in India (New Delhi, Vikas Publication, 1976).
3. ना. र. इनामदार : लोकप्रशासन (साधना प्रकाशन, पुणे).
4. Indian Institute of Public Administration, Organization, of the Government of India (New Delhi).

SECTION II

1. State Secretariat.
2. Board of Revenue.
3. Regional Administration.
4. District Administration.

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5. State Public Services.
6. Local Government : Rural and Urban Government.
7. Administrative Reforms.

Books

1. Maheshwari S.R. : Indian Administration (New Delhi, Orient Longmans, 1968).
2. Bhambhari C.P. : Public Administration in India (New Delhi, Vikas Publications, 1976).
3. Shukla J.P. : State & District Administration in India (New Delhi, Indian Institute of Public Administration, 1976).
4. ना. र. इनामदार : लोकप्रशासन (साधना प्रकाशन, पुणे).
5. Indian Institute of Public Administration, Maharashtra Branch, Organization of the Government of Maharashtra (Bombay, Somaiya).

(45) HOME SCIENCE

FIRST TERM

Introduction to Home Management :

- (a) Introduction to Resource Management :
 - (i) The nature and role of home management in the changing world.
 - (ii) Concept of home management.
 - (iii) Management process.
 - (iv) Meaning and definition of home management.
- (b) Money Management :
 - (i) Money income.
 - (ii) Family budget.
 - (iii) Account keeping.
- (c) Work Simplifications :
 - (i) Definition and importance of work simplification.
 - (ii) Mundel's classes of change.
- (d) Household Equipments :
 - (i) Need of various household equipments.
 - (ii) The commonly used appliances such as cooking gas, stove, smokeless chulha, pressure cooker, mixers, refrigerator, electric iron, electric toaster.
- (e) Elements of design : Line, form, texture and pattern.
- (f) House colouring :
 - (i) Colour theories.
 - (ii) Quality of colour time, value, intensity and warmth of colour.
 - (iii) Colour scheme for house.
 - (iv) Factors in colour scheme for rooms.

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SECOND TERM

Introduction to Extension Education in Home Science :

- a) Extension Education. Need for Extension Education, Application of Education.
- b) Extension teaching methods, life and problems, Non-formal Education.
- c) Orientation to rural life, problems, solution.
- d) Consumer responsibility : Meaning, movement, need, Selection of A.V.Aids - uses, applicability.

List of Books for Home Management

1. Home Management for Std. XI, by M.A. Verghese, N.N. Ogali, K.Srinivasan.
2. Elements of Home Science by Premlata Mallick.
3. Household equipment by L.J. Pert and H.S.Pickett.
4. Management in the Home by M. Lilliam Gilberth.
5. Management in Family by Living, Nickill/Dorsey.

List of Books for Extension Education in Home Science

Studies in Extension Education edited by P.R.R. Sinha,
Assignment.

1. Preparation of a soft toy for a toddler.
2. Preparation of a first aid kit.
3. Collection of 5 stories and 5 songs for a three-year child.

SECOND TERM

Introduction to Family Dynamics :

Topic No. I : Family, its institutional features; its relation to other institutions like economy, policy and religion.

Topic No. II : Changes in the structure and functions of the family in industrial society.

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- Topic No. III : Family and Social changes : Impact of Modernization, industrialization and democratic values on familiar norms, roles, functions.
- Topic No. IV: Changing status of woman and its impact on family role-conflict, inter-generational conflict, dowery, divorce, inheritance, problem of identity, exploitation of woman within the family.
- Topic No. V : Family life education : Meaning, significance and need for F.L.E., Pre-marital and Marital counselling.

Books

1. Child Development - Hurlock.
2. Baby and Child Care - Benjamin Spock.
3. Know Your Child - Dr. Suraj Gupta.
4. Practical Mother and Child Health Care - Walia, Shah and Shah.
5. The Exploring Child - Ruth Kahn.
6. The Family - William J. Goode, Prentice Hall, India, 1965.
7. The Indian Family in the change and challenge of the Seventies (Papers submitted at a Seminar organized by Indian Social Institute, New Delhi), Sterling Publishers (P), New Delhi, 16, 72.
8. The Hindu Family in its Urban setting Aileen D. Ross, Oxford University Press, 1973 (Chapters 1, 2 and 6 only).

(46) ADULT EDUCATION AND EXTENSION

Elements of Adult Education and Extension

Objectives

1. To enable the students to understand the concept, nature and meaning of Adult Education and Extension
2. To enable the students to understand the relation of Adult Education and Extension with social sciences.
3. To understand the aims and objectives of Adult Education and Extension.

Concept : First three topics for term-end examination.

1. Adult Education and Extension - Concept, nature and meaning and need.
2. Philosophy of Adult Education and Extension in India.
3. Place of formal, non-formal, informal, continuing, extension, distance learning in Adult Education and Extension Adult Education and democracy.
4. *Aims and Objectives of Adult Education and Extension* : Literacy, functionality and social awareness, social change, social equity and eradication of superstition; development, health, population, integrated rural development etc.
5. *Adult Education and Extension and Social Sciences*: Sociology, Psychology and Economics and Adult Education India.

Reference Books

1. Ivan Illich : Deschooling Society, Penguin, 1971.
2. Naik J.P. : Perspectives of non-formal education, Allied, New Delhi.
3. Adiseshiah, Malcolm : Relevance of Adult Education to our educational crisis (Zakir Hussain Memorial Lecture), IAEA, New Delhi, 1973.
4. All India Adult Education Conference (Lucknow). Report - Adult Education in the service of the rural poor, IAEA, New Delhi, 1975.
5. Dange, Chandrakumar : Rashtriya Praudha Shikshan, Nutan Prakashan, Pune, 1978.
6. Directorate of Adult Education - Fifty years of adult education in India : some experiences, Government of India, 1978.
7. Phillips, H. Coombs and Others : New Paths to Learning, Vidya Mandal, Delhi, 1976; pp. 1-24.
8. P.R.R. Sinha (Ed.) : Studies in Extension Education, NICD, Hyderabad, 1972, pp. 1-8.
9. Jethithor Bharat : Adult Education and Extension: APH Publishing Corporation, New Delhi. 1996.
10. Kundu, C. L. : Adult Education - Principles, Practice and Prospects, Streling Publishers Pvt. Ltd., New Delhi, 1987.
11. All India Adult Education Conference (Lucknow), Report - Adult Education in the service of the rural poor, IAEA, New Delhi, 1975
12. Report of the seminar on Continuing Education, University of Pune, 7-9 February, 1976; UGC 1976, pp. 1-7.

**(47) NATIONAL SERVICE SCHEME
(N.S.S.)**

Social Service and Youth

Theory :

- I. (a) History and Philosophy of Social Work in India (Pre-independence and post-independence periods).
- (b) Education and Social Service - Inter-relationship.
- II. *Prospective of National Service Scheme :*
 - (a) History, aims and objectives of N.S.S.
 - (b) Organizational structure of N.S.S. at National, State, University and College levels :
Functional relationship within NSS skeleton - various NSS Advisory Committees and various NSS functionaries with special reference to the role and functions of the college principal, NSS programme officer, NSS group leaders and NSS volunteers in implementation of NSS.
 - (c) Prospectus of NSS Programmes—Regular NSS activities, special camping programme and their linkage.
- III. *NSS Programme Content-General :*
 - (a) NSS Regular activities.
 - (i) College Campus activities.
 - (ii) NSS Activities in urban areas.
 1. Slum adoption programme - Programme and activities that could be arranged by NSS Unit for slum improvement.
 2. Placement of NSS Volunteers in hospitals, welfare institutions, municipal schools etc. types of work NSS Volunteers could do in each setting.

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- (iii) Village adoption programme under NSS programmes and activities that could be arranged by NSS Unit in cooperation with local community in adopted villages.
- (b) Special Camping Programme :
 - (i) Types of Campus–With special reference to NSS Camping Programme.
 - (ii) Selection of camp site and physical arrangements.
 - (iii) Organization of NSS Camps through various committees and discipline in the camp.
 - (iv) Programme activities, campaigns that could be undertaken in camp.

Social Problems and Social Survey

- IV. *Social Organizations and Social Problems-in general:*
 - (a) Man and Society - inter-relationship.
 - (b) Social institutions/organizations such as family, marriage, religion, caste–what changes are taking place in these organizations due to modernization.
 - (c) Over-population, unemployment, poverty, illiteracy and ill-health.
- V. *Social Survey : What is Social Survey ?*
Design of survey, Methods of collecting information, Analysis of collected data and preparation of survey report, Application of survey findings to problem-solving.

Field Work

In first year in both the terms, each NSS students volunteer will participate in the regular activities and will complete 120 hours of work including NSS Camp. For the purpose of regular NSS activities each NSS student volunteer will maintain a work diary which will be submitted by each NSS student volunteer for assessment.

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*List of Books
Books for Reading*

1. A.R. Wadia : 'History and Philosophy of Social Work', Pub. Allied Publishers Pvt. Ltd.
2. S.P. Chaube : 'Educational Problems and Experiments in India', Pub. Kitab Mahal Pvt. Ltd., Allahabad.
3. A. R. Desai, S. D. Devida Pillai : 'Slums and Urbanization', Pub. Popular Prakashan, Bombay.
4. M.S. Gore : 'Indian Youth-Processes of Socialization', Pub. Vishwa Yuvak Kendra, Delhi.
5. D.K. Misra, C.M. Jain and S.I. Doshi (Ed.) : 'Youth, University and Community', Pub. S.Chand and Co.Pvt. Ltd., New Delhi.
6. Prayag Mehta (Edited) : 'The Indian Youth-Emerging Problems', Pub. Somaiya Publications Pvt. Ltd., Bombay.
7. G.R. Madan : 'Indian Social Problems', Vol.No. I - Social Disorganization and Reconstruction, Vol. No. II - Social Work, Pub. Allied Publishers Pvt. Ltd.
८. डॉ. विलास संगवे : भारतातील सामाजिक समस्या, प्रका. पॉप्युलर, ७९.
९. सुमन पोटे : सामाजिक विघटन व समस्या (आ. तु. ७३), प्रका. पायत प्रकाशन, नागपूर.
१०. डॉ. (श्रीमती) सुधा काळदाते : भारतीय सामाजिक समस्या, प्रका. शारदा, नांदेड.
११. प्रा. मनोहर शिंगरू, श्री. कुलकर्णी : भारतीय सामाजिक समस्या, प्रका. आतकरे, औरंगाबाद.
१२. सुमित्रा भावे : सामाजिक पाहणी - तत्त्व व पद्धती, प्रका. चिटणीस, समाजवादी महिला सभा, पुणे.

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१३. गजेंद्रगडकर : समाजशास्त्रीय संशोधन पद्धती, प्रका. साधना चुक स्टॉल, कोल्हापूर.
14. Goode and Hatt : 'Methods in Social Research', Publication McGraw Hill International, Student ed., 1981.

Suggested References

1. For Youth Policy, Draft copy of the same is published by Government of India. It should be referred for topic on India's Youth Policy.
2. Publications on National Education Policy brought out by Government of India, University Grants Commission should also be referred for teaching.
3. Latest magazines, articles on relevant topics also should be referred for teaching.

Books for Reference

First, Second and Third Year

1. K.Singh : 'Social Work Theory and Practice', Pub. Prakashan Kendra, Lucknow-226007.
2. Walter A. Friedlander : 'Introduction to Social Welfares', Pub. Prentice Hall of India Pvt. Ltd., New Delhi, 1967.
3. O. P. Dahama, O. P. Bhatnagar : 'Education and Communications for Development', Pub. Oxford IBH Publishing Co., New Delhi, Bombay.
4. L.S. Mehra : 'Youth in Modern Society', Pub. Chugh Publications, Allahabad.
5. UNESCO : 'Youth in the 1980s', Pub. The UNESCO Press.
6. Gauri Rani Banerjee : Tata Institute of Social Sciences, Series No.23.

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7. S.H. Pathak : Medical Social Work in India, Pub. Principal, Delhi School of Social Work, 3, University Road, Delhi-6. (1961).
8. Jacob, K.K. : Methods and Fields of Social Work in India (1961).
९. प्र.ध. पंडित, इंदुमती चिपळूणकर : व्यक्ति सहयोग कार्य (Social Work) प्रकाशन, सौ. चिपळूणकर, सदाशिव पेठ पुणे
१०. भांडारकर पु. ल. : सामाजिक संशोधन पद्धती, प्रकाशन म. वि. ग्रंथ मंडळ (१९७६), नागपूर.
11. Nanavati Anjaria : 'Our Rural Problems'.
12. A.R.Desai : "Rural Sociology in India," Pub. Popular Prakashan, Bombay.
१३. देशपांडे, भागवतावार, गोगटे : सामाजिक मानसशास्त्र, काँटिनेंटल प्रकाशन, पुणे.
१४. एम.एस. सोमण : सामाजिक संशोधन पद्धती.

(४८) शारीरिक शिक्षण
(from June 1994)

उद्दिष्टे :

१. युवकांमध्ये शारीरिक शिक्षण व खेळ यासंबंधी अभिरुची वाढविणे.
२. शारीरिक शिक्षण व क्रीडा यांच्या तात्त्विक पार्श्वभूमीचा सामान्य परिचय करून देणे.
३. व्यायाम-आरोग्य-मनोरंजन यांची मूलभूत तत्त्वे समजावून देणे.
४. क्रीडा कार्यक्रमांतून विविध शारीरिक क्षमतांचा व क्रीडाकौशल्यांचा विकास करणे.
५. विविध जागतिक स्पर्धांचा परिचय करून घेणे.
बी. ए. - तीन वर्ष, इंटिग्रेटेड पदवी अभ्यासक्रमातील वैकल्पिक विषयांच्या 'जे' ग्रूपमध्ये शारीरिक शिक्षण या विषयाचा अंतर्भाव करावा. बी.ए. (शारीरिक शिक्षण - प्रथम, द्वितीय व तृतीय वर्षांना (प्रत्येक वर्षी) १०० गुणांचा अभ्यासक्रम असेल. या अभ्यासक्रमात - ६० गुण - लेखी परीक्षा
या अभ्यासक्रमात प्रतिवर्षी - ४० गुण - प्रात्यक्षिक परीक्षा घेतली जाईल.

प्रात्यक्षिक परीक्षा

क्रीडांगणावरील क्रीडाकौशल्याची ४० गुणांची परीक्षा द्वितीय सत्राच्या अखेरीस होईल.

वार्षिक प्रात्यक्षिक परीक्षा - तात्त्विक परीक्षेपूर्वी होईल.

प्रत्येक वर्षाच्या शारीरिक शिक्षण विषयात उत्तीर्ण होण्यासाठी लेखी व प्रात्यक्षिक परीक्षेत स्वतंत्रपणे किमान ४० टक्के गुण आवश्यक आहेत.

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अभ्यासक्रम

गुण ६०

- घटक १: शारीरिक शिक्षण-अर्थ व्याप्ती-ध्येये-उद्दिष्टे. शारीरिक शिक्षण-क्रीडा-खेळ-विविध काळांतील संकल्पना, व्यक्तिगत, सामाजिक व राष्ट्रीय कार्यात शारीरिक शिक्षण-क्रीडा-उपयुक्तता.
- घटक २: शारीरिक शिक्षण-क्रीडाकौशल्ये व विविध शाखांचा संबंध.
शारीरिक शिक्षण-समाजशास्त्र
शारीरिक शिक्षण-जीवयांत्रिकीशास्त्र
शारीरिक शिक्षण-आरोग्यशास्त्र
शारीरिक शिक्षण-योगशास्त्र
- घटक ३: विविध क्रीडा-खेळ परिचय
कबड्डी, खोखो, व्हॉलीबॉल, हॅण्डबॉल, टेबलटेनिस, बॅडमिंटन.

प्रात्यक्षिक कार्य :

गुण ४०

- (अ) विकासात्मक-व्यायामप्रकार, पूरक खेळ इ.
- (ब) (१) अॅथलेटिक्स **गुण २०**
धावणे, फेकीच्या बाबी, उड्यांचे प्रकार
(कोणतेही २) **(प्रत्येकी १० गुण)**
- (२) योगा किंवा कसरतीचे Gymnastics प्रकार **गुण १०**
- (३) कोणताही एक खेळ **गुण १०**
कबड्डी, खोखो, व्हॉलीबॉल, बास्केटबॉल, हॉकी, हॅण्डबॉल,
क्रिकेट, टेबलटेनिस, बॅडमिंटन.

बी. ए. (शारीरिक शिक्षण) (प्रथम वर्ष)

प्रात्यक्षिक काम :

१. अॅथलेटिक्स :

(क) स्प्रिंट्स - क्रॉउच, बंच, बुलेट, मेडिअम.

(ख) लघुअंतर धावणे.

(ग) लांब पल्ल्यांच्या शर्यती.

२. गोळाफेक :

पकड, गोळा ठेवण्याची जागा, सुरुवातीचा पवित्रा, घसरण, फेकीचा पवित्रा, फेक, परत.

३. लांब उडी :

धावन मार्ग, टेक ऑफ, हवेतील चालणे, लँडिंग.

(ब) योगासने :

वज्रासन योगमुद्रा, सुप्त वज्रासन, पद्मासन, पद्मासनी योगमुद्रा, सर्वांगासन, हलासन, वक्रासन, भुजंगासन, अर्धशलभासन, हनुमानासन, त्रिकोणासन.

संदर्भ पुस्तके :

योगासने : सदाशिव निंबाळकर, मुंबई.

योगासने : म. ल. घोरोटे.

(क) जिम्नॅस्टिक्स : जमिनीवरील व्यायाम.

फॉरवर्ड रोल वुइथ स्प्लिट लेग, बॅकवर्ड रोल वुइथ स्प्लिट लेग, हॅण्ड स्टॅण्ड वुइथ फॉरवर्ड रोल, फोरहेड-स्टॅण्ड, कार्ट व्हील.

हॉल्टिंग हॉर्स : जंप ऑन, ऑफ, कार्ट स्प्रिंग, कार्ट व्हील.

List of Books

संदर्भ पुस्तके :

- (१) मा. दि. गो. वाखारकर, शारीरिक शिक्षण - तत्त्वे व मनोरंजन, नीलकंठ प्रकाशन, टिळक रोड, पुणे.
 - (2) Bucher, Charles A. : Foundation of Physical Education, St. Louis : The C.V. Mosby Company, 1986.
 - (3) Nikam Engone D. & Couson W. : An Introduction to Physical Education, Philadelphia, London : W. B. Saunders Co., 1969.
 - (4) Williams Joses Feiring : The Principles of Physical Education, Philadelphia : Saunders Co.
 - (५) प्रा. द. वि. खासनीस : क्रीडा आणि रंजन.
 - (६) डॉ. प. म. आलेगावकर : शालेय सांस्कृतिक जीवन व खेळ.
 - (7) Dyson, Geoffery, G. H. : The Mechanics of Athletics.
 - (8) Ram Bhagwat : Athletics : Prestige Prakashan, Pune.
-

University of Pune

**F. Y. B. A. Political Science
G-1 General Paper**

**INDIAN GOVERNMENT AND POLITICS
OR
MODERN INDIAN POLITICAL
THOUGHT**

(80. 20 pattern to be Implemented from 2013-2014)

University of Pune
F. Y. B. A. Political Science
G-1 General Paper

INDIAN GOVERNMENT AND POLITICS

(80. 20 pattern to be implemented from 2013-2014)

COURSE RATIONALE

This paper focuses in detail on the political processes and the actual functioning of the political system. It simultaneously studies in detail the political structure both Constitutional and Administrative. It emphasizes on local influences that derive from social stratification of castes and jatis, from language, religion, ethic and economic determinants and critically assesses its impact on the political processes. The major contradictions of the Indian Political Process are to be critically analyzed along with an assessment of its relative success and failure in a comparative perspective with other developing countries and in particular those belonging to the South Asian region.

Term I

Period

Topic 1: Background and the Salient Features of Indian Constitution

- a) Formation of Constituent Assembly
- b) Philosophy of the Preamble for Indian Constitution 12
- c) Major Features: Parliamentary Democracy, Federalism, Independent Judiciary –Social Justice and Social Transformation

Topic 2: Fundamental Rights, Duties and the Directive Principles of State Policy

- a) Nature of Fundamental Rights –Major Fundamental Rights-Right to Equality, Right to Liberty, Right to Freedom of Religion, Cultural and Educational Rights 12
- b) Importance of Fundamental Duties
- c) Nature and Significance of Directive Principles of State Policy

Topic 3: Federalism

- a) Salient Features of Indian Federalism
- b) Centre –State Relations 12
- c) Issues of Conflict-Water Issue, Border Issue and Sharing of Resources

Topic 4: Structure of Union Government -Legislature-Executive –Judiciary

- a) Union Legislature - Structure-Powers and Role
- b) Union Executive-President, Prime Minister and his Cabinet- 12
Role and Functions
- c) Judiciary- Nature of Judiciary, Supreme Court-Powers and Functions

Term II

Topic 5: Structure of State Government -Legislature-Executive –Judiciary

- a) State Legislature - Structure-Powers and Role 12
- b) State Executive-Governor , Chief Minister and his Cabinet-
Role and Functions
- c) Judiciary- Nature of Judiciary, High Court-Powers and Functions

Topic 6: Party System and Elections

- a) Nature and Changing Pattern of Party System
- b) Elections- Election Commission :-Major Features of Electoral System and
Patterns Of Voting Behavior 12
- c) Rise and Role of Regional Parties

Topic 7: Role of Caste and Religion in Indian Politics

- a) Caste and Politics of Identity
- b) Rise of OBCs 12
- c) Religion and Politics of Communalism

Topic 8: Issues of Regionalism and Development

- a) Causes and Patterns of Regionalism
- b) Issues of Development-Uneven Development-Leading to Regional Imbalance-Poverty Eradication, Health and Education 12

Readings:

Chavan Shankar, Bhartiya Shashan ani Rajkaran, Pratima Prakashan, Pune

Jagatap Bhanudas, P. Bhartiya Shashan ani Rajkaran.

Lodhi Kaniz Fatema Niyaz Ahmed and Prof. Salma A.S, :Government and Politics of India, Prashnt Publication, Jalgaon.

G. Austin, The Indian Constitution: Corner Stone of a Nation, Oxford, Oxford University Press. 1966.

_____, Working a Democratic Constitution: The Indian Experience, Delhi, Oxford University Press, 2000.

D.D. Basu, An Introduction to the Constitution of India, New Delhi, Princeton Hall, 1994.

Jha Rajesh, Fundamentals of Indian Political System. Dorling Kindersley (India) Pvt Ltd, Pearson Education Society Delhi 2012

P. Brass Politics of Indian Since Independence, 2nd edn., Cambridge, Cambridge University Press, 1994.

Abbas/Kumar/Alam, Indian Government and Politics, Pearson, Delhi, 2011.

F.R Frankle, India's Political Economy 1947-1977: the Gradual Revolution, Oxford, Oxford University Press, 1978

A Kohli, Democracy and Discontent: India's Growing Crisis of Governability, Cambridge, Cambridge University Press, 1991.

A.G. Noorain (ed.), Constitutional Questions in India: The President, Parliament and the States, Delhi, Oxford University Press, 2000.

T.V. Sathyamurthy, Social Change and Political Discourse in India: Structures of Power, Movements of Resistance, Vol.4., Oxford University Press, 1996.

Rajendra Vora and Suhas Pulshikar, Indian Democracy: Meaning and Practice, Sage Publication-New Delhi, 2004.

Rajendra Vora and Suhas Pulshikar, Bhartiya Lokshahi: Arth and Vavyhar, Diamond Publication 2010.

Singh Mahendra Prasad and Raj Subhendu Ranjan, The Indian Political System (ed) Dorling Kindersley (India) Pvt Ltd, Pearson Education Society Delhi 2012.

कारेकर मंजिरी आणि सुवर्णा बेनके, 'भारताचे शासन आणि राजकारण', पीअर्सन एज्युकेशन, दिल्ली २०१४

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बाचल वि. मा., स. मा. गोळवलकर—भारतीय गणराज्य (शासन आणि राजकारण), सुविचार प्रकाशन मंडळ, पुणे—४११०३०

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साठे सत्यरंजन — भारतीय स्वातंत्र्याची ५० वर्षे

खांदवे एकनाथ — महाराष्ट्राचे शासन व राजकारण, आरती प्रकाशन, कर्जत

University of Pune
F. Y. B. A. Political Science
G-1 General Paper

FYBA Optional Paper

MODERN INDIAN POLITICAL THOUGHT

COURSE RATIONALE

This is an introductory paper to the concepts, ideas and theories that developed in India. It highlights the main sources of the political traditions in ancient India and its development in modern times. It focuses on key thinkers from ancient to modern times to understand their seminal contribution to the evolution of Political theorizing in India. It critically assesses their contribution and explains thinkers to political theorizing and the relative autonomy of Indian political thought. It also situates Indian political thought vis-à-vis other traditions.

<u>Term I</u>	Period
Topic 1: Jyotiba Phule (1827-1890)	
a) Radical liberalism	
b) Critique of Brahmanism and money lenders	12
c) Views on emancipation of Shudra-Atishudra and Women	
d) Doctrine of Sarvajnik Satyadharma	
<u>Topic 2: M.G.Ranade (1842-1901)</u>	
a) Liberalism	
b) Understanding of British Rule in India	12
c) Views on State and Economy	
d) Views on Social Reforms	

Topic 3: B.G.Tilak (1856-1920)

- a) Tilak's theory of Nationalism
- b) Views on 'Swarajya' 12
- c) Critique of Social Reformism
- d) Doctrine of 'Loksangraha'

Topic 4: M.K.Gandhi (1869-1948)

- a) Theory of Satyagraha-meaning of Non Violence-Ends and Means
Debate,Forms of Satyagraha
- b) Critique of Western Civilization 12
- c) Views on Sarvodya
- d) Views on Communal Harmony

Term II

Topic 5: B.R. Ambedkar (1891-1956)

- a) Critique of Caste System and Ways to Annihilate the Caste System
- b) Theory of Social Democracy 12
- c) Views on State Socialism
- d) Doctrine of Dhamma

Topic 6: M.N.Roy (1887-1954)

- a) Understanding of Marxism
- b) Understanding and Critique of Indian National Movement 12
- c) Radical Humanism

Topic 7: V.D.Savarkar (1883-1966)

- a) Theory of Hindutva
- b) Understanding and Critique of British Rule in India 12
- c) Views on Eradication of Caste Discrimination
- d) Savarkar's views on Religion and Science

Topic 8: Abul Kalam Azad (1888-1958)

- a) Theory of Nationalism
- b) Interpretation of Islam
- c) Views on Communal Harmony
- d) Pan -Islamism

12

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शिंदे ज. रा., परळीकर रेखा, 'भारतीय राजकीय विचारवंत', तिरूपती प्रकाशन, नारळीबाग, औरंगाबाद

महात्मा फुले समग्र वाड:मय, महाराष्ट्र शासन प्रकाशन

एम. ए. प्रथम वर्ष
प्रथम अयन

कोर्स न.	प्रथम अयन
1	मध्ययुगीन काव्य
2	कथा साहित्य
3	भारतीय काव्यशास्त्र
4	वैकल्पिक
	क) हिंदी पत्रकारिता
	ख) नाटककार मोहन राकेश

एम. ए. हिंदी साहित्य

प्रथम अयन :

पाठ्यचर्या : 1 मध्ययुगीन काव्य

4 : क्रमांक

उद्देश्य :

1. हिंदी की मध्ययुगीन काव्य प्रवृत्तियों का परिचय देना।
2. मध्ययुगीन काव्य प्रवृत्तियों की पृष्ठभूमि पर कवि विशेष की रचनाओं का परिचय कराना।
3. तत्कालीन काव्यभाषा की प्रवृत्तियों का परिचय देना।
4. पाठ्यकृतियों के आधार पर काव्य मूल्यांकन की क्षमता का विकास करना।
5. सर्जनात्मक कौशल विकसित करना।

पाठ्यविषय :	
इकाई- I	पूर्वमध्यकालीन काव्य (कबीर/जायसी) कबीर – सं. हजारीप्रसाद द्विवेदी – (पदसंख्या 160 से 170) कबीर की काव्यकला, भाषा, समन्वय, मानवता, लोकमंगल जायसी – पद्मावत नागमती वियोग खण्ड (आरंभ के 10 पद) जायसी की काव्यकला, भाषा, समन्वय, विरह वर्णन, लोकतत्व
इकाई- II	पूर्वमध्यकालीन काव्य (सूरदास/तुलसीदास) सूरदास – भ्रमरगीत सार – सं. रामचंद्र शुक्ल (पद – 21 से 30) सूरदास की काव्यकला, भाषा, समन्वय, लोकमंगल, विरह वर्णन तुलसीदास – रामचरितमानस – उत्तरकाण्ड (आरंभ के 25 दोहे) तुलसीदास की काव्यकला, भाषा, लोकमंगल, समन्वय, भक्ति, आदर्श कल्पना।
इकाई - III	पूर्वमध्यकालीन काव्य (मीरा/रहीम) मीरा – सं. विश्वनाथ त्रिपाठी – (आरंभ के 10 पद) मीरा की काव्यकला, भाषा, प्रेमतत्व, प्रगतिशीलता, विरह वर्णन, रहीम की काव्यकला, भाषा, नीतितत्व, समन्वय, प्रेमतत्व रहीम (दोहे : 01 से 25)
इकाई- IV	उत्तरमध्यकालीन काव्य (बिहारी/घनानंद) बिहारी – बिहारी सतसई – सं. जगन्नाथदास रत्नाकर (दोहा संख्या 01 से 25) बिहारी की काव्यकला, भाषा, प्रेमतत्व, बहुज्ञता घनानंद – कवित्त सं. विश्वनाथ मिश्र, (कवित्त संख्या 01 से 15) घनानंद की काव्यकला, भाषा, प्रेमतत्व।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन- 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. मध्ययुगीन हिंदी काव्य – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. कबीर – हजारीप्रसाद द्विवेदी
3. जायसी ग्रंथावली – सं. रामचंद्र शुक्ल
4. संक्षिप्त सूरसारगर – सं. डॉ. प्रेमनारायण टंडन
5. मीराबाई की पदावली – सं. परशुराम चतुर्वेदी
6. महाकवि भूषण – सं. भगीरथ प्रसाद दीक्षित
7. काव्य की भूमिका – रामधारी सिंह दीनकर
8. घनानंद कवित्त – चंद्रशेखर मिश्र शास्त्री
9. साहित्य और मानवीय संवेदना – डॉ. सदानंद भोसले
10. जायसी के पद्मावत का मूल्यांकन – प्रो. हरेंद्रप्रताप सिन्हा
11. महाकवि जायसी और उनका काव्य – डॉ. इकबाल अहमद
12. मलिक मुहम्मद जायसी और उनका काव्य – डॉ. शिवसहाय पाठक.
13. जायसी पद्मावत काव्य और दर्शन – डॉ. गोविंद त्रिगुणायत
14. पद्मावत में काव्य, संस्कृति और दर्शन – डॉ. द्वारिकाप्रसाद सक्सेना
15. पद्मावत का काव्य सौंदर्य – डॉ. चंद्रबली पाण्डेय
16. हिंदी के प्रतिनिधि कवि – डॉ. सुरेश अग्रवाल
17. कबीर वचनामृत – संपा. डॉ. विजयेंद्र स्नातक, डॉ. रमेशचंद्र मिश्र
18. कबीर साहित्य का चिंतन – संपा. प्रा. दत्तात्रय टिळेकर
19. भारतीय संतों का साहित्यिक योगदान – संपा. संजय महेर, प्रा. शरद कोलते

X X X

एम. ए. हिंदी साहित्य

प्रथम अयन :

पाठ्यचर्या : 2 कथा साहित्य

4 कर्मांक

उद्देश्य :

1. उपन्यास विधा से अवगत कराना।
2. कहानी विधा से अवगत कराना।
3. पाठ्य रचनाओं में अभिव्यक्त मूल्यों का संप्रेषण करना।
4. आलोचनात्मक दृष्टि का विकास करना।
5. सर्जनात्मक कौशल का विकास करना।

पाठ्यविषय	
इकाई-I	प्रेमचंदोत्तर के परवर्ती उपन्यास का विकासक्रम (2000 तक) बीसवीं सदी की हिंदी कहानी का विकासक्रम (2000 तक)
इकाई -II	उपन्यास साहित्य : आपका बंटी – मन्नू भंडारी तात्विक विवेचन, संवेदना एवं शिल्पगत अध्ययन।
इकाई -III	कहानी साहित्य : उसने कहा था – चंद्रधर शर्मा गुलेरी आकशदीप – जयशंकर प्रसाद गैंग्रीन – अज्ञेय दुनिया का अनमोल रत्न – प्रेमचंद सिक्का बदल गया – कृष्णा सोबती संवेदना एवं शिल्पगत अध्ययन।
इकाई -IV	कहानी साहित्य : साजिश – सूरपाल चौहान जंगल गाने लगा – अंकुश्री पक्षी और दीमक – ग. मा. मुक्तिबोध दूसरा ताजमहल – नासिरा शर्मा दुख – यशपाल संवेदना एवं शिल्पगत अध्ययन।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. कहानी दशक – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. आपका बंटी – मन्नू भंडारी
3. आज का हिंदी उपन्यास – डॉ. इंद्रनाथ मदान
4. प्रेमचंदोत्तर हिंदी उपन्यासों की शिल्पविधि : डॉ. सत्यपाल चुघ
5. हिंदी उपन्यास : सौ वर्ष – संपा. रामदरश मिश्र
6. उपन्यास : स्थिति और गति – डॉ. चंद्रकांत बांदीवडेकर
7. नई कहानी के विविध प्रयोग – शशिभूषण पाण्डेय शीतांशु
8. समकालीन हिंदी कहानी – डॉ. पुष्पपाल सिंह
9. नयी कविता और अस्तित्ववाद – रामविलास शर्मा
10. आधुनिक कविता यात्रा – रामस्वरूप चतुर्वेदी
11. चित्रा मुद्गल के कथा साहित्य का अनुशीलन – डॉ. गोरख थोरात
12. कालजयी साहित्य और हिंदी कहानी – डॉ. राजेंद्र खैरनार
13. रामदरश मिश्र के उपन्यासों में ग्रामीण परिवेश – डॉ. अनिल काळे
13. मार्कण्डेय का कथासाहित्य और ग्रामीण सरोकार – डॉ. जिभाऊ शा. मोरे
14. समकालीन हिंदी उपन्यास : वर्ग एवं वर्ण संघर्ष – डॉ. जालिंदर इंगळे
15. सूरजपाल चौहान कृत 'नया ब्राह्मण' एक अनुशीलन – डॉ. प्रदीप सरवदे
16. नासिरा शर्मा एवं सानिया के कथा साहित्य में स्त्री विमर्श – डॉ. महेश दवंगे

X X X

एम. ए. हिंदी साहित्य

प्रथम अयन :

पाठ्यचर्या : 3 भारतीय काव्यशास्त्र

4 : क्रमांक

उद्देश्य :

1. भारतीय काव्यशास्त्र के विकासक्रम का परिचय देना।
2. भारतीय काव्यशास्त्र के प्रमुख संप्रदायों से अवगत कराना।
3. रचना वैशिष्ट्य और मूल्यबोध को परखने की क्षमता को विकसित करना।
4. आलोचनात्मक दृष्टि को विकसित करना।

पाठ्यविषय	
इकाई –I	भारतीय काव्यशास्त्र का विकासक्रम रस सिद्धांत : रस का स्वरूप, रस के अंग, रस निष्पत्ति के सिद्धांत (भट्टलोल्लट, शंकुक, भट्टनायक, अभिनव गुप्त) साधारणीकरण की अवधारणा।
इकाई –II	अलंकार सिद्धांत : परिभाषा, स्वरूप, अलंकार के भेद। काव्य में अलंकार का महत्व। रीति सिद्धांत : रीति की अवधारणा, रीति के भेद, काव्य-गुण, रीति एवं शैली।
इकाई –III	वक्रोक्ति सिद्धांत : वक्रोक्ति की अवधारणा, वक्रोक्ति भेद। ध्वनि सिद्धांत : ध्वनि का स्वरूप, ध्वनि सिद्धांत के प्रमुख भेद, ध्वनि काव्य के प्रमुख भेद।
इकाई –IV	औचित्य सिद्धांत : औचित्य सिद्धांत का स्वरूप, औचित्य के भेद, काव्य में औचित्य की अनिवार्यता।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा– 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. भारतीय साहित्यशास्त्र – आ. बलदेव उपाध्याय
2. शास्त्रीय समीक्षा के सिद्धांत (खंड 1 और 2) – डॉ. गोविंद त्रिगुणायत
3. काव्यशास्त्र की भूमिका – डॉ. नगेंद्र
4. भारतीय काव्यशास्त्र – सत्यदेव चौधरी
5. काव्यशास्त्र – भगीरथ मिश्र
6. भारतीय काव्यशास्त्र – डॉ. योगेंद्र प्रतापसिंह
7. भारतीय काव्यशास्त्र – डॉ. विश्वंभरनाथ उपाध्याय
8. भारतीय एवं पाश्चात्य काव्य सिद्धांत – डॉ. गणपतिचंद्र गुप्त
9. विश्वसाहित्य शास्त्र – सं. नगेंद्र
10. भारतीय एवं पाश्चात्य काव्यशास्त्र का तुलनात्मक अध्ययन– डॉ. बच्चन सिंह.
11. भारतीय तथा पाश्चात्य काव्यशास्त्र– डॉ. सुरेशकुमार जैन. प्रा. महावीर कंडारकर.
12. साहित्यशास्त्र के प्रमुख सिद्धांत– डॉ. राममूर्ति त्रिपाठी.
13. भारतीय काव्यशास्त्र– (खंड-1 और 2)– आचार्य बलदेव उपाध्याय

X X X

एम. ए. हिंदी साहित्य

प्रथम अयन :

पाठ्यचर्या : 4 (क) हिंदी पत्रकारिता

4 : कर्मांक

उद्देश्य :

1. पत्रकारिता की भाषा-प्रयुक्ति का परिचय देना।
2. हिंदी भाषा और साहित्य के विकास में हिंदी पत्र-पत्रकारों के योगदान से परिचित कराना।
3. पत्रकारिता का कौशल विकसित करना।
4. रोजगारपरक दृष्टि का विकास करना।

पाठ्यविषय	
इकाई -I	हिंदी पत्रकारिता का उद्भव और विकास। नवजागरणयुगीन हिंदी पत्रकारिता, स्वातंत्र्योत्तर हिंदी पत्रकारिता, प्रेस कानून एवं आचार संहिता।
इकाई -II	समाचार संकलन, समाचार के स्रोत, समाचार अनुवर्तन, समाचार समितियों की भूमिका संवाददाता और जनसंपर्क।
इकाई -III	पत्रकारिता लेखन समाचार फीचर संपादकीय अग्रलेख रिपोर्टिंग साक्षात्कार समीक्षा।
इकाई -IV	मुद्रण एवं संपादन कला मुद्रण में कंप्यूटर का प्रयोग समाचारेतर सामग्री का संपादन शीर्षक, प्रूफ रीडिंग, ले आउट एवं साज-सज्जा, भाषा किसी एक विषय का (कृषि, विज्ञान, फिल्म, क्रीडा पत्रकारिता) भाषागत अध्ययन विश्लेषण।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण-10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. हिंदी पत्रकारिता का इतिहास – कृष्ण बिहारी मिश्र
2. समकालीन पत्रकारिता : मूल्यांकन और मुद्दे – राजकिशोर
3. आज की हिंदी पत्रकारिता – सुरेश निर्मल
4. पत्रकारिता की लक्ष्मण रेखा – अलोक मेहता
5. समाचार, फीचर लेखन एवं संपादन कला – हरिमोहन
6. हिंदी पत्रकारिता : स्वरूप और संरचना – चंद्रदेव यादव
7. संपादन पृष्ठ सज्जा और मुद्रण – प्रो. रमेश जैन
8. पत्रकारिता और संपादन कला – प्रेमनाथ राय
9. फीचर लेखन : सृष्टि – डॉ. पूरन चंद।
10. हिंदी पत्रकारिता का बृहद इतिहास – अर्जुन तिवारी
11. हिंदी पत्रकारिता : स्वरूप एवं संदर्भ – विनोद गोदरे
12. समाचार पत्र प्रबंधन – सं. अरविंद चतुर्वेदी
13. हिंदी में रोजगार की संभावनाएँ – संपा. शहाबुद्दीन शेख, डॉ. दस्तगीर देशमुख तथा डॉ. लियाकत शेख
14. समाचार संपादन – सं. रामशरण जोशी
15. आधुनिक पत्रकारिता एवं इलेक्ट्रॉनिक मीडिया – डॉ. जालिंदर इंगळे
16. भेंटवार्ता और प्रेस कान्फ्रेंस – सं. नंदकिशोर त्रिखा
17. पत्रकारिता के सिद्धांत – डॉ. रमेशचंद्र त्रिपाठी
18. पत्रकारिता : प्रशिक्षण एवं प्रेस विधि – सुजाता वर्मा
19. हिंदी पत्रकारिता – कृष्ण बिहारी मिश्र

X X X

एम. ए. हिंदी साहित्य

प्रथम अयन : वैकल्पिक

पाठ्यचर्या : 4 (ख) नाटककार मोहन राकेश

4 कर्मांक

उद्देश्य :

1. नाटक के स्वरूप एवं संरचना से परिचय कराना।
2. नाटक के रचनाविधान और रंगमंच से परिचय कराना।
3. हिंदी नाटक और रंगमंच के विकास का परिचय देना।
4. मोहन राकेश के नाटकों के द्वारा नाट्यास्वादन और मूल्यांकन की दृष्टि विकसित करना।
5. नाट्याभिनय कौशल को विकसित करना।

पाठ्यविषय	
इकाई-I	नाटक और रंगमंच, स्वरूप एवं संरचना हिंदी रंगमंच का विकासक्रम रंगमंच की विभिन्न शैलियाँ नाटक की पाश्चात्य परंपरा पारसी थिएटर, रंगभाषा
इकाई-II	निर्धारित नाटक आषाढ का एक दिन कथ्यगत अध्ययन, रंगमंचीय अध्ययन, तात्विक मूल्यांकन।
इकाई -III	निर्धारित नाटक लहरों के राजहंस कथ्यगत अध्ययन, रंगमंचीय अध्ययन, तात्विक मूल्यांकन।
इकाई -IV	निर्धारित नाटक आधे अधूरे कथ्यगत अध्ययन रंगमंचीय अध्ययन तात्विक मूल्यांकन।

अंक विभाजन - पूर्णांक : 100

आंतरिक मूल्यांकन - 50 (लघुत्तरी परीक्षा - 20, शोध परियोजना - 20, प्रस्तुतिकरण - 10)

सत्रांत परीक्षा - 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. आषाढ का एक दिन –मोहन राकेश
2. लहरों के राजहंस –मोहन राकेश
3. आधे अधूरे – मोहन राकेश
4. नाटक और रंगमंच – संपा. गिरिश रस्तोगी
5. रंग दर्शन – नेमिचंद्र जैन
6. हिंदी नाटक : उद्भव और विकास – दशरथ ओझा
7. हिंदी नाटक – बच्चन सिंह
8. हिंदी नाट्य विमर्श – संपा. सदानंद भोसले
9. रंगभाषा – नेमिचंद्र जैन
10. पारसी थियेटर उद्भव और विकास – सोमनाथ गुप्त
11. रंगमंच का सौंदर्यशास्त्र – देवराज अंकुर
12. बीसवीं शताब्दी का रंगकर्म – डॉ. लवकुमार
13. नाट्यालोचन – डॉ. माधव सोनटक्के
14. नाट्यचिंतन और रंगदर्शन अंतःसंबंध – गिरिश रस्तोगी
15. रंगमंच –बलवंत गार्गी
16. बीसवीं शताब्दी का हिंदी रंगमंच –शशिप्रभा अत्री
17. रंगमंच का सौंदर्यशास्त्र –देवेन्द्रराज अंकुर
18. मोहन राकेश : रंग-शिल्प और प्रदर्शन – जयदेव तनेजा
19. मोहन राकेश और उनके नाटक – गिरिश रस्तोगी

X X X

एम. ए. प्रथम वर्ष
द्वितीय अयन

कोर्स न.	द्वितीय अयन
5	कथेतर गद्य साहित्य
6	शोध प्रविधि
7	पाश्चात्य काव्यशास्त्र
8	वैकल्पिक
	ग) शैलीविज्ञान एवं सौंदर्यशास्त्र
	घ) हिंदी उपन्यास साहित्य

द्वितीय अयन :

पाठ्यचर्या : 5 कथेतर गद्य साहित्य

4 : कर्मांक

उद्देश्य :

1. व्यंग्य, निबंध, रेखाचित्र और संस्मरण विधा से अवगत करना।
2. पाठ्य विधाओं का भाषिक अध्ययन करवाना।
3. मौलिक लेखन कौशल विकसित करना।

पाठ्यविषय	
इकाई –I	आत्मकथा साहित्य : मूर्दहिया – तुलसीराम आलोचनात्मक अध्ययन, अंतर्वस्तु/ भाषागत अध्ययन।
इकाई –II	निबंध साहित्य : कविता क्या है ? – रामचंद्र शुक्ल लेखक और जनता – डॉ. रामविलास शर्मा मेरे राम का मुकुट भीग रहा है – विद्यानिवास मिश्र संस्कृति और सौंदर्य – नामवर सिंह कुटज – हजारीप्रसाद द्विवेदी पानी है अनमोल – श्रीराम परिहार विशेषताएँ, आलोचनात्मक अध्ययन, अंतर्वस्तु, भाषागत अध्ययन।
इकाई –III	रेखाचित्र साहित्य : माटी की मूरतें – रामवृक्ष बेनीपुरी स्वरूपगत अध्ययन आलोचनात्मक अध्ययन अंतर्वस्तु, भाषागत अध्ययन।
इकाई –IV	व्यंग्य साहित्य : भोलाराम का जीव – हरिशंकर परसाई स्वरूपगत अध्ययन, आलोचनात्मक अध्ययन, अंतर्वस्तु, भाषागत अध्ययन संस्मरण साहित्य : याद हो की न हो – काशीनाथ सिंह। स्वरूपगत अध्ययन, आलोचनात्मक अध्ययन, अंतर्वस्तु, भाषागत अध्ययन।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. निबंध वैभव – संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, परिदृश्य प्रकाशन, मुंबई
2. मुर्दहिया – तुलसीराम
3. माटी की मूरतें – रामवृक्ष बेनिपुरी
4. याद हो की न हो – काशीनाथ सिंह

X X X

द्वितीय अयन :

पाठ्यचर्या : 6 शोध प्रविधि

4 : क्रमांक

उद्देश्य :

1. छात्रों को शोध प्रविधि से अवगत कराना।
2. शोध दृष्टि का विकास करना।
3. नये शोध-प्रावाहों से परिचय कराना।
4. शोध प्रक्रिया एवं शोधप्रबंध लेखन कौशल विकसित करना।

पाठ्यविषय	
इकाई – I	शोध का स्वरूप : शोध के लिए प्रयुक्त विभिन्न शब्द एवं उनका औचित्य शोध की विभिन्न परिभाषाएँ और उनका विश्लेषण शोध के उद्देश्य, शोध की विवेचन पद्धति वस्तुनिष्ठ, तर्कसंगति, प्रमाणबद्धता।
इकाई – II	शोध के मूलतत्व : शोध और आलोचना शोध के भेद : साहित्यिक, साहित्येत्तर साहित्यिक शोध के भेद : वर्णनात्मक, ऐतिहासिक, तुलनात्मक, अंतर्विद्याशाखीय।
इकाई – III	शोध प्रक्रिया : विषय चयन, सामग्री संकलन के स्रोत मूल, सहायक, हस्तलेख संकलन एवं उपयोगिता, तर्क पद्धति : निगमनात्मक पद्धति (Deductive Method) और आगमनात्मक पद्धति (Inductive Method)। विवेचन, निष्कर्ष, स्थापना।
इकाई – IV	शोध-प्रबंध लेखन प्रणाली : शोध प्रबंध, शीर्षक निर्धारण, रूपरेखा, भूमिका लेखन, अध्याय विभाजन, संदर्भ, संदर्भ सूची, MLA पद्धति (Modern language Association), सहायक ग्रंथ सूची, परिशिष्ट, वर्तनी सुधार, टंकण, यूनिकोड परिचय।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. शोधतंत्र और सिद्धांत – शैलकुमारी
2. शोध प्रविधि – डॉ. विनयमोहन शर्मा
3. अनुसंधान की प्रक्रिया – डॉ. सावित्री सिन्हा, डॉ. विजयेंद्र स्नातक
4. अनुसंधान प्रविधि – सुरेशचंद्र निर्मल
5. अनुसंधान के तत्व – विश्वनाथप्रसाद मिश्र
6. शोध प्रविधि – डॉ. विनयमोहन शर्मा

X X X

द्वितीय अयन :

पाठ्यचर्या : 7 पाश्चात्य काव्यशास्त्र

4 : क्रमांक

उद्देश्य :

1. पाश्चात्य काव्यशास्त्र के विकासक्रम का परिचय देना।
2. पाश्चात्य चिंतकों के चिंतन, सिद्धांत और प्रमुख आंदोलनों से अवगत करना।
3. छात्रों को सृजन, आस्वादन एवं आलोचना दृष्टि देना।

पाठ्यविषय	
इकाई –I	पाश्चात्य काव्यशास्त्र का विकासक्रम प्लेटो का अनुकरण सिद्धांत अरस्तू का अनुकरण सिद्धांत : त्रासदी विवेचन, विरेचन सिद्धांत
इकाई –II	वर्ड्सवर्थ का काव्यभाषा सिद्धांत। कॉलरिज का कल्पना और फैंटसी सिद्धांत लॉजाइनस का योगदान : उदात्त के अंतरंग और बहिरंग तत्व लॉजाइनस का उदात्त सिद्धांत : काव्य में उदात्त का महत्व।
इकाई –III	टी. एस. इलियट : निर्व्यक्तिकता का सिद्धांत, परंपरा की परिकल्पना और वैयक्तिक प्रज्ञा, वस्तुनिष्ठ समीकरण।
इकाई –IV	आई. ए. रिचर्ड्स : मूल्य सिद्धांत संप्रेषण सिद्धांत, काव्य-भाषा सिद्धांत, व्यावहारिक आलोचना।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. पाश्चात्य साहित्य चिंतन – निर्मला जैन, कुसुम बांठिया
2. संरचनावाद, उत्तरसंरचनावाद एवं प्राच्य काव्यशास्त्र – गोपीचंद नारंग
3. आधुनिक परिवेश और अस्तित्वाद – शिवप्रसाद सिंह
4. अस्तित्त्ववाद और मानववाद – ज्यां पॉल सार्त्र
5. उत्तर-आधुनिकतावाद और उत्तर-संरचनावाद – सुधीर पचौरी
6. काव्य चिंतन की पश्चिमी परंपरा – निर्मला जैन
7. पाश्चात्य काव्यशास्त्र अधुनातन संदर्भ – सत्यदेव मिश्र
8. पाश्चात्य काव्यशास्त्र के सिद्धांत – मैथिलीप्रसाद भारद्वाज
9. पाश्चात्य काव्यशास्त्र : इतिहास सिद्धांत और वाद – डॉ. भगीरथ मिश्र
10. भारतीय एवं पाश्चात्य काव्यशास्त्र का तुलनात्मक अध्ययन – डॉ. बच्चनसिंह
11. अरस्तु का काव्यशास्त्र – डॉ. नगेंद्र
12. पाश्चात्य काव्यशास्त्र – देवेन्द्रनाथ शर्मा
13. विश्व साहित्यशास्त्र – सं. डॉ. नगेंद्र

X X X

द्वितीय अयन :

पाठ्यचर्या : 8 (ग) शैलीविज्ञान एवं सौंदर्यशास्त्र

4 : क्रमांक

उद्देश्य :

1. शैलीविज्ञान एवं सौंदर्यशास्त्र के स्वरूप क्षेत्र और विकास का परिचय देना।
2. शैलीविज्ञान एवं सौंदर्यशास्त्र के तत्वों का परिचय देना।
3. पाश्चात्य एवं भारतीय चिंतकों के चिंतनधारा का परिचय देना।
4. छात्रों में सौंदर्य दृष्टि का विकास करना।

पाठ्यविषय	
इकाई –I	शैली और शैलीविज्ञान, शैली विज्ञान की परिभाषा, स्वरूप, क्षेत्र और विकास, शैली के उपकरण, शैली तत्व।
इकाई –II	शैलीविज्ञान और अन्य ज्ञानशाखाएँ, भाषाविज्ञान, मनोविज्ञान, समाजशास्त्र, सौंदर्यशास्त्र।
इकाई –III	सौंदर्य : परिभाषा, स्वरूप, सौंदर्य और कला का अंतःसंबंध, सुंदर और उदात्त, सौंदर्य की कलावादी दृष्टि, सौंदर्य के उपादान।
इकाई –IV	सौंदर्यशास्त्र : स्वरूप एवं व्याप्ति, सौंदर्यबोध और रसानुभूति का परस्पर संबंध एवं अंतर। साहित्य का सौंदर्य बोध, सौंदर्यशास्त्र के उपादान। सौंदर्यशास्त्र का अन्यशास्त्रों से संबंध : दर्शनशास्त्र, मनोविज्ञान, कलाविज्ञान।

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 50 (लघुत्तरी परीक्षा – 20, शोध परियोजना – 20, प्रस्तुतिकरण – 10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. शैली विज्ञान – डॉ. नगेंद्र
2. शैली विज्ञान – डॉ. सुरेश कुमार
3. शैली विज्ञान : प्रतिमान और विश्लेषण – डॉ. शशिभूषण शीतांबु
4. सौंदर्यशास्त्र के तत्व – डॉ. विमल कुमार
5. रससिद्धांत और सौंदर्यशास्त्र – डॉ. निर्मला जैन
6. अथातो सौंदर्य जिज्ञासा – डॉ. रमेश कुंतल मेघ
7. सौंदर्यतत्व निरूपण – एस. टी. नरसिंहचारी
8. सौंदर्यशास्त्री की पाश्चात्य परंपरा – नीलकांत
9. भाषाविज्ञान एवं हिंदी भाषा – डॉ. रूपाली चौधरी

X X X

द्वितीय अयन : वैकल्पिक

पाठ्यचर्या : 8 (घ) हिंदी उपन्यास साहित्य

4 : क्रमांक

उद्देश्य :

1. हिंदी उपन्यास साहित्य के विकासक्रम एवं प्रवृत्तियों से परिचित कराना।
2. उपन्यासों के आस्वादन, अध्ययन की क्षमता विकसित करना।
3. पाठ्य रचनाओं में प्रस्तुत साहित्यिक मूल्यों का संप्रेषण करना।
4. मूल्यांकन की दृष्टि का विकास करना।

पाठ्यविषय	
इकाई –I	तमस – भीष्म साहनी संवेदना एवं शिल्पगत अध्ययन।
इकाई –II	छप्पर – जयप्रकाश कर्दम संवेदना एवं शिल्पगत अध्ययन।
इकाई –III	गिलीगडू – चित्रामुद्गल संवेदना एवं शिल्पगत अध्ययन।
इकाई –IV	ग्लोबल गांव के देवता – रनेंद्र संवेदना एवं शिल्पगत अध्ययन।

अंक विभाजन – पूर्णांक : 100

आंतरिकमूल्यांकन – 50 (लघुत्तरी परीक्षा–20, शोध परियोजना–20, प्रस्तुतिकरण–10)

सत्रांत परीक्षा – 50

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2019–20 से आगे)

समय 3 घंटे

अंक 50

प्रश्न : 1	इकाई एक पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 2	इकाई दो पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 3	इकाई तीन पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 4	इकाई चार पर दीर्घोत्तरी प्रश्न (दो में से एक)	अंक 10
प्रश्न : 5	बहुविकल्पीय प्रश्न – 12 में से 10 (चार में से एक सही विकल्प का चयन कीजिए।)	अंक 10

संदर्भ ग्रंथ :

1. तमस – भीष्म साहनी
2. छप्पर – जयप्रकाश कर्दम
3. गिलीगडू – चित्रा मुद्गल
4. ग्लोबल गांव के देवता – रनेंद्र
5. आधुनिक हिंदी उपन्यास 2 – नामवर सिंह
6. हिंदी उपन्यास : सौ वर्ष – संपा. रामदरश मिश्र
7. उपन्यास : स्थिति और गति – डॉ. चंद्रकांत बांदिबडेकर
8. आज का हिंदी उपन्यास – डॉ. इंद्रनाथ मदान
9. आधुनिक परिप्रेक्ष्य में हिंदी साहित्य – डॉ. राजेंद्र खैरनार

X X X



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

M. A. भाग – १

मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

Choice Based Credit System [CBCS]

निवड आधारित श्रेयांक पद्धत

सावित्रीबाई फुले पुणे विद्यापीठ, पुणे
मानवविज्ञान विद्याशाखा
M. A. मराठी

जून २०१९ पासून निवड आधारित श्रेयांक पद्धतीच्या (Choice Based Credit System) [CBCS] एम. ए. मराठी विषयाच्या पुनर्रचित अभ्यासक्रमाची रचना :

सत्र	Core Courses (CC) (मुख्य अभ्यासक्रम)		Credit (श्रेयांक)	Choice Based Optional Paper (निवड आधारित वैकल्पिक)		Credit (श्रेयांक)	Total Credit
1	CC - 1	भाषाव्यवहार आणि भाषिक कौशल्ये - भाग १	4	CBOP - 4	ग्रामीण साहित्य	4	16
	CC - 2	मराठी साहित्याचा इतिहास (इ.स.१८१८ ते इ.स.१९२०)	4		मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी (प्रारंभ ते १८१८)		
	CC - 3	ऐतिहासिक भाषाविज्ञान	4		तौलनिक साहित्याभ्यास - भाग १		
					वाङ्मयेतिहासलेखनविद्या - भाग १		
			मराठी व्याकरण - भाग १				
2	CC - 5	भाषाव्यवहार आणि भाषिक कौशल्ये - भाग २	4	CBOP - 8	दलित साहित्य	4	16
	CC - 6	मराठी साहित्याचा इतिहास (इ. स.१९२० ते इ. स. २०१०)	4		मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी (इ.स. १८१८ ते १९६०)		
	CC - 7	समाजभाषाविज्ञान	4		तौलनिक साहित्याभ्यास भाग - २		
					वाङ्मयेतिहासलेखनविद्या -भाग २		
			मराठी व्याकरण - भाग २				
			24			08	32

M. A. मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०१९ पासून

१. Title of the course: M. A. (मराठी)

२. Preamble of the syllabus: पदव्युत्तर शिक्षणासाठी, M. A. मराठीसाठी प्रवेश घेणाऱ्या विद्यार्थ्यांने पदवीस्तरावरील अभ्यासक्रम विशेषस्तरावर पूर्ण केला आहे. अशा विद्यार्थ्यांना पदव्युत्तर स्तरावर मराठी विषयाच्या अभ्यासक्रमाची उद्दिष्टे खालीलप्रकारची ठेवण्यात आली आहे.

हा अभ्यासक्रम तयार करित असताना काही आधारभूत तत्त्वे स्वीकारली आहेत. राष्ट्रीय शैक्षणिक धोरणाची उद्दिष्टे प्रत्यक्षात आणताना, विद्यार्थीकेंद्री, आंतर्विद्याशाखीय, रोजगाराभिमुख, कौशल्याधिष्ठीत असे भाषा व साहित्याचे अभ्यासक्रम अनुसरणे, निर्माण करणे आवश्यक आहे. तसेच जीवन कौशल्य विकासासाठी भाषा, साहित्य, कला ही माध्यमे अधिक परिणामकारकतेने समजावून घेणे आवश्यक झाले आहे. याचबरोबर साहित्यिकक्षमता, भाषिकक्षमता वाढीसाठी, जीवनाच्या आकलनासाठी आणि प्रगल्भतेसाठी विद्यार्थी सिद्ध करणे; ही आजची गरज बनली आहे. त्याचबरोबर विद्यार्थ्यांना मराठी विषयाचे सखोल ज्ञान व्हावे. संशोधनाची वृत्ती वाढावी, आंतर्विद्याशाखीय ज्ञान व्हावे; असे अनेक हेतू समोर ठेऊन M.A.मराठीचा अभ्यासक्रम तयार केला आहे. अशा या अभ्यासक्रमासाठी काही उद्दिष्टे ठेवली आहेत.

१. पदव्युत्तर पातळीवरील विद्यार्थ्यांच्या वाङ्मयीन आणि जीवनविषयक जाणिवा समृद्ध करणे.
२. साहित्यकृतींच्या चिकित्सक अभ्यासाची प्रवृत्ती वृद्धिंगत करणे.
३. भाषिक जाणिवा विकसित करून कौशल्यात्मक उपयोजनासाठी सिद्ध करणे.
४. विविध जीवनक्षेत्रातील भाषाविषयक कौशल्य ग्रहणानंतर रोजगारक्षमतांची आणि प्रावीण्यांची निर्मिती करणे.
५. वाङ्मयीनमूल्यांचे आणि जीवनमूल्यांचे संस्कार करणे.
६. विशिष्ट कालखंडातील साहित्यनिर्मितीच्या प्रेरणा व प्रवृत्ती लक्षात घेऊन साहित्याचे नेमके आकलन करणे.
७. लेखकाच्या समग्र अभ्यासातून लेखकाच्या साहित्यकृती, आशयसूत्रे, भाषिक प्रयोग, जीवनदृष्टी इत्यादींचे वाङ्मयीन प्रवाहातील मूल्यमापन व स्थान निर्धारण करणे.
८. तौलनिक अभ्यास, भाषांतर मीमांसा, प्रभाव अभ्यास, आंतर्विद्याशाखीय दृष्टी, परभाषेतील समकालीन साहित्यकृती, वाङ्मयेतिहास, संस्कृती अभ्यास, भाषिक अभ्यास याद्वारे साहित्याच्या अभ्यासाला परिपूर्णता आणून देण्याचा प्रयत्न करणे.
९. पौर्वात्य व पाश्चात्य साहित्यविचार, साहित्यसिद्धांत, समीक्षा, साहित्यविमर्श, विविध वाङ्मयीन संप्रदाय, वेळोवेळी उद्भवणाऱ्या जीवनविषयक व वाङ्मयीन चर्चा, संकल्पना यांचा पैस विद्यार्थ्यांना परिचित होणे.
१०. वाचन, आस्वादन, विश्लेषण, वर्गीकरण, मूल्यनिर्णयन या प्रक्रियेतून विद्यार्थ्यांची वाङ्मय आकलनाची क्षमता वृद्धिंगत करणे .

११. साहित्य कला व इतर कला यांच्या वाचनातून अभिरुची वृद्धिंगत करणे .
१२. साहित्य आणि संस्कृती यांचा परस्पराश्रयी संबंध जागतिक परिप्रेक्ष्यात लक्षात घेण्याची क्षमता व कौशल्ये निर्माण करणे.

M.A.मराठी विषयाचा अभ्यासक्रमाची पुनर्रचना खालील क्रमाने करण्यात येणार आहे.

१. First Year M.A.2019-20.
२. Second Year M.A.2020-21.

M.A. मराठी हा पुनर्रचित अभ्यासक्रम दोन वर्षांचा आणि चार सत्रांत विभागलेला निवड आधारित श्रेयांक पद्धतीचा (Choice Based Credit System) [CBCS] आहे. हा अभ्यासक्रम प्रथम M.A. भाग १ (सत्र १ आणि सत्र २), M.A. (सत्र ३ आणि सत्र ४) अशा ६४ श्रेयांकांचा आहे.

३. Pattern: निवड आधारित श्रेयांक पद्धत (Choice Based Credit System) [CBCS]
४. Eligibility: कोणत्याही विद्याशाखेतील पदवी. (SPPU Circular No. 100 of 2017, p.55)
५. Examination:

१. Pattern of examination:

१. Semester
२. Pattern of the question paper:

विद्यापीठ सत्र परीक्षा	५० गुण
अंतर्गत मूल्यमापन	५० गुण
एकूण	१०० गुण

२. Standard of passing: उत्तीर्ण होण्यासाठी विद्यापीठ सत्र परीक्षा आणि अंतर्गत मूल्यमापनामध्ये ५० पैकी २० गुण अनिवार्य.

३. Award of class:

1.Percentage to Grades and Grade Points

The following formula may be used to convert marks (%) into letter grades.

Let \bar{x} = mean of % age marks of all student appeared in the paper.

σ = Standard deviation

m = % of marks obtained

Letter grade	Numerical grade	Formula
O (outstanding)	10	$m \geq \bar{x} + 2.5 \sigma$
A+ (Excellent)	9	$\bar{x} + 2.0 \sigma \leq m < \bar{x} + 2.5 \sigma$
A (Very Good)	8	$\bar{x} + 1.5 \sigma \leq m < \bar{x} + 2.0 \sigma$
B+ (Good)	7	$\bar{x} + 1.0 \sigma \leq m < \bar{x} + 1.5 \sigma$
B (Above average)	6	$\bar{x} \leq m < \bar{x} + \sigma$
C (Average)	5	$\bar{x} - 0.5 \sigma \leq m < \bar{x}$
D (Pass)	4	$\bar{x} - \sigma \leq m < \bar{x} - 0.5 \sigma$
F (Fail)	0	$m < \bar{x} - \sigma$
Ab (Absent)	0	

* Minor variations may be adjusted by the individual institution.

४. Setting of Question paper / Pattern of Question paper :

प्रश्नपत्रिका आराखडा		
वेळ : ३ तास	सत्रांत परीक्षा	गुण : ५०
१	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
२	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
३	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
४	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
५	टिपा लिहा चार पैकी दोन	१०
एकूण		५०
अंतर्गत मूल्यमापन		
१.	लेखी चाचणी / मध्यकालीन चाचणी (एक घ्यावी.)	१५
२.	शोध निबंध	५
३.	ग्रंथालयीन कार्य	५
४.	सादरीकरण	५
५.	लघू प्रश्नमंजुषा	५
६.	गृहपाठ	५
७.	विस्तार कार्य	१०
८.	संशोधन प्रकल्प / खुले पुस्तक परीक्षा	१०
अंतर्गत मूल्यमापनासाठी वरील पर्याय निवडावे. त्यांचे एकूण गुण पन्नास असावे.		५०

५. Structure of Course:

Semester	Core Courses (CC)	Choice Based Optional Paper	Total Credit
I	CC – 1 (4)	CBOP 4 (4)	16
	CC – 2 (4)		
	CC – 3 (4)		
II	CC – 5 (4)	CBOP 8 (4)	16
	CC – 6 (4)		
	CC – 7 (4)		
III	CC – 9 (4)	CBOP 12 (4)	16
	CC – 10 (4)		
	CC – 11 (4)		
IV	CC – 13 (4)	CBOP 16 (4)	16
	CC – 14 (4)		
	CC – 15 (4)		
	48	16	64

६. Work Load:

१. श्रेयांक तास १५ :
२. १ तास मिनिट ६० :
३. १ सत्र :४ श्रेयांक

७. Subject wise Detail Syllabus & Recommended books:

M.A. मराठी – भाग १

निवड आधारित श्रेयांक पद्धत (Choice Based Credit System) जून २०१९ पासून

विषयाचे नाव : भाषाव्यवहार आणि भाषिक कौशल्ये भाग १ (CC-1)

पहिले सत्र

घटक १.

मराठीच्या प्रमाणभाषेचे लेखन व मुद्रितशोधन

- १.१ प्रमाणभाषा : संकल्पना, स्वरूप आणि आवश्यकता
- १.२ प्रमाणभाषाविषयक लेखननियम : परिचय
- १.३ प्रमाणभाषाविषयक लेखननियमांचे उपयोजन (उताऱ्याचे लेखननियमांनुसार लेखन)
- १.४ मुद्रितशोधन : संकल्पना, स्वरूप आणि आवश्यकता
- १.५ मुद्रितशोधनाच्या खुणा, चिन्हे
- १.६ मुद्रितशोधन : उपयोजन (उताऱ्याचे मुद्रित शोधन)

१५ तास १ श्रेयांक

घटक २.

वाङ्मयीन व्यवहार व प्रकाशन व्यवसाय

- २.१ विविध साहित्यसंस्था व त्यांचे वाङ्मयीन कार्य
- २.२ साहित्यसंस्था व त्यांची मुखपत्रे
- २.३ साहित्यसंस्थांकडून आयोजित केली जाणारी साहित्यसंमेलने
- २.४ वाङ्मयीन नियतकालिके व अनियतकालिके.
- २.५ दिवाळी अंक, विशेषांक, स्मरणिका, संशोधनपत्रिका इ. चे संपादन. मांडणी, जाहिरात आणि ISSN विषयक माहिती.
- २.६ प्रकाशन व्यवसाय, प्रकाशन संस्था, पुस्तक प्रकाशन
- २.७ ग्रंथ संहिता निवड, ग्रंथमांडणी व सजावट, मुखपृष्ठ, मलपृष्ठ, बांधणी, जाहिरात, वितरण आणि ISBN विषयक माहिती.

१५ तास १ श्रेयांक

घटक ३.

मुलाखत : स्वरूप, तंत्र व कौशल्ये

- ३.१ मुलाखतीचे प्रयोजन व स्वरूप
- ३.२ मुलाखतीचे प्रकार
- ३.३ मुलाखतीची पूर्वतयारी

३.४ मुलाखतीसाठीची प्रश्नसूची

३.५ माध्यमनिहाय मुलाखती

३.६ प्रासंगिक मुलाखती

३.७ मुलाखत लेखन

१५ तास १ श्रेयांक

घटक ४.

अर्जलेखन व पत्रलेखन

४.१ अर्जाचे स्वरूप व प्रकार

४.२ पत्रलेखनाचे विविध प्रकार

४.३ संगणकीय पत्रव्यवहाराचे तंत्र

४.४ प्रशासनिक पत्रव्यवहार

४.५ प्रशासनिक परिभाषा

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : भाषाव्यवहार आणि भाषिक कौशल्ये भाग-२ (CC-5)

घटक १.

भाषांतर व अनुवाद लेखन

१.१ भाषांतराचे स्वरूप

१.२ भाषांतराची आवश्यकता व महत्त्व

१.३ भाषांतराचे विविध प्रकार

१.४ भाषांतर, अनुवाद, भवानुवाद आणि रूपांतर यातील साम्य-भेद

१.५ इंग्लिश उताऱ्याचे मराठीत भाषांतर करणे

१.६ हिंदी उताऱ्याचे मराठीत भाषांतर करणे.

१५ तास १ श्रेयांक

घटक २

निवेदन कौशल्ये

२.१ निवेदनाची आवश्यकता व स्वरूप

२.२ निवेदनाची तंत्रे, निवेदनाची शैली

२.३ विविध कार्यक्रमांचे नियोजन-आयोजन

२.४ विविध कार्यक्रमांचे निवेदन आणि सूत्रसंचालन (सांस्कृतिक कार्यक्रम, जाहीर कार्यक्रम आकाशवाणी व दूरदर्शनवरील कार्यक्रम)

२.५ प्रभावी निवेदनाचे गुणविशेष

१५ तास १ श्रेयांक

घटक ३

जनसंपर्क : संकल्पना व स्वरूप

३.१ जनसंपर्काचे स्वरूप व आवश्यकता

३.२ जनसंपर्क कौशल्याची तंत्रे, जनसंपर्क कौशल्याची भाषा

३.३ माहिती व जनसंपर्क अधिकारी

३.४ शासन, विद्यापीठे, शैक्षणिक संस्था, बँका, कंपन्यांसाठी जनसंपर्काचे महत्त्व व आवश्यकता

१५ तास १ श्रेयांक

घटक ४ प्रकल्पलेखन : स्वरूपचर्चा

- ४.१ वाङ्मयीन प्रकल्पलेखनाचे स्वरूप
- ४.२ प्रकल्पलेखनातील घटक
- ४.३ प्रकल्पलेखनाची भाषा
- ४.४ प्रकल्पलेखनातील संदर्भ नोंदी
- ४.५ प्रत्यक्ष प्रकल्पलेखन (प्रकल्पलेखनास १० गुण असतील)
- ४.६ प्रकल्पलेखनासाठी काही विषयक्षेत्रे (नमुना सूची)

आकाशवाणीवरील प्रमुख कार्यक्रम, दूरचित्रवाणीचे सांस्कृतिक क्षेत्रातील कार्य.

आकाशवाणी / दूरचित्रवाणी / नियतकालिकासाठी प्रत्यक्ष मुलाखत घेणे, शैक्षणिक सहल आयोजित करणे, प्रसारमाध्यमांचे कार्यालय, प्रकाशन संस्था यांना भेटी देणे, लेखनातील संगणकाचा वापर इत्यादी.

१५ तास १ श्रेयांक

संदर्भ ग्रंथ

- | | |
|--|--|
| १. व्यावहारिक मराठी | पुणे विद्यापीठ प्रकाशन |
| २. व्यावहारिक मराठी | डॉ.कल्याण काळे, डॉ.दत्तात्रय पुंडे |
| ३. व्यावहारिक मराठी | संपादक डॉ .स्नेहल तावरे |
| ४. व्यावहारिक मराठी | डॉ. लीला गोविलकर, डॉ.जयश्री पाटणकर |
| ५. व्यावहारिक मराठी | डॉ. सयाजीराजे मोकाशी, प्रा. रंजना नेमाडे, |
| ६. व्यावहारिक मराठी | ल. रा. नसिराबादकर |
| ७. व्यावहारिक मराठी विशेषांक | नवभारत ,ऑ.-सप्टेंबर १९८२, प्राज्ञ पाठशाळा, वाई |
| ८. मराठी शुद्धलेखन प्रदीप | मो.रा.वाळंबे, जुनी आवृत्ती, नितीन प्रकाशन, पुणे-३० |
| ९. मराठी शुद्धलेखन प्रदीप | मो.रा.वाळंबे, संपा. अरुण फडके,पुणे-३० |
| १०.मराठी लेखन मार्गदर्शिका | राज्य मराठी विकास संस्था ,यास्मिन शेख |
| ११.मराठी शब्दलेखनकोश | यास्मिन शेख, हर्मीस प्रकाशन, पुणे. |
| १२.पॉप्युलर रीतिपुस्तक | रामदास भटकळ, मृदुला जोशी, पॉप्युलर प्रकाशन |
| १३.शुद्धलेखन विवेक | डॉ. द.न.गोखले,सोहम प्रकाशन, पुणे-३० |
| १४.भाषांतरमीमांसा | डॉ अंजली सोमण.डॉ ,कल्याण काळे . |
| १५.भाषांतर | सदा क-हाडे, लोकवाङ्मयगृह, मुंबई. |
| १६.भाषांतर शास्त्र की कला | म. वि. फाटक, रजनी ठकार, वरदा प्रकाशन |
| १७.भाषांतर आणि भाषा | विलास सारंग, मौज प्रकाशन |
| १८.अनुवादमीमांसा | संपादक केशव तुपे, साक्षात, औरंगाबाद |
| १९. मराठी भाषेची संवाद कौशल्ये | य.च.म.मुक्त विद्यापीठ, नाशिक;पुस्तक क्र.१ते ८ |
| २०. प्रसार माध्यमांसाठी लेखनकौशल्ये | य.च.म.मुक्त विद्यापीठ, नाशिक |
| २१. संपादन: स्वरूप व कौशल्ये)MCJ-305) | य.च.म.मुक्त विद्यापीठ, नाशिक |
| २२. प्रशासनिक मराठी भाषेचा विकास | गीता भागवत,राज्य मराठी विकास संस्था,प्रशासन, मुंबई |
| २३. मुद्रित शोधन | वाय.ए.धायगुडे,दि.पूना प्रेस ओनर्स असोसिएशन |
| २४. मराठी लेखनकोश | अरुण फडके,ढवळे प्रकाशन, मुंबई |

२५. भाषांतर मीमांसा
२६. भाषा: स्वरूप, सामर्थ्य व सौंदर्य
२७. अनुवाद: स्वरूप और विवेचन
२८. साहित्य संवाद
२९. संवाद शास्त्र
३०. माध्यम चित्रवाणी
३१. सुगम मराठी व्याकरण लेखन
३२. महाराष्ट्र साहित्य पत्रिका
(साहित्यसंस्था विशेषांक)
३३. महाराष्ट्र साहित्य पत्रिका
३४. महाराष्ट्र साहित्य पत्रिका
३५. माहितीमय समाजाचे समाजशास्त्र
३६. मराठी नियतकालिकांचा वाङ्मयीन अभ्यास
३७. साहित्याची भूमी
३८. भाषा : अंतःसूत्र आणि व्यवहार
३९. भाषांतर विद्या: स्वरूप आणि समस्या
४०. भाषा: मातृभाषा आणि परभाषा
४१. संमेलनस्मृती
४२. शासन व्यवहारात मराठी भाषा
४३. महाराष्ट्र साहित्य परिषद
४४. साहित्याची भाषा
४५. साहित्य संमेलनाचे महाभारत
४६. शतकाची विचारशैली : खंड १, २, ३
४७. संवाद
४८. दलितांची नियतकालिके
४९. मराठी साहित्य काही लेखनबंध
५०. व्यासपीठ
५१. व्यावहारिक, उपयोजित मराठी आणि
प्रसारमाध्यमांची कार्यशैली
- संपा.डॉ.कल्याण काळे,डॉ. अंजली सोमण
डॉ. वा. के. लेले,राजहंस प्रकाशन, पुणे-३०
य.च.म.मुक्त विद्यापीठ, नाशिक
प्रा.वि.शं.चौधुले,प्रतिमा प्रकाशन, पुणे-३०
श्रीपाद जोशी,संभव प्रकाशन, नागपूर
आकाशानंद,ग्रंथकार प्रकाशन, मुंबई
मो.रा.वाळंबे,नितीन प्रकाशन, पुणे
एप्रिल-मे-जून १९८६ अंक २३७
- शताब्दी महोत्सव १९०६-२००६, एप्रिल-सप्टेंबर २००६,
अंक ३१७,३१८.
एप्रिल-मे-जून २००५
य.च.म.मुक्त विद्यापीठ, नाशिक
डॉ.उषा मा. देशमुख,अभ्यासखंड १ ते ३., पुणे.
श्री.पु.भागवत,ग्रंथाली प्रकाशन,दादर,मुंबई- २८
संपा.मु.ग.पानसे
डॉ. रमेश वरखेडे.
रा.सो. सराफ
संपा. डॉ. व्ही .बी. गायकवाड, डॉ.बाळासाहेब गुंजाळ,
डॉ. वेदश्री थिंगळे, डॉ.दिलीप पवार , किरण चव्हाण.
संचालनालय, महाराष्ट्र शासन
म. श्री.दीक्षित,राज्य मराठी विकास संस्था, मुंबई
डॉ. भालचंद्र नेमाडे
डॉ. भीमराव कुलकर्णी,सुपर्ण प्रकाशन, पुणे
डॉ.रमेश धोंगडे,दिलीपराज प्रकाशन, पुणे
संपा. अरुण शेवते,मुळा एज्युकेशन सोसायटी, सोनई
हरिश्चंद्र निर्मळे,सुगावा प्रकाशन, पुणे
डॉ.सुधाकर शेलार
डॉ. महादेव वाळुंज
डॉ. संदीप सांगळे

पहिले सत्र

घटक. १ साहित्येतिहास : स्वरूपमीमांसा

- १.१ साहित्येतिहासाची संकल्पना
- १.२ कालखंड संकल्पना
- १.३ साहित्यनिर्मिती आणि कालखंड यांचा सहसंबंध
- १.४ साहित्यनिर्मितीमागील प्रेरणा व प्रवृत्तींचा कालिक संदर्भ

१५ तास १ श्रेयांक

घटक. २ अव्वल इंग्रजी कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- २.१ अर्वाचीन कालखंडाची सामाजिक, धार्मिक, राजकीय, सांस्कृतिक आणि वाङ्मयीन पार्श्वभूमी
- २.२ मुद्रणकला व ग्रंथव्यवहार
- २.३ सरकारी पातळीवरील पाठ्यपुस्तके, व्याकरण व कोशनिर्मितीचे प्रयत्न
- २.४ भाषांतरयुग

१५ तास १ श्रेयांक

घटक ३ इ.स.१८१८ ते १८७४ कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- ३.१ या कालखंडातील सुधारणाविषयक विचारांची वाटचाल
- ३.२ या कालखंडातील सामाजिक, धार्मिक, राजकीय सुधारणा व साहित्य : सहसंबंध
- ३.३ या कालखंडातील साहित्यप्रकार (निबंध, कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
- ३.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय यासंदर्भातील निरीक्षणे

१५ तास १ श्रेयांक

घटक ४ - इ.स.१८७४ ते १९२० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- ४.१ या कालखंडातील सामाजिक, धार्मिक, राजकीय विचारांची वाटचाल
- ४.२ या कालखंडातील सामाजिक, धार्मिक, राजकीय सुधारणा व साहित्य : परस्पर प्रभाव
- ४.३ या कालखंडातील साहित्यप्रकार (निबंध, कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
- ४.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय यासंदर्भातील निरीक्षणे

१५ तास १ श्रेयांक

दुसरे सत्र

घटक १ - इ.स.१९२० ते १९४५ कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- १.१ या कालखंडातील सामाजिक, धार्मिक, राजकीय विचारप्रवाह व साहित्य : सहसंबंध
(सत्यशोधकीय विचार, गांधीवाद, समाजवाद, मार्क्सवाद, कलावाद, जीवनवाद इ.)

- १.२ या कालखंडातील सामाजिक, धार्मिक, राजकीय परिस्थिती व साहित्य : परस्परसंबंध
 १.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
 १.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे
 १५ तास १ श्रेयांक

घटक २ - इ.स.१९४५ ते १९६० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- २.१ या कालखंडातील सामाजिक, धार्मिक, राजकीय स्थित्यंतरे व साहित्य : परस्परसंबंध
 (स्वातंत्र्य, महायुद्ध आदी घटनांचे साहित्यावरील परिणाम)

- २.२ या कालखंडातील नवसाहित्य व नवसमीक्षा
 २.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
 २.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे
 १५ तास १ श्रेयांक

घटक ३- इ.स.१९६० ते १९९० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- ३.१ इ.स.१९६० ते १९९० या कालखंडातील शैक्षणिक, सामाजिक, धार्मिक, राजकीय
 स्थित्यंतरे व साहित्य : परस्परसंबंध

- ३.२ साठोत्तरी साहित्यप्रवाह आणि साहित्य चळवळी : सहसंबंध
 ३.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
 ३.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे
 १५ तास १ श्रेयांक

घटक ४- इ.स. १९९० ते २०१० कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती व स्वरूप

- ४.१ इ.स.१९९० ते २०१० या कालखंडातील वाङ्मयाची सामाजिक व सांस्कृतिक पार्श्वभूमी

- ४.२ खासगीकरण, उदारीकरण व जागतिकीकरणाच्या धोरण स्वीकाराचा साहित्यावरील परिणाम
 ४.३ या कालखंडातील साहित्यप्रकार (कथा, कादंबरी, काव्य, नाटक) : स्वरूप व वाटचाल
 ४.४ या कालखंडातील साहित्य : प्रेरणा, प्रवृत्ती, विषय व आशय या संदर्भातील निरीक्षणे
 १५ तास १ श्रेयांक

संदर्भ ग्रंथ

१.	महाराष्ट्र सारस्वत	वि.ल.भावे, शं.गो.तुळपुळे
२.	मराठी वाङ्मयाचा इतिहास, खंड ४,५,६	महाराष्ट्र साहित्य परिषद, पुणे
३.	मराठी वाङ्मयाचा विवेचक इतिहास अर्वाचीन कालखंड	डॉ. प्र.न. जोशी
४.	महाराष्ट्र जीवन खंड १ व २	गं. बा. सरदार
५.	प्रदक्षिणा खंड १ व २ (सा.वा.नाशिक)	कॉन्टीनेन्टल प्रकाशन, पुणे
६.	अर्वाचीन मराठी गद्याची पूर्वपीठिका	गं. बा. सरदार
७.	साहित्य समाज आणि संस्कृती	दिगंबर पाध्ये
८.	महाराष्ट्राचा सांस्कृतिक इतिहास	शं. दा. पेंडसे
९.	मराठी गद्याचा इंग्रजी अवतार	द. वा. पोतदार
१०.	मराठी वाङ्मयाची सद्यस्थिती	संपादक डॉ.विद्यागौरी टिळक, डॉ. द. दि.पुंडे
११.	मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी	गो. म. कुलकर्णी
१२.	अर्वाचीन मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी	सदा कऱ्हाडे

१३.	मराठी कादंबरी आशय आणि आविष्कार	दत्ता घोलेप
१४.	आधुनिक मराठी वाङ्मयाचा इतिहास खंड १ व २	डॉ. अ. ना. देशपांडे
१५.	मराठी कादंबरी पहिले शतक	कुसुमावती देशपांडे
१६.	मराठी कथा उदगम आणि विकास	इंदुमती शेवडे
१७.	धार आणि काठ	नरहर कुरुंदकर
१८.	मराठी साहित्य प्रेरणा आणि स्वरूप	गो. मा. पवार व म.द.हातकणंगलेकर
१९.	टीकास्वयंवर	भालचंद्र नेमाडे
२०.	मराठी कादंबरीचा इतिहास	चंद्रकांत बांदिवडेकर
२१.	कादंबरी आणि मराठी कादंबरी	उषा हस्तक
२२.	आधुनिक मराठी कविता	रा. श्री. जोग
२३.	कामगार कवितेतील सामाजिक जाणिवा	दिलीप पी. पवार
२४.	वाङ्मयेतिहासाची संकल्पना	द. दि. पुंडे
२५.	मराठी नाटक आणि रंगभूमी	वि. भा. देशपांडे
२६.	मराठी रंगभूमीच्या तीस रात्री खंड १, २ व ३	मकरंद साठे
२७.	मराठी कथा रूप आणि परिसर	म. द. हातकणंगलेकर
२८.	एकोणिसाव्या शतकातील महाराष्ट्र	य. दि. फडके
२९.	विसाव्या शतकातील महाराष्ट्र	य. दि. फडके
३०.	आधुनिक मराठी काव्य : उद्गम, विकास आणि भवितव्य	दि. के. बेडेकर
३१.	मराठी कविता एक दृष्टिक्षेप	नागनाथ कोत्तापल्ले
३२.	मराठी कविता १९४५ ते १९६०	रा. श्री. जोग
३३.	मराठी कादंबरी प्रेरणा व स्वरूप	कुसुमावती देशपांडे
३४.	खडक आणि पाणी	गंगाधर गाडगीळ
३५.	मराठी प्रादेशिक कादंबरी	मदन कुलकर्णी
३६.	महाराष्ट्राच्या सामाजिक सांस्कृतिक स्थित्यंतराचा इतिहास खंड एक (१८०१ते१९००)	रमेश नारायण वरखेडे
३७.	कादंबरी : स्वरूप व समीक्षा	द. भि. कुलकर्णी
३८.	राजवाडेलेखसंग्रह	संपादक तर्कतीर्थ लक्ष्मणशास्त्री जोशी
३९.	निवडक मराठी समीक्षा	संपादक गो. मा. पवार
४०.	मराठी गद्याचे पूर्वरंग	संपादक भीमराव कुलकर्णी
४१.	सत्याशोधकीय साहित्याचा इतिहास	श्रीराम गुंदेकर
४२.	विचारकिरण	उमेश बगाडे
४३.	कादंबरी : एक साहित्यप्रकार	हरिशंकर थोरात
४४.	मराठी कादंबरी : त्रेसष्ट ते तेरा	हरिशंकर थोरात
४५.	एकोणिसावे शतक : सुधारणावाद व मराठी साहित्य	सुधाकर शेलार
४६.	मराठीतील चरित्रात्मक कादंबरी	शिरीष लांडगे
४७.	कवितेचा अंतःस्वर	देवानंद सोनटक्के
४८.	महाराष्ट्रातील विस्थापित आणि मराठी कादंबरी	संजय नगरकर
४९.	वारकरी संत चरित्रात्मक कादंबरी	राजेंद्र थोरात

विषयाचे नाव : ऐतिहासिक भाषाविज्ञान (CC-3)

पहिले सत्र

घटक १ भाषा : स्वरूप, कार्य आणि भाषाभ्यासाच्या विविध पद्धती

- १.१ भाषाभ्यासाची आवश्यकता
 - १.२ भाषाभ्यासाच्या विविधपद्धती : परिचय
 - १.३ ऐतिहासिक भाषाभ्यासपद्धती : स्वरूप व भूमिका
 - १.४ ऐतिहासिक भाषाभ्यासपद्धती : महत्त्व व मर्यादा
- १५ तास १ श्रेयांक

घटक २ भाषा : उद्गम व विस्तार

- २.१ भाषा उत्पत्तीविषयक विविध उपपत्ती
 - २.२ मराठीची पूर्वपीठिका - मराठी भाषेचा उगम
 - २.३ मराठीचा निर्मितीकाल (कोरीव लेख आणि ग्रंथिक पुरावे)
 - २.४ मराठी भाषाविकासाचे कालिक टप्पे (आदिकाल-मध्यकाल-अर्वाचीन काल)
- १५ तास १ श्रेयांक

घटक ३ भाषाकुल : संकल्पना व स्वरूप

- ३.१ भाषांचे पुनर्रचन आणि भाषांचे वर्गीकरण
 - ३.२ जागतिक भाषाकुले
 - ३.३ इंडो-युरोपियन भाषाकुल
 - ३.४ आर्य-भारतीय भाषाकुल आणि मराठी भाषा
- १५ तास १ श्रेयांक

घटक ४ भाषिक परिवर्तन : संकल्पना, स्वरूप व कारणे

- ४.१ स्वन परिवर्तन
 - ४.२ अर्थ परिवर्तन
 - ४.३ सादृश्यमूलक परिवर्तन
 - ४.४ आदान प्रक्रिया
- १५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : समाजभाषाविज्ञान (CC-7)

घटक १ समाजभाषाविज्ञान : स्वरूप व भूमिका

- १.१ समाजभाषाविज्ञान : पार्श्वभूमी व संकल्पना स्पष्टीकरण
- १.२ समाजभाषाविज्ञान : स्वरूप, व्याप्ती व विशेष

- १.३ भाषिकसापेक्षतावादाचा सिद्धांत
१.४ भाषा, बोली आणि समाज यांचा परस्परसंबंध

१५ तास १ श्रेयांक

घटक २

भाषाउपयोजनातील वैविध्य : स्वरूप व मागोवा

- २.१ समाजातील भाषा उपयोजनातील विविधता
२.२ भाषा आणि विविध व्यवसायक्षेत्रे : परस्परसंबंध
२.३ भाषा आणि आर्थिक वर्गव्यवस्था : परस्परसंबंध
२.४ भाषा, भाषिक भांडार आणि लघुक्षेत्रे : विशिष्ट भाषारूपे

१५ तास १ श्रेयांक

घटक ३

भाषा आणि संस्कृती : परस्परसंबंध

- ३.१ भाषेचे संस्कृतीसापेक्षत्व : स्वरूप चर्चा
३.२ भाषा आणि सांस्कृतिकव्यवस्था, सांस्कृतिक परंपरा : परस्परसंबंध
३.३ विविध सामाजिक स्तर आणि भाषा : सहसंबंध
३.४ भाषेचा लिंगसापेक्षविचार : स्त्रियांची भाषा आणि पुरुषांची भाषा

१५ तास १ श्रेयांक

घटक ४

विविध नवव्यवस्था : बदलती भाषारूपे

- ४.१ समाजांतर्गत निर्माण झालेल्या नवव्यवस्था : स्थूल परिचय
४.२ समाजांतर्गत नवव्यवस्था : आविष्कारपद्धती व भाषारूपे
४.३ प्रमाण भाषा आणि परभाषा संपर्क पिजिन(Pidgin)आणि क्रिऑल (Creol) भाषांच्या निर्मितीच्या संदर्भातील सिद्धांतन.
४.४ समाजांतर्गत विशिष्ट नवव्यवस्था आणि परिभाषेचा वापर

१५ तास १ श्रेयांक

संदर्भ ग्रंथ

- | | | |
|-----|--|------------------------------------|
| १. | ध्वनिविचार | डॉ. ना.गो. कालेलकर |
| २. | भाषा: इतिहास आणि भूगोल | डॉ. ना.गो. कालेलकर |
| ३. | भाषा आणि संस्कृती | डॉ. ना.गो. कालेलकर |
| ४. | भाषा आणि भाषाशास्त्र | डॉ.श्री.न.गजेंद्रगडकर |
| ५. | मराठीचा भाषिक अभ्यास | संपादक डॉ. मु.श्री.कानडे |
| ६. | विज्ञान: वर्णनात्मक आणि ऐतिहासिक | संपादक मालशे, डॉ. इनामदार, डॉ.सोमण |
| ७. | वर्णनात्मक भाषाविज्ञान:स्वरूप आणि पद्धती | संपादक डॉ. काळे, डॉ. सोमण |
| ८. | मराठीच्या प्रमाणभाषेचे स्वरूप | डॉ.सुहासिनी लददू |
| ९. | अर्वाचीन मराठी | डॉ.रमेश धोंगडे |
| १०. | अभिनव भाषाविज्ञान | डॉ.गं.ना.जोगळेकर |
| ११. | भाषाविज्ञान परिचय | डॉ.मालशे, डॉ.पुंडे, डॉ.सोमण |
| १२. | मराठी भाषाव्यवस्था आणि अध्यापन | डॉ.चंद्रकांत इंदापूरकर |
| १३. | समाज भाषाविज्ञान:प्रमुख संकल्पना | रमेश वरखेडे |
| १४. | सामाजिक भाषाविज्ञान:एक नवे अभ्यासक्षेत्र मराठी संशोधनपत्रिका,मार्च1978 | |

१५.	सामाजिक भाषाविज्ञान	डॉ.प्रभाकर जोशी, प्रा.चारुता गोखले
१६.	वैखरी: भाषा आणि भाषाव्यवहार	डॉ. अशोक रा.केळकर
१७.	मध्यमा	डॉ.अशोक रा. केळकर
१८.	आधुनिक भाषाविज्ञान: सिद्धांतन आणि उपयोजन	डॉ. मिलिंद मालशे
१९.	आत्मलक्षी समीक्षा	डॉ. रमेश धोंगडे
२०.	दलितांची आत्मचरित्रे	डॉ.रमेश धोंगडे
२१.	Sociolinguistics : An introduction	Peter Trudgill
२२.	The Course in General Linguistics	F.Sassure
२३.	Sociolinguistics Patterns	William Labov
२४.	Language in Sociocultural Change	J.A. Fishman
२५.	Sociolinguistics : Selected Reddings	Edited By J.B.Pride & J.Homes
२६.	An Introduction to pidgin & Creol	John A. Holm
२७.	Pidginication & Cradlization of Language	Edited by Dell Hymes
२८.	Sociolinguistics	R.A. Hudson
२९.	Language in Society an introduction to Sociolinguistics -	Suzanne Romaine
३०.	मराठी भाषेचा आर्थिक संसार	डॉ. अशोक रा.केळकर
३१.	ऐतिहासिक भाषाशास्त्र	डॉ. र.रा.गोसावी
३२.	सुबोध भाषाशास्त्र	डॉ. प्र.न.जोशी
३३.	सुलभ भाषा विज्ञान	डॉ. दत्तात्रय पुंडे
३४.	यादवकालीन मराठी भाषा	डॉ. शं.गो.तुळपुळे
३५.	सुलभ मराठी व्याकरण	मो.रा.वाळिंबे
३६.	आधुनिक भाषाविज्ञान (संरचनावादी व सामान्य)	डॉ.कल्याण काळे, डॉ.सोमण
३७.	मराठीचे वर्णनात्मक भाषाविज्ञान	डॉ. महेंद्र कदम
३८.	सामाजिक भाषाविज्ञान	संपा. डॉ. जयश्री पाटणकर.
३९.	सामाजिक भाषाविज्ञान आणि बोली	डॉ. शशीकला कांबळे.
४०.	बोलू कौतुके	डॉ.एकनाथ पगार
४१.	शैलीमीमांसा	डॉ.दिलीप धोंडगे

विषयाचे नाव : ग्रामीण साहित्य (CBOP 4)

पहिले सत्र

उद्दिष्टे:

१. स्वातंत्र्यप्राप्तीनंतरच्या कालखंडात ग्रामीण साहित्याच्या निर्मितीची कारणपरंपरा समजावून घेणे.
२. ग्रामीण साहित्याचे स्वरूप व कार्य यांची चिकित्सा करणे.
३. ग्रामीण साहित्यातील विविध वाङ्मयप्रकारांचा विकास कसा होत गेला याचे मूल्यमापन करणे.
४. ग्रामीण साहित्याने दिलेले योगदान, त्याच्या विकासाची गती, दिशा यांची मीमांसा करणे.

- घटक १ साठोत्तरी मराठी साहित्याचे स्वरूप आणि ग्रामीण साहित्य**
- १.१ साठोत्तरी कालखंडात मराठी साहित्यात उदयाला आलेले विविध साहित्यप्रवाह
 १.२ ग्रामीण साहित्यप्रवाह : निर्मितीची कारणे
 १.३ 'ग्रामीण' व 'ग्रामीण साहित्य' : संज्ञा स्पष्टीकरण
 १.४ ग्रामीण साहित्य : प्रेरणा-प्रवृत्ती
 १.५ ग्रामीण साहित्याचे देशीपण व वेगळेपण.
१५ तास १ श्रेयांक
- घटक २. ग्रामीण साहित्य आणि समाज : सहसंबंध**
- २.१ गावगाड्याची जडणघडण: परिवर्तने
 २.२ ग्रामीण समाज : जातवास्तव आणि आर्थिक - सामाजिक सहसंबंध,
 २.३ ग्रामीण समाज : स्थित्यंतरे - कृषी औद्योगिक अवस्थांतर, आधुनिकता, शैक्षणिक विकास, जाणीवजागृती आणि ग्रामीण साहित्य.
 २.४ ग्रामीण साहित्य : सामाजिक व सांस्कृतिक अनुबंध
१५ तास १ श्रेयांक
- घटक ३ ग्रामीण साहित्याची वाटचाल : स्थूल आढावा (स्वातंत्र्यपूर्व व स्वातंत्र्योत्तर कालखंड)**
- ३.१ ग्रामीण कविता, कथा, कादंबरी आणि नाटक
 ३.२ ग्रामीण साहित्यचळवळ आणि ग्रामीण साहित्य : सहसंबंध
 ३.३ ग्रामीण साहित्य आणि सामाजिक बांधिलकी
 ३.४ ग्रामीण साहित्याची समीक्षा
१५ तास १ श्रेयांक
- घटक ४ ग्रामीण साहित्य : स्वरूपचिकित्सा**
- ४.१ ग्रामीण साहित्याचे विषय
 ४.२ ग्रामीण साहित्याचे आशयविश्व
 ४.३ ग्रामीण साहित्य : भाषिक आविष्काररूपे (बोलीचे निवेदनातील स्थान)
 ४.४ ग्रामीण साहित्याचे योगदान
१५ तास १ श्रेयांक

संदर्भ ग्रंथ

१)	ग्रामीण साहित्य : स्वरूप आणि समस्या	डॉ. आनंद यादव
२)	ग्रामीणता : साहित्य आणि वास्तव	डॉ. आनंद यादव
३)	मराठी साहित्य : समाज आणि संस्कृती	डॉ. आनंद यादव
४)	ग्रामीण साहित्य : एक चिंतन	डॉ. द.ता. भोसले
५)	ग्रामीण कथा	डॉ.वासुदेव मुलाटे
६)	ग्रामीण साहित्य : प्रेरणा आणि प्रयोजन	डॉ. श्रीराम गुंदेकर
७)	ग्रामीण साहित्य	डॉ. रा.रं.बोराडे
८)	मराठी कादंबरीतील प्रादेशिकता	डॉ.भास्कर शेळके

९)	ग्रामसंस्कृती	डॉ. आनंद यादव
१०)	ग्रामीण कादंबरी	डॉ. रवींद्र ठाकूर
११)	ग्रामीण साहित्याची चळवळ	डॉ. कीर्ती मुळीक
१२)	ग्रामीण साहित्य आणि वास्तव	संपा. डॉ. कृष्णा इंगोले
१३)	ग्रामीण साहित्यातील स्त्री-चित्रण	डॉ. बाबुराव उपाध्ये
१४)	ग्रामीण साहित्य चळवळीचे सामाजिक व सांस्कृतिक योगदान	डॉ. सुधाकर शेलार
१५)	ग्रामीण साहित्य प्रवाह आणि परिस्थिती	डॉ. वामन जाधव
१६)	आनंद यादव एक साहित्यिक प्रवास	संपादक डॉ. कीर्ती मुळीक

दुसरे सत्र

विषयाचे नाव : दलित साहित्य (CBOP 8)

उद्दिष्टे:

- स्वातंत्र्यप्राप्तीनंतरच्या कालखंडात दलित साहित्याच्या निर्मितीची कारणे, परंपरा आणि या साहित्याने दिलेल्या आव्हानांचा अभ्यास करणे.
- दलित साहित्यातून व्यक्त होणाऱ्या वेदनांचे व विद्रोहाचे स्वरूप जाणून घेणे.
- दलित साहित्याने निर्माण केलेल्या विविध साहित्यप्रकारांच्या विकासांचे मूल्यमापन करणे.

घटक १ साठोत्तरी मराठी साहित्याचे स्वरूप आणि दलित साहित्य

- १.१ दलित साहित्यप्रवाह : निर्मितीची कारणे
- १.२ 'दलित' व 'दलित साहित्य' : संज्ञा स्पष्टीकरण
- १.३ दलित साहित्य : प्रेरणा-प्रवृत्ती,
- १.४ दलित साहित्याचे वेगळेपण.

१५ तास १ श्रेयांक

घटक २. दलित साहित्य आणि समाज : सहसंबंध

- २.१ भारतीय समाज : जातवास्तव
- २.२ भारतीय समाज : दलितांचे स्थान, आर्थिक-सामाजिक स्थितीगती
- २.३ दलित समाज : स्थित्यंतरे - शैक्षणिक विकास, जाणीवजागृती आणि दलित साहित्य.
- २.४ दलित साहित्य : सामाजिक व सांस्कृतिक अनुबंध

१५ तास १ श्रेयांक

घटक ३ दलित साहित्याची वाटचाल : स्थूल आढावा (स्वातंत्र्यपूर्व व स्वातंत्र्योत्तर कालखंड)

- ३.१ दलित कविता-शाहिरी, आत्मकथने, कथा, कादंबरी आणि नाटक
- ३.२ दलित साहित्यचळवळ आणि दलित साहित्य : सहसंबंध
- ३.३ दलित साहित्य आणि सामाजिक बांधिलकी
- ३.४ दलित साहित्याची समीक्षा

१५ तास १ श्रेयांक

घटक ४ दलित साहित्य : स्वरूपचिकित्सा

- ४.१ दलित साहित्याचे विषय
- ४.२ दलित साहित्याचे आशयविश्व (वेदना, विद्रोह आणि नकार)
- ४.३ दलित साहित्य : भाषिक आविष्काररूपे (बोलीचे निवेदनातील स्थान)
- ४.४ दलित साहित्याचे योगदान

१५ तास १ श्रेयांक

संदर्भग्रंथ

१. दलित साहित्य : वेदना आणि विद्रोह डॉ.भालचंद्र फडके
२. दलित साहित्य : सिध्दांत आणि स्वरूप यशवंत मनोहर
३. जातिप्रथेचे विध्वंसन डॉ.बाबासाहेब आंबेडकर
४. दलित साहित्य : एक चिंतन अर्जुन डांगळे
५. दलित साहित्य : एक क्रांती विज्ञान बाबूराव बागुल
६. दलित साहित्य : आस्वाद आणि शोध यशवंत मनोहर
७. दलित साहित्य वामन निंबाळकर
८. दलित साहित्य : दिशा आणि दिशांतर दत्ता भगत
९. दलित साहित्यातील स्पंदने गो.म.कुलकर्णी
१०. दलित नाटक, प्रेरणा आणि विकास प्रा.शैलेश त्रिभुवन
११. दलित चळवळ आणि साहित्य डॉ.कृष्णा किरवले
१२. दलित साहित्याचे निराळेपण डॉ. प्रभाकर मांडे
१३. अण्णाभाऊ साठे विलास गिते, प्रा.बजरंग कोरडे,
१४. दलित कविता डॉ.म.सु.पाटील
१५. दलित आत्मकथने डॉ.वासुदेव मुलाटे
१६. दलित रंगभूमी डॉ.भालचंद्र फडके
१७. निळी पहाट प्रा. रा.ग. जाधव
१८. दलित वाङ्मय : प्रेरणा व प्रवृत्ती डॉ. शंकरराव खरात
१९. दलित साहित्य: एक अभ्यास अर्जुन डांगळे
२०. विद्रोहाचे पाणी पेटले आहे. डॉ.गंगाधर पानतावणे
२१. मूल्यवेध डॉ.गंगाधर पानतावणे
२२. दलितांचे विद्रोही वाङ्मय म.ना.वानखेडे
२३. दलित साहित्य : एक आकलन प्रा.बाळकृष्ण कवठेकर
२४. गांधी आणि आंबेडकर प्रा. गं.बा.सरदार
२५. दलित साहित्य : प्रवाह आणि प्रतिक्रिया गो.म.कुलकर्णी
२६. मार्क्सवाद व दलित साहित्य प्रा.वि.स.जोग
२७. दलित स्त्रियांची आत्मकथने : स्वरूप आणि चिकित्सा डॉ.मनोहर जाधव
२८. दलित साहित्य : विचार आणि वैभव डॉ.अनिल गजभिषे
२९. दलित व दलितेतरांची कथा : एक अभ्यास डॉ. श्रीराम गडकर

पहिले सत्र

उद्दिष्टे:

१. वाङ्मयाभ्यासाच्या संदर्भात वाङ्मय आणि संस्कृती यांच्यातील अनुबंधाचा शोध घेणे.
२. संस्कृतीची विविध अंगे आणि वाङ्मय निर्मितीच्या प्रेरणा, वाङ्मयातील प्रवाह, प्रवृत्ती यांचा परस्परसंबंध जाणून घेणे.
३. मराठी वाङ्मय व महाराष्ट्र संस्कृती यातील अनुबंध जाणून घेणे.
४. महाराष्ट्रातील धर्मसंप्रदाय व मराठी वाङ्मय - नाथ, महानुभाव, वारकरी, दत्त, समर्थ संप्रदाय यांचा व मराठी वाङ्मयाचा परस्परसंबंध अभ्यासणे
५. महाराष्ट्रातील राजवटी आणि मराठी वाङ्मयनिर्मिती - यादवकालीन वाङ्मयनिर्मिती, बहामनीकालीन वाङ्मयनिर्मिती, शिवकालीन वाङ्मयनिर्मिती, पेशवेकालीन वाङ्मयनिर्मिती यांचा परस्परसंबंध अभ्यासणे.
६. वाङ्मयप्रसाराची मध्ययुगीन माध्यमे, पुराण, प्रवचन, कीर्तन, भारूड, तमाशा, लावणी, रंगभूमी इ.चे स्वरूप अभ्यासणे.
७. अर्वाचीन कालखंडातील साहित्यप्रकारांचे स्वरूप व सांस्कृतिक पार्श्वभूमी अभ्यासणे.
८. लोकसाहित्याचा मध्ययुगीन मराठी वाङ्मयावरील प्रभाव अभ्यासणे.

घटक १

संस्कृती आणि साहित्य : सहसंबंध

- १.१ संस्कृती : स्वरूपमीमांसा
 - १.२ मानवी जीवनातील स्थित्यंतरे व संस्कृती विकास
 - १.३ संस्कृती आणि साहित्य : परस्परसंबंध
 - १.४ साहित्याच्या संस्कृतीलक्ष्यी अभ्यासाची आवश्यकता
- १५ तास १ श्रेयांक

घटक २

महाराष्ट्र संस्कृती आणि मराठी वाङ्मय : सहसंबंध

- २.१ महाराष्ट्र नामाभिधान व मराठी भाषेचा उगम - विस्तार
 - २.२ महाराष्ट्रातील धर्मसंप्रदाय आणि त्यांचे वाङ्मय
 - २.३ महाराष्ट्रातील राजकीय स्थित्यंतरांचा वाङ्मयावरील परिणाम
 - २.४ मध्ययुगीन कालखंडाचा युगधर्म आणि साहित्य : परस्परसंबंध
- १५ तास १ श्रेयांक

घटक ३

मध्ययुगीन मराठी वाङ्मय आणि संप्रदाय

- ३.१ मध्ययुगीन कालखंडातील वाङ्मयप्रकार आणि त्या प्रकारांच्या निर्मितीमागील प्रेरणा
 - ३.२ मध्ययुगीन कालखंडातील वाङ्मय : संप्रदाय आणि तत्त्वज्ञान
 - ३.३ मध्ययुगीन कालखंडातील वाङ्मय : विषय आणि आशय
 - ३.४ मध्ययुगीन कालखंडातील वाङ्मयातून प्रकटणारे समाजवास्तव
- १५ तास १ श्रेयांक

घटक ४

मध्ययुगीन मराठी वाङ्मय : सांस्कृतिक योगदान

- ४.१ वाङ्मयप्रसाराची मध्ययुगीन माध्यमे व त्यांची सांस्कृतिक पार्श्वभूमी : भजन, कथा, कीर्तन, प्रवचन, भारूड, गवळणी, पोवाडे, लावण्या इ. संदर्भात
- ४.२ मध्ययुगीन मराठी वाङ्मय आणि लोकसाहित्य यांचे अनुबंध
- ४.३ मध्ययुगीन मराठी वाङ्मय आणि भाषिक आविष्काररूपे
- ४.४ मध्ययुगीन मराठी वाङ्मय आणि मराठी विचारविश्वाची जडणघडण

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी : इ. स. १८१८ ते १९६० (CBOP- 8)

घटक १

एकोणिसाव्या शतकातील महाराष्ट्रीय जीवनातील स्थित्यंतरे

- १.१ इंग्रजी सत्तेचा उदय : महाराष्ट्रीय जीवनावरील परिणाम व प्रभाव
- १.२ मुद्रणकला व नियतकालिकांचा उदय : निबंध साहित्यप्रकाराचा उदय
- १.३ औपचारिक शिक्षणव्यवस्था : पाठ्यपुस्तकनिर्मिती, व्याकरणांची रचना व कोशनिर्मिती
- १.४ भाषांतर युग व अन्य साहित्यनिर्मिती : नवे साहित्यप्रकार

१५ तास १ श्रेयांक

घटक २

एकोणिसाव्या शतकातील सांस्कृतिक चळवळी

- २.१ एकोणिसाव्या शतकाचा बदललेला युगधर्म
- २.२ धर्मविषयक प्रश्न आणि सुधारणा चळवळी
- २.३ समाज सुधारणाविषयक चिंतन आणि सुधारणा चळवळी
- २.४ एकोणिसाव्या शतकात उदयाला आलेला सुधारणावाद व तत्कालीन साहित्य : सहसंबंध

१५ तास १ श्रेयांक

घटक ३

एकोणिसाव्या शतकाचा उत्तरार्ध : महाराष्ट्राचे बदलते विचारविश्व

- ३.१ स्वभाषा, स्वधर्म, राष्ट्रप्रेम, देशोन्नती या संदर्भातील जागरण
- ३.२ स्वातंत्र्यविषयक चळवळी व साहित्य : सहसंबंध
- ३.३ विसाव्या शतकातील राजकीय, सामाजिक चळवळी
- ३.४ विसाव्या शतकात उदयाला आलेले नवे विचारव्यूह व सांस्कृतिक बदल

१५ तास १ श्रेयांक

घटक ४

स्वातंत्र्य चळवळ आणि मराठी साहित्य

- ४.१ स्वातंत्र्यलढा आणि मराठी साहित्य
- ४.२ स्वातंत्र्योत्तर मराठी साहित्य : महायुद्धाचे परिणाम व नवसाहित्याचा उदय
- ४.३ विसाव्या शतकातील साहित्य आणि बदलती अभिरूची
- ४.४ अर्वाचीन साहित्याचे सांस्कृतिक योगदान

१५ तास १ श्रेयांक

संदर्भग्रंथ

१. साहित्य व संस्कृती
२. संत वाङ्मयाची सामाजिक फलश्रुती
३. मराठी संतमंडळाचे ऐतिहासिक कार्य
४. महाराष्ट्रीयानांचे काव्यपरीक्षण
५. मराठी वाङ्मयाभिरूचीचे विहंगमावलोकन
६. महाराष्ट्र जीवन, खंड १ व २
७. महाराष्ट्राच्या सामाजिक जीवनातील स्थित्यंतरे
८. अर्वाचीन मराठी साहित्याची सांस्कृतिक पार्श्वभूमी
९. राजकीय चळवळ आणि मराठी नाटयसृष्टी
१०. भारतीय प्रबोधन
११. मराठी वाङ्मयाचा इतिहास, खंड १ ते ६
१२. मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी
१३. मराठी वाङ्मयाचा इतिहास खंड १ व २
१४. १९व्या शतकातील महाराष्ट्राची सामाजिक पुनर्घटना
१५. वाटा आणि वळणे
१६. युरोपियनांचा मराठीचा अभ्यास व सेवा
१७. प्राचीन मराठी वाङ्मयाचा इतिहास
१८. यादवकालीन महाराष्ट्र
१९. पेशवेकालीन महाराष्ट्र : भाग १ व २
२०. महाराष्ट्र संस्कृती
२१. महाराष्ट्र संस्कृती : घडण व विकास
२२. पाच भक्तीसंप्रदाय
२३. अर्वाचीन मराठी गद्याची उत्क्रांती
२४. वि.कृ.चिपळूणकर : काल आणि कर्तृत्व
२५. मराठी ग्रंथनिर्मितीची वाटचाल
२६. संशोधनाची क्षितिजे
२७. ज्ञानेश्वरांचे श्रोतृसंवाद
२८. संशोधन शलाका
२९. वाङ्मयेतिहासाची संकल्पना
३०. मराठी लोकांची संस्कृती
३१. महाराष्ट्र संस्कृती
३२. मराठी वाङ्मयाचा विवेचक इतिहास
३३. मराठी वाङ्मयाचा विवेचक इतिहास अर्वाचीन कालखंड
३४. आधुनिक वाङ्मयाची सांस्कृतिक पार्श्वभूमी
३५. एकोणिसावे शतक : सुधारणावाद व मराठी साहित्य
३६. महाराष्ट्राच्या सामाजिक, सांस्कृतिक स्थित्यंतराचा इतिहास

- दु. का. संत
 गं. बा. सरदार
 बा. र. सुंठणकर
 श्री. व्यं. केतकर
 रा. श्री. जोग
 संपादक गं. बा. सरदार
 भ. श्री. पंडित
 सदा क-हाडे
 श्रीधर शनवारे
 संपादक मे.पु.रेगे,(भा.शं.भणगे गौरवग्रंथ)
 म.सा.परिषद,पुणे प्रकाशन.
 डॉ.गं.ना.जोगळेकर, प्रा.गो.म.कुलकर्णी
 ल.रा.पांगारकर,
 रा.शं. वाळिंबे
 प्रा. गो.म.कुलकर्णी
 श्री.म. पिंगे
 अ.ना.देशपांडे
 मु.ग.पानसे
 वा.कृ.भावे
 पु. ग. सहस्रबुद्धे
 प्रा. शेणोलीकर
 र.रा. गोसावी
 कृ.भि.कुलकर्णी
 ग.त्र्यं.माडखोलकर
 शं.गो.तुळपुळे
 संपा. भा.ल.भोळे
 द.भि.कुलकर्णी
 सुरेश म.डोळके
 द.दि.पुंडे
 इरावती कर्वे
 पु.ग.सहस्रबुद्धे
 प्र. न. जोशी
 प्र. न. जोशी
 गो. म. कुलकर्णी
 सुधाकर शेलार
 रमेश नारायण वरखेडे

विषयाचे नाव : तौलनिक साहित्याभ्यास भाग १ (CBOP 4)

पहिले सत्र

उद्दिष्टे:

१. तौलनिक साहित्याभ्यासाची संकल्पना व स्वरूप समजून घेणे.
२. तौलनिक साहित्याभ्यासाची पार्श्वभूमी समजून घेणे.
३. तौलनिक साहित्याभ्यासाची व्याप्ती समजून घेणे.
४. तौलनिक साहित्याभ्यासाची भारतीय पार्श्वभूमी आणि विकासक्रम समजून घेणे.
५. विश्वसाहित्य, राष्ट्रीय साहित्य, भारतीय साहित्य व इतर संकल्पना समजून घेणे.
६. तौलनिक साहित्याभ्यासाचा इतर ज्ञानक्षेत्रांशी असणारा संबंध समजून घेणे.
७. तौलनिक साहित्याभ्यासाच्या व्यावसायिक संधींचा विचार करणे.

घटक १ तौलनिक साहित्याभ्यास : संकल्पना व स्वरूप

१. तौलनिक साहित्याभ्यास : व्याख्या आणि व्याप्ती
२. तौलनिक साहित्याभ्यासाची तत्त्वे, तुलना-संकल्पना
३. तौलनिक साहित्यमीमांसा

१५ तास १ श्रेयांक

घटक - २ तुलनापद्धतीचे स्वरूप व कार्य

- १) केंद्रवर्ती तुलनापद्धती
- २) केंद्रोत्सारी तुलनापद्धती
- ३) एकाकालिक तुलनापद्धती
- ४) भिन्नकालीन तुलनापद्धती (ऐतिहासिक)
- ५) दोन देशीभाषांतील साहित्यकृतींची तुलना
- ६) दोन परकीय भाषांतील साहित्यकृतींची तुलना

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घटक- ३. तौलनिक साहित्याभ्यासाची पार्श्वभूमी व विविध संप्रदाय

- १) फ्रेंच संप्रदाय, अमेरिकन संप्रदाय, जर्मन संप्रदाय, रशियन संप्रदाय
- २) भारतातील बहुभाषिकत्व आणि बहुसांस्कृतिकतेची पार्श्वभूमी
- ३) तौलनिक साहित्याभ्यास : भारतीय संप्रदाय
- ४) तौलनिक साहित्याभ्यास : मराठीतील अभ्यासक व अभ्यासाच्या दिशा

१५ तास १ श्रेयांक

घटक ४. तौलनिक साहित्याभ्यास आणि साहित्यमीमांसा

- १) द्वैभाषिक साहित्यकृतीचा अभ्यास
- २) वाङ्मयीन प्रवाह व चळवळींचा अभ्यास
- ३) तौलनिक साहित्य व सामाजिक चळवळी
- ४) वाङ्मयीन कालखंडांचा अभ्यास
- ५) वाङ्मय प्रकारांचा अभ्यास

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : तौलनिक साहित्याभ्यास भाग २ (CBOP 8)

घटक १ प्रभव आणि प्रभाव

- १.१ प्रभव संकल्पना
- १.२ प्रभाव संकल्पना
- १.३ आदानप्रदान
- १.४ वाङ्मयचौर्य

१५ तास १ श्रेयांक

घटक २. तौलनिक साहित्याभ्यास - प्रमुख संकल्पना

- २.१ विश्वसाहित्य
- २.२ राष्ट्रीय साहित्य
- २.३ भारतीय साहित्य
- २.४ आंतरभारती संकल्पना (सानेगुरुजी)

१५ तास १ श्रेयांक

घटक ३ तौलनिक साहित्याभ्यास आणि इतर ज्ञानशाखा परस्परसंबंध –

- ३.१ तौलनिक साहित्य आणि संस्कृती अभ्यास
- ३.२ तौलनिक साहित्य आणि तत्त्वज्ञान
- ३.३ तौलनिक साहित्य आणि मानववंशशास्त्र
- ३.४ तौलनिक साहित्य आणि भाषांतरविद्या
- ३.५ तौलनिक साहित्याभ्यास आणि जागतिकीकरण

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घटक ४ तुलनात्मक अभ्यासासाठी नेमलेल्या साहित्यकृती

४.१ 'कोसला' लेखक भालचंद्र नेमाडे, पॉप्युलर प्रकाशन व 'द कॅचर इन द राय' (The Catcher in the Rai) लेखक जे. डी. सालींजर, अनुवादक संजय भास्कर जोशी, साकेत प्रकाशन, औरंगाबाद.

किंवा

‘जिणं आमचं’, लेखिका बेबी कांबळे, सुगावा प्रकाशन, पुणे व ‘जूठन’ खंड १ लेखक ओमप्रकाश वाल्मीक, राधाकृष्ण प्रकाशन, दिल्ली.

संदर्भ ग्रंथ

१. तौलनिक साहित्याभ्यास : तत्त्वे आणि दिशा	संपा. चंद्रशेखर जहागिरदार
२. तौलनिक साहित्याभ्यास	वसंत बापट, मौज प्रकाशन मुंबई,
३. तुलनात्मक साहित्याभ्यास	डॉ आनंद पाटील, मेहता प्रकाशन
४. भाषांतर मीमांसा	डॉ. कल्याण काळे, डॉ. अंजली सोमण
५. तौलनिक साहित्य आणि मध्ययुगीन मराठी वाङ्मय	डॉ. र. बा. मंचरकर
६. तौलनिक साहित्य	डॉ. निशिकांत मिरजकर

विषयाचे नाव : वाङ्मयेतिहासलेखनविद्या भाग १ (CBOP 4)

पहिले सत्र

उद्दिष्टे:

१. विद्यार्थ्यांमध्ये वाङ्मयाचा इतिहाससापेक्ष अभ्यास करण्याची क्षमता निर्माण करणे.
२. विद्यार्थ्यांमध्ये वाङ्मयाच्या इतिहासाविषयी जिज्ञासा निर्माण करणे
३. विद्यार्थ्यांना वाङ्मयाच्या इतिहासाचे पुनरावलोकन करण्यास प्रवृत्त करणे
४. विद्यार्थ्यांना वाङ्मयाच्या इतिहासाचे लेखन करण्यास प्रवृत्त करणे
५. वाङ्मयीन प्रेरणा आणि वाङ्मयाचा प्रवाह यांचे स्वरूप स्पष्ट करणे .
- ६ . वाङ्मयातील परंपरा आणि नवता यांची तत्त्वे आणि सूत्रे निश्चित करण्यास शिकविणे आणि त्यानुसार वाङ्मयकृतीचा, लेखकाचा, वाङ्मयप्रकाराचा विशिष्ट कालखंडाचा अभ्यास करण्याच्या रिती विद्यार्थ्यांना शिकवणे .
७. वाङ्मयेतिहासविद्या (Literary Historiography) या नव्यानेच उदयास आलेल्या ज्ञानशाखेचा परिचय करून देणे.

घटक १

इतिहास व वाङ्मयेतिहास : परस्परसंबंध

- १.१ इतिहासाचे तत्त्वज्ञान: स्थूल ओळख, संकल्पना.
- १.२ वाङ्मयेतिहासाची संकल्पना : वाङ्मयेतिहासाच्या व्याख्या, स्वरूप, वाङ्मयेतिहास लेखनासंबंधीच्या उत्पत्ती.
- १.३ इतिहास व वाङ्मयेतिहासातील अनुबंध.
- १.४ वाङ्मयेतिहास व अन्य प्रकारचे इतिहास यातील भेदरेषा.

१५ तास १ श्रेयांक

घटक २

वाङ्मयेतिहासाच्या संकल्पनेचा उदय

- २.१ पाश्चात्य संकल्पनाविचार- थॉमस वार्टन, एच. ए. तेन, कसमिया, आर. एस. क्रेन, हॅन्स रॉबर्ट, जॉस इआ.

- २.२ भारतीय संकल्पनाविचार - वि. का. राजवाडे, श्री. व्यं. केतकर, दि. के. बेडेकर, डॉ. गो. म. कुलकर्णी, द. दि. पुंडे, डॉ. म. रा. जोशी, सुजित मुखर्जी, श्रीनिवास प्रधान, गणेश देवी, सिसिरकुमार दास इ.

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घटक ३ .

वाङ्मयेतिहासलेखनाचे प्रकार

३.१ स्वरूपावरून पडणारे प्रकार

- ३.१.१ कालक्रमवाचक वाङ्मयेतिहास
३.१.२ अनुबंधवाचक वाङ्मयेतिहास
३.१.३ रूपलक्ष्यी किंवा सौंदर्यलक्ष्यी वाङ्मयेतिहास
३.१.४ समग्रलक्ष्यी वाङ्मयेतिहास

३.२ लेखनरितीवरून पडणारे प्रकार

- ३.२.१ लेखकानुसारी वाङ्मयेतिहास
३.२.२ वाङ्मयाप्रकारानुसारी वाङ्मयेतिहास
३.२.३ वृत्तिप्रवृत्तिनुसारी वाङ्मयेतिहास

३.३ वाङ्मयेतिहासकारासमोरील उद्दिष्टानुसार पडणारे प्रकार

- ३.३.१ बृहद वाङ्मयेतिहास
३.३.२ संहिता वाङ्मयेतिहास
३.३.३ वाङ्मयप्रकारलक्ष्यी वाङ्मयेतिहास
३.३.४ प्रदेशनिष्ठ किंवा भूगोलनिष्ठ वाङ्मयेतिहास
३.३.५ दृष्टिकोणनिष्ठ वाङ्मयेतिहास

१५ तास १ श्रेयांक

घटक ४

वाङ्मयेतिहास विचारातील काही नवसंकल्पना :

- ४.१ वाङ्मयेतिहासाची सामग्री
४.२ वाङ्मयाचा भूगोल
४.३ वाङ्मयीन घटना
४.४ वाङ्मयेतिहास लेखनाची ध्येये व उद्दिष्टे
४.५ वाङ्मयेतिहास लेखन-स्वभाषकांसाठी व परभाषकांसाठी,
४.६ वाङ्मयेतिहासाचे पुनर्लेखन, कालपट
४.७ वाङ्मयेतिहासाची सांस्कृतिक पार्श्वभूमी

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : वाङ्मयेतिहासलेखनविद्या भाग २ (CBOP 8)

घटक १

बहुभाषिक राष्ट्रातील वाङ्मयेतिहासाचे स्वरूप

- १.१ भारतीय वाङ्मयेतिहासाची संकल्पना, मराठी वाङ्मयाचा भारतक्षेत्रीय अभ्यास व इतिहास

- १.२ वाङ्मयेतिहास लेखनातील तात्त्विक व तांत्रिक समस्या व अडचणी,
 १.३ मध्ययुगीन मराठी वाङ्मयेतिहास लेखनातील समस्या व अडचणी
 १.४ आधुनिक मराठी वाङ्मयेतिहास लेखनातील समस्या व अडचणी

१५ तास १ श्रेयांक

घटक २ मध्ययुगीन व अर्वाचीन मराठी वाङ्मय आणि इतिहासलेखन

- २.१ मराठी वाङ्मयेतिहास लेखन : प्रारंभ
 २.२ वि.ल.भावे ते म.सा.परिषद प्रकल्प : समालोचनात्मक आढावा
 २.३ अ.ना.देशपांडे यांच्या वाङ्मयेतिहास लेखनाची मीमांसा
 २.४ मराठी वाङ्मयाचे इंग्लिश, हिंदी व अन्य भाषांमधील वाङ्मयेतिहास लेखन : स्थूलमीमांसा

१५ तास १ श्रेयांक

घटक ३ वाङ्मयेतिहासकारांचे कार्य : स्थूल मूल्यमापन

वि. ल. भावे, म. गो. रानडे, वि. का. राजवाडे, वि. सी. सरवटे, ल. रा. पांगारकर, बाळकृष्ण अनंत भिडे, ह. श्री. शेणोलीकर, ल. रा. नसिराबादकर, श्री. म. पिंगे, वि. पां. दांडेकर, अ. ना. देशपांडे, रा. श्री. जोग, प्र. न. जोशी, कुसुमावती देशपांडे, शं. गो. तुळपुळे, गो. म. कुलकर्णी, व. दि. कुलकर्णी, म. ना. अदवंत, गो. चिं. भाटे, श्री. ना. बनहट्टी, प्र. वा. बापट, ना. वा. गोडबोले, गं. ना. जोगळेकर, स. गं. मालशे, दत्तात्रय पुंडे.

१५ तास १ श्रेयांक

घटक ४ मराठीतील वाङ्मयेतिहास विचारांची वाटचाल

- ४.१ १९७४ पर्यंतचा मराठी वाङ्मयेतिहासविचार
 ४.२ माटे-बेडेकर वाद -१९४७ ते १९५४
 ४.३ महाराष्ट्र साहित्य परिषदेची वाङ्मयेतिहासलेखनामागील भूमिका
 ४.४ वाङ्मयेतिहासलेखनाची भाषा

१५ तास १ श्रेयांक

संदर्भ ग्रंथ

अ) मराठी संदर्भ ग्रंथ

- | | |
|---|--|
| १. इतिहासाचे तत्त्वज्ञान | सदाशिव आठवले, प्राज्ञ पाठशाळा, वाई, |
| २. वाङ्मयेतिहास: सद्यस्थिती आणि अपेक्षा | गो.म.कुलकर्णी व दत्तात्रय पुंडे |
| ३. वाङ्मयेतिहासाची संकल्पना | संपा.दत्तात्रय पुंडे |
| ४. साहित्यचिंतन | संपा.व.दि.कुलकर्णी, मुंबई विद्यापीठ प्रका. |
| ५. मराठी वाङ्मयेतिहासाची प्रस्तावना | डॉ.रा.शं.वाळिंबे |
| ६. इतिहास म्हणजे काय? | इ.एच.कार, अनुवाद वि. गो. लेले |
| ७. वाङ्मयेतिहास लेखन (स्वरूप व समस्या) | डॉ. विद्यागौरी टिळक, |
| ८. मराठी वाङ्मयेतिहासाची सद्यस्थिती | डॉ. दत्तात्रय पुंडे, डॉ. विद्यागौरी टिळक |

आ) इंग्लिश संदर्भ ग्रंथ

1. Butterfield Herbert, Man of His Past, Caambridge University Press 1969.
2. Carr E.H., What is History? Penguin Books.
3. Cohen Ralph (Ed.), New Directories in Literary History, Routledge and KaganPual, London, 1974.
4. Collingwood, The Idea of History, Oxford University Press.
5. Eiton G.R. The Practice of History, Fountana Press, London 1987.
6. Tosh John, The Pursuit of History, Longman, London, New York 1984.
7. Walsh W.H., An Introduction to Philosophy of History, Hutchinson & Comm London, 1977.
8. R.S. Crane, Critical & Historical Principles in Literary History, University of Chicago Press, Chicago 1960.
9. Devy G.H. Many Heros, Orient Longman, Hyderabad 1997.
10. Mukhargee Sujit, Some Positions on a Literary History of India, Cenbtral Institute of Indian Languages, Mysore 1981.
11. Mukhargee Sujit, Towards a Literary History of India, Indian Institute of Advanced Study, Simla 1975
12. Therotical Issues in Literary History, Parkins David (Ed) Harwar University Press, Cambridge 1991.
13. Parkins David Is Literary History Possible: The Johns Hapkins University Press, Baltimore in London 1993.

विषयाचे नाव : मराठीचे व्याकरण भाग १ (CBOP 4)

पहिले सत्र

उद्दिष्टे –

१. भाषा आणि लिपी यांच्यातील संबंधांचा अभ्यास करणे.
२. व्याकरणाचे समग्र स्वरूप समजून घेणे.
३. व्याकरणाचे भाषेच्या जडणघडणीतील महत्त्व समजून घेणे.
४. व्याकरणाचे भाषाभ्यासातील महत्त्व स्पष्ट करणे .
५. व्याकरणिक नियमातील बांधणी समजून घेणे.

घटक १ **मराठी भाषेचे व्याकरण : स्वरूप आणि संकल्पना**
 १.१ भाषा आणि लिपी : सहसंबंध
 १.२ देवनागरी लिपी आणि मराठी भाषा
 १.३ मराठी भाषेच्या व्याकरणाचे स्वरूप, संकल्पना आणि वाटचाल
 १.४ मराठी व्याकरणावरील इतर भाषांच्या व्याकरणाचा प्रभाव
१५ तास १ श्रेयांक

घटक २ **मराठीचा वर्णविचार**
 २.१ वर्णमाला : वर्णांचे प्रकार
 २.२ स्वर आणि व्यंजने

- २.३ जोडाक्षरांचे लेखन
२.४ काही विशेष लेखनपद्धती

१५ तास १ श्रेयांक

घटक ३ शब्दविचार आणि शब्दसिद्धी

- ३.१ शब्दांची घडण व संधी
३.२ संधीचे प्रकार (व्यंजनसंधी, विसर्गसंधी, विशेषसंधी)
३.३ शब्दसिद्धी : सिद्ध, साधित, उपसर्ग आणि प्रत्यय
३.४ शब्दसाधिते

१५ तास १ श्रेयांक

घटक ४ शब्दांच्या जाती व त्यांची कार्ये

- ४.१ शब्दांच्या जाती
४.२ शब्दविकार
४.३ विभक्तीविचार
४.४ विभक्तीचे अर्थ

१५ तास १ श्रेयांक

दुसरे सत्र

विषयाचे नाव : मराठीचे व्याकरण भाग २ (CBOP 8)

घटक १ प्रयोगविचार व समासविचार

- १.१ प्रयोग : संकल्पनाविचार
१.२ प्रयोगाचे प्रकार
१.३ समास : संकल्पनाविचार
१.४ समासाचे प्रकार

१५ तास १ श्रेयांक

घटक २ वाक्यपृथक्करण व संश्लेषण

- २.१ वाक्यपृथक्करण : संकल्पनाविचार
२.२ वाक्यांचे प्रकार व पृथक्करणविचार
२.३ वाक्यसंश्लेषण : संकल्पनाविचार
२.४ वाक्यरूपांतर : केवल वाक्य, संयुक्त वाक्य, मिश्रवाक्य तयार करणे

१५ तास १ श्रेयांक

घटक ३ मराठीतील वृत्तविचार व छंदविचार

- ३.१ गद्य व पद्य लेखन आणि वृत्त संकल्पना
३.२ वृत्तांचे प्रकार
३.३ छंद संकल्पना
३.४ छंदांचे प्रकार

१५ तास १ श्रेयांक

घटक ४ अलंकार आणि शब्दशक्ती

- ४.१ अलंकार : संकल्पना व आवश्यकता
- ४.२ अलंकारांचे प्रकार
- ४.३ शब्दशक्ती : अभिधा, लक्षणा आणि व्यंजना
- ४.४ वाक्प्रचार व म्हणी, समानार्थी, विरुद्धार्थी शब्द

१५ तास १ श्रेयांक

संदर्भ ग्रंथ

१. शास्त्रीय मराठी व्याकरण	मो. के. दामले
२. मराठी व्याकरणातील निबंध	कृष्णशास्त्री चिपळूणकर
३. मराठी व्याकरणाची मूलतत्त्वे	ग. ह. केळकर
४. मराठी व्याकरणाचा पुनर्विचार	अरविंद मंगरूळकर
५. मराठीचे व्याकरण	डॉ.लीला गोविलकर
६. मराठीचे व्याकरण: वाद आणि प्रवाद	कृ.श्री.अर्जुनवाडकर
७. मराठी व्याकरणाची कुळकथा	अ.का.प्रियोळकर
८. मराठी भाषेची घटना	रा.भि.जोशी
९. मराठी प्रमाणभाषेचे स्वरूप	सुहासिनी लददू
१०. मराठी व्याकरण विवेक	मा.ना.आचार्य
११. अभिनव मराठी व्याकरण	डॉ. प्र.न जोशी
१२. अर्वाचीन मराठी	रमेश वा. धोंगडे
१३. देवनागरी लिपी : उद्गम, विकास व संभावना	ल. श्री. वाकणकर
१४. मराठी व्याकरण स्वरूप व चिकित्सा	खंडेराव कुलकर्णी

UNIVERSITY OF PUNE
Board of Studies in Economics
REVISED SYLLABUS

For

M.A. Part II (Credit system)

(Course to be started from June 2014)

The students will have *THREE* Core courses and will have to select *ONE* Non-Core course in each of the two semesters, in M.A. Part II. There will be *Four* courses in each of the two semesters for M.A.

M.A. Part II Semester III		M.A. Part II Semester IV	
Core Courses		Core Courses	
EC-3001	Macro Economics I	EC-4001	Macro Economics II
EC-3002	Growth & Development I	EC-4002	Growth & Development II
EC-3003	Modern Banking	EC-4003	Research Methodology
Non- Core Courses (Any one course to be selected)		Non- Core Courses (Any one course to be selected)	
EC-3004	Demography	EC-4004	Rural Development
EC-3005	World Economy	EC-4005	Economics of Environment
EC-3006	Economics of Finance	EC-4006	Econometrics

M.A. Economics Revised Syllabus Committee.

Sr,no	Name	Designation
1	Dr. Suhas Avhad	Chairman
2	Dr. Dangat N.R.	Coordinator
3	Dr. Jadhavar R.D	Member
4	Dr. Sahni Rohini	Member
5	Dr. Dastane Santosh	Member
6	Dr. Matkar S.C	Member
7	Dr. Satam Madhu	Member
8	Dr. Musmade Manjusha	Member
9	Dr. Malika Misri	Member
10	Dr. Ushir D. G.	Member

UNIVERSITY OF PUNE

M.A. ECONOMICS PART – II

Semester – III

UNIVERSITY OF PUNE
M.A. ECONOMICS (PART –II) Semester – III
EC-3001 Macro Economics I
Core Course - (CREDIT SYSTEM)
(This course will have *FOUR* credits.)
(From June 2014)

PREAMBLE

Macroeconomics or aggregative economics analyses and establishes the functional relationship between the large aggregates. The aggregate analysis has assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for the proper comprehension of the different issues and policies. Macroeconomics is not only a scientific method of analysis; but also a body of empirical economic knowledge. The paper entitled “Macro Economic Analysis” equips the students at the postgraduate level to understand systemic facts and latest theoretical developments for empirical analysis.

- 1. National Income** **15**
- 1.1** Gross Domestic Product, Gross National Product, Net Domestic Product
 - 1.2** Nominal and Real domestic product. Price Indexes and GDP deflator.
 - 1.3 Concept of disposable Income and Relationships between Income & consumption,
 - 1.4 Saving, Investment, Government Expenditure, Taxes, Imports & Exports.
 - 1.5 National Accounts Statistics-system of national income accounting
- 2: Aggregate Supply & Aggregate Demand** **15**
- 2.1 Difference between Potential Output and Actual Output- Classical Approach
 - 2.2** Determination of output and employment Effects of change in Aggregate Demand and Supply Curves - Classical Approach
 - 2.3 Keynesian approach, Determination of Equilibrium of Aggregate Demand and Supply
 - 2.4 Keynesian approach-neutrality of money Multiplier Effect
 - 2.5 Multiplier effect with inclusion of Government sector. (Automatic stabilizers, balanced budget multiplier)
- 3. Brief structure of IS-LM Model** **15**
- 3.1 Derivation of IS curve and LM curve
 - 3.2 Equilibrium in the Goods and Assets under fixed and flexible prices
 - 3.3** Derivation of aggregate demand schedule Monetary and Fiscal policy- The transmission Mechanism-Liquidity Trap

3.4 Fiscal policy and crowding out effect, Optimum Policy mix with IS-LM model.

4. New Classical Macroeconomics & Open Economy Issues 15

4.1 Consumption and saving, Life cycle hypothesis, Permanent income hypothesis.

4.2 Investment spending, Marginal productivity of capital, Concept of accelerator and super Multiplier.

4.3 The Real Business cycle Theory

4.4 The Rational expectations Revolution New Classical Macroeconomics: Perfect Information Rational Expectations

4.5 Lucas critique- Imperfect information and asymmetric information

4.6 Open Economy IS-LM-BPo's, the Mundell-Fleming Model Stabilization, Macroeconomic policy and exchange rate regimes

Suggested Reading:

- Glahe, Fred, R (1973), Macroeconomics: Theory and Policy, Harcourt Brace Jovanovich, Inc, New York.
- Mckinen, G.E. (1978), Money, The Price Level and Interest Rates, Prentice Hall of India, New Delhi.
- Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi. Economics 81
- Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
- Ackley, G. , Macroeconomics : Theory and Policy, Macmillan, New York.
- Agarwal Vanita Macroeconomics Theory and policy Person Publication, New Delhi.
- D'souza Errol (2008) Macroeconomics : Person Publication, New Delhi.
- National Accounts Statistics-NAS Measures, Concepts of National Accounts Statistics.
- Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi
- Lucas, R. (1981), Studies in Business Cycle Theory, M.I.T. Press, Cambridge, Massachusetts
- Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
- Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.
- Surrey, M.J.C. (Ed.) (1976), Macroeconomic Themes, Oxford University Press, Oxford
- <http://www.journals.elsevier.com/journal-of-macroeconomics/>
- <http://onlinelibrary.wiley.com>
- <http://www.ccsenet.org>
- <http://journals.cambridge.org>
- <http://www.oxfordjournals.org>
- <http://www.economist.com>
- <http://www.macrobasics.com>
- <http://econ.worldbank.org>

University of Pune
M.A Economics Part II Semester III
EC-3002 Growth and Development – I
Core Course CREDIT SYSTEM
(This course will have *FOUR* credits.)
(From June 2014)

Preamble:

Growth and Development is one of the most important areas of economic exploration in the last 50-60 years. Although relatively recent in origin this subject occupies a significant position in economic theory and practice. India being a developing country, this subject becomes extremely relevant for both teachers and students. The syllabus of Semester III includes the evolution of growth models as well as important concepts such as poverty, inequality and population dynamics in the context of developing countries.

1. Development and Underdevelopment: An Overview	20
1.1 Concepts of growth and Development	
1.2 Problems in defining economic development	
1.3 Characteristics of LDCs – structural view of underdevelopment	
1.4 The world distribution of income and Development gap	
1.5 Per capita income as an index of development	
1.6 Difficulties of measurement and comparability in the calculation of per capita according to exchange rate and PPP	
1.7 Alternative measures of development gap – HDI	
2 Poverty and inequality	10
2.1 Defining poverty and problems of measurement	
2.2 Income distribution - Income inequality, measurements of inequality, understanding inequality in developed and underdeveloped worlds	
2.3 Impact of inequality on the process of development.	
2.4 Contemporary debater on poverty in India	
3 Theories of Economic Growth and Development:	15
3.1. The Harrod Domar growth model and its application to LCD's	
3.2 Solow model of economic growth	
3.3 the Cobb Douglas Production Function	
3.4 marx Schumpeter Gerschenkron – surplus labour	
3.5 Big push (Rosenstein–Rodan) –	
3.6 Balanced growth : (Nurkse) & Unbalanced growth (Hirschman)	
3.7 The process of cumulative causation (Myrdal)	
3.8. The centre and periphery hypothesis – the dependency school	
4 Population growth and economic development	15

4.1 Population– the theory of demographic transition

4.2 Age structures of population and Sex ratio

4.3 Migration – Rural and Urban migrations

4.4 The Harris – Todaro Model

4.5 Problems of urbanization - Employment markets formal, informal

4.6 Formal and informal employments – wage rates

Suggested reading:

- Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
- Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
- Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
- Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols.1 & 2, Elsevier, Amsterdam.
- Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
- Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development,(3rd Edition), W.W. Norton, New York.
- Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York.Economics
- Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), Oxford University Press, New Delhi.
- Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.
- Meier G.M. leading Issues in Development Economics

University of Pune
M.A Economics Part II Semester III
EC-3003 Modern Banking
Core course
(This course will have *FOUR* credits.)
(From June 2014)

Preamble-

The course intends to make students aware about the changing scenario of the modern banking role, structure, performance and the current problems faced by the banking sector in India and also in the world. It also tries to throw light on the future prospects and role of modern banking sector at the global level. Students are supposed to study the current affairs and events happening in the money market and capital market at the national and international level.

- 1. Introduction- 15**
- 1.1 Nature, structure and role of financial system in economic development.
 - 1.2 Functions of financial system
 - 1.3 Theories of financial development-Credit Creation Theory, Financial Regulation and Financial Liberalization Theory.
 - 1.4 Investment policy of a bank- liquidity, safety and profitability.
 - 1.5 Balance sheet of a commercial bank.
- 2. Modern Banking in India- 20**
- 2.1 Evolution, role and functions of modern banks in India
 - 2.2 Money market and capital market
 - 2.3 Changing trends in banking sector since 1991.
 - 2.4 Comments on the present status of cooperative banks, RRB
 - 2.5 Foreign banks in India and their impact on Indian banking sector
 - 2.6. Provisions of the Banking Regulation Act
 - 2.7 Progress and present status of E-Banking in India
 - 2..8 Current challenges faced by banking sector- Mergers and amalgamations, Consolidations, Financial Inclusion, NPA.
- 3. Non-banking Financial Institutions in India- 10**
- 3.1 Nature, types and significance of NBFIs in India
 - 3.2 Performance of the NBFIs in the public, private and foreign collaboration sector – LIC, GIC, Provident Fund, Small Savings, Mutual Funds, Pension fund
- 4. International Financial Markets- 15**
- 4.1 Nature and role of foreign exchange market,
 - 4.2 Recent trends in the exchange rates and its impact on Indian economy
 - 4.3 Forms of foreign capital – Foreign Direct Investment [FDI], Pros and cons for FDI in India,

4.4 Regulation of foreign investments – Foreign Investments Promotion Board

4.5 Working and role of IMF, IBRD, IDA, IFC

4.6 Role of Euro-Dollar and Euro currency markets

4.7 Global Financial Crisis 2008- Its causes and impact on developing and developed economies.

List of Prescribed Books

- Bhole, L. M. [2000]’ Indian Financial System,’ Chugh Publications, Allahabad.
- Bhole, L. M. [2012]. ’Financial Institutions and Markets,’ Tata McGraw Hill Co. Ltd. New Delhi.
- Pathak, Bharati.[2009]’The Indian Financial System, ’Pearson Education Publication, New Delhi.
- Harker, P.T. and S. A. Zenios.[2000]Ed. ’Performance of Financial Institutions, CUP, UK.
- Prasad, K.N.[2001] ’Development of India’s Financial System,’ Sarup and Sons, New Delhi.
- D. Muralidharan.[2009]’Modern Banking Theory and Practice,’ PHI Learning Pvt. Ltd. New Delhi.
- Sharma, K.C.[2007]’Modern Banking in India,’ Deep and Deep Pub. New Delhi.
- Uppal,R.K. [2009]’ Modern Banking in India – Dimensions and Risk’ New Century Pub. New Delhi.
- Shiller, Robert J.[2008] ’The Sub-Prime Solutions- How Today’s Global Financial Crisis happened and what to do about it.’
- International Banking’ Ed. MacMillan Pvt. Ltd. 2011. Indian Institution of Banking and Finance, New Delhi.

Other Readings-

- RBI Annual Reports and web site
- Reports on Currency and Finance
- Basel Committee Report on Banking Supervision, 2001.
- RBI Bulletins, Economic and Political Weekly issues, Prajnan [NIBM], Daily the Economic Times etc.

University of Pune
M.A Economics Part II Semester III
EC- 3004 DEMOGRAPHY
Non- Core Courses- (CREDIT SYSTEM)
(This course will have *FOUR* credits.)
(From June 2014)

The main objective of this paper is to make the students aware of the importance of population in economic development and the various theories that explain the growth of population in a country. The paper also enlightens the students on the quantitative and the qualitative aspects and characteristics of the population through various demographic techniques. In recent times, gender characteristics of the population have acquired importance and these have also been included in the framework of study. Migration and urbanization are the characteristics of structural change taking place in a society. Their study is essential to understand the dynamics of this change. The paper exposes the students to sources of population and related characteristics and also to the rationale, need and evolution of population policy.

1. **Demography** 15
 - 1.1 Demography : Nature and Scope
 - 1.2 Development of population studies in India- relationship with other disciplines
 - 1.3 Sample surveys dual report system
 - 1.4 World population growth and distribution
 - 1.5 Population growth in developed and developing countries
2. **Population theories** 15
 - 2.1 Malthusian theory
 - 2.2 Classical and Neo-classical schools of thought –
 - 2.3 Optimum population theory
 - 2.4 Biological theories.
 - 2.5. Theory of demographic transition
3. **Population structure and characteristics** 15
 - 3.1 Census- growth rate and population - Sex ratio in India – factors affecting sex ratio , age structure
 - 3.2 Meaning and measures of Mortality – infant mortality – child mortality - causes of death.
 - 3.3 Fertility Meaning – factors affecting fertility - social and cultural factors

3.4 Proximate determinants of fertility - measures of fertility (GFR - ASFR - TFR - GRR - NRR - Child-woman ratio) - Methods of contraception - levels and trends in fertility in India - factors related to high fertility in India - fertility differentials in India

3.5 Migration, Meaning - differentials in migration - internal migration in India.

4. Population distribution 15

4.1 Population distribution by geographic areas - measures - density of population - factors affecting population distribution - world population distribution - population distribution in India - urban-rural distribution of population - measures of urbanization - levels and trends of urbanization in India

4.2 Labour force Meaning - economically active population - measures of labour force participation - trends and levels of labour-force participation in India

4.3 India's Population Policy - National Population policy 2000

Reading List

- Bhende, Asha A. and Tara Kanitkar (2013) *Principles of Population Studies*, Himalaya Publishing House, Mumbai
- *National Family Health Survey-1 (1992-93), -11 (1998-99), -111 (2004-2005)*, (reports for India and different states of India) Government of India and International Institute for Population Sciences, Mumbai
- Davis K. (1968), *Population of India and Pakistan*, Russell and Russell, New York
- *Family Welfare Programme in India, Year Book 2012*, Government of India, New Delhi
- *National Population Policy 2000*, Government of India, New Delhi
- Agarwala S.N. (1972), *India's Population Problem*, Tata McGraw-Hill Co., Bombay.
- Bose, A. (1996), *India's Basic Demographic Statistics*, B.R. Publishing Corporation, New Delhi
- Bogue, D.J. (1971), *Principles of Demography*, John Wiley, New York
- Chenery H. and T.N. Srinivasan (Eds.) (1989), *Hand Book of Development Economics*, Vol.1 & 2 Elsevier, Amsterdam.
- Choubey, P.K. (2000), *Population Policy in India*, Kanishka Publications, New Delhi.

- Gulati, S.C. (1988), *Fertility in India: An Econometric Study of a Metropolis*, Sage, New Delhi.Economics
- Simon, J.L. (1992), *Population and Development in Poor Countries*, Princeton University Press.
- Srinivasan, K. (1998), *Basic Demographic Techniques and Applications*, Sage, New Delhi
- Srinivasan, K. and A. Shariff (1998), *India: Towards Population and Demographic Goals*, Oxford University Press, New Delhi
- Different publications based on Census of India 2011 published by Census Commissioner and Registrar General of India, New Delhi
- United Nations (1973) *Determinants and Consequences of Population Trends* Vol. I, New York

UNIVERSITY OF PUNE
MA ECONOMICS- PART II Semester III
EC 3005 - WORLD ECONOMY
Non- Core Courses
(CREDIT SYSTEM)
(This course will have *FOUR* credits.)
From June 2014

PREAMBLE

The world economy, or global economy, generally refers to the economy which is based on economies of all of the world's national economies. Also global economy can be seen as the economy of global society and national economies – as economies of local societies, making the global one. The course on World Economic Analysis is to be studied to analyse common issues faced by the world e. g. world recession, inflationary trends, impact of fluctuating prices of crude oil, gold etc. The study is country-based; i.e. the role of developed economies such as USA or Europe etc. and the functioning of institutions like ASEAN, SAARC, and Euro Zone etc. The students are expected to analyse from the viewpoint from the Indian economy, i.e. study these issues/problems/institutions in the light of India's development efforts.

- 1. Introduction to Global Economy** **10**
 - 1.1 Meaning of Global Economy and its History
 - 1.2 Structure and Components of Global Economy
 - 1.3 Role of MNC's in World Economic Development
 - 1.4 Effects of Globalization on Indian Economy
- 2. Regional Trade Blocs in the developed and developing economies** **20**

Objectives and Role of:

 - 2.1 OECD - Organization for Economic Cooperation and Development
 - 2.2 OPEC - Organization of Petroleum Exporting Countries
 - 2.3 EU - European Union and Creation of Euro
 - 2.4 ASEAN - Association of South East Asian Nations
 - 2.5 SAARC - South Asian Association for Regional Cooperation
 - 2.6 BRICS – Brazil, Russia, India, China and South Africa
- 3. Introduction to transition economies.** **18**
 - 3.1 Eastern Europe
 - 3.2 Disintegration of the Soviet Union. What has been its impact on the region, Instability in the Balkans, Integration of former Soviet Bloc countries in the EU.
 - 3.3 China: The emergence of China in world trade and industry, growth reforms.
 - 3.4 Africa: Composition of the industry and trade, Possibilities and limitations.

- 3.5 Latin America: Debt crises. Brazil. Argentina. Mexico.
- 4. Major World Economic Issues and its impact on India** **12**
- 4.1 Issues in South East Asia – The flying geese model
- 4.2 The Japanese bubble in real estate
- 4.3 U.S. Debt Crisis and its impact on India
- 4.4 Euro zone Crisis and its impact on India

Recommended Readings

- Francis Cherunilam .International Economics– The McGraw Hill Education Private limited, New Delhi
- Kenchand Keswani, International relations in Modern World, Himalaya Publication
- P. V. Patwardhan ,World Economy 1914-1964, , Rajas Publication
- Johnson Harry, World Economy at the crossroads, Oxford University Press
- World Development Report
- Sharieff Afzal, World Political Geography Sarip Book Publication
- Mishra and Puri , Indian Economy, Himalaya Publication
- Bimal Jalan (2002) India's Economy in the New Millenium
Bimal Jalan (2005) The Future of India : Politics, Economics and Governance

University of Pune
M.A. Economics -Part II Semester – III
EC 3006 Economics of Finance
Non- Core Courses
(Credit system)
(This course will have *FOUR* credits.)
(From June 2014)

PREAMBLE

The positive and significant role of financial institutions in the process of growth and development has been very well recognized in the literature and indeed has become more important during the last two decades as the financial systems of different countries have become integrated in the process of globalization. India is no exception and has taken far reaching measures since 1991 in this direction. It is, therefore, essential that the student of economics should be well conversant with the theory and practice of different financial institutions and markets to understand and analyze the interconnection between the monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.

- 1. Financial Sector and Economy** **15**
 - 1.1 Role of Financial sector in an economy - a broad view
 - 1.2 Structure of Financial system in India
 - 1.3 Participants in Financial Sector
 - 1.4 Role of Rate of Interest, present value and future value of income.
Internal Rate of Return, Net Present Value – its application as an evaluation criteria.
 - 1.5 Functions of Financial Markets
 - 1.6 Structure of Financial Market in India
 - 1.7 Regulation of Financial System

- 2. Financial Markets and Financial Institutions** **15**
 - 2.1 Debt Markets, Equity Markets, Financial Service Markets
 - 2.2 Financial Institutions – Depository Institutions and Non-depository Institutions
 - 2.3 Investment Intermediaries
 - 2.4 Financial Instruments- Money Market Instruments, Capital Market Instruments and International Financial Instruments

- 3. Portfolio Theory** **10**

- 3.1 Asset Return- random variables and random returns,
- 3.2 Capital Asset Pricing
- 3.3 Validity of CAPM (Capital Asset Pricing Model) Arbitrage Pricing Theory

4. Derivatives Markets 20

- 5.1 Derivatives- Meaning and Types
- 5.2 Futures Markets – History, Hedgers, Speculators, Arbitrageurs
- 5.3 Financial futures and Commodity futures – forward contracts.
- 5.4 Swaps – Mechanics and Types
- 5.5 Options Markets – Mechanics and types
- 5.6 Trading Strategies – Exchange traded Funds, stock options and the pay-offs from buying and selling options.

BASIC READING LIST

- Hauthkkar H.S. and Williamson P.J., The Economics of Financial Market, Oxford University Press. 1996.
- Pathak, Bharati.[2009]‘The Indian Financial System, ’Pearson Education Publication, New Delhi.
- Zvi Bodie / Robert C. Merton / Devid L. Cleeton (2009) Financial Economics, Person Publication, New Delhi.
- David G. Lueberger Investment Science, Oxford University Press. 1998.
- Ross Stephen and Rudolph W.W., Fundamentals of Corporate Finance, McGraw Hill International Ed. 1998.
- John Hull Future, Option and Other Derivative Securities, McGraw Hill
- Susan Thomas, (ed) Derivatives Market India 2003, Invest India 2003.
- Frederic S. Miskin, The Economics of Money, Banking and Financial Markets, Harper Collins Publishers
- Bay and Jonsen Money, Banking & Financial Markets An Economic Approach, A.I.T.B.S. Publishers & Distributors. Delhi
- Chandra P. (1997), Financial Markets, (4th Edition), Tata McGraw Hill, New, New Delhi.
- Shaw E.S. (1983), Financial Deepening in Economic Development, Oxford University Press, London.
- Smith, P.F., (1978), Money and Financial Intermediation : The Theory and Structures of Financial System, Prentice Hall, Englewood- Cliffs, New Jersey.

UNIVERSITY OF PUNE
M.A. ECONOMICS PART – II
Semester – IV

UNIVERSITY OF PUNE
M.A. ECONOMICS PART – II Semester – IV
EC – 4001 Macro-Economics II
Credit system Core Course
(This course will have *FOUR* credits.)
(From June 2014)

PREAMBLE

Macroeconomics or aggregative economics analyses and establishes the functional relationship between the large aggregates. The aggregate analysis has assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for the proper comprehension of the different issues and policies. Macroeconomics now is not only a scientific method of analysis; but also a body of empirical economic knowledge. The paper entitled “Macro Economics” equips the students at the postgraduate level to understand systemic facts and latest theoretical developments for empirical analysis.

- I: Money and Liquidity** **15**
- 1.1** Definitions of Money, Money stock and liquidity. Measures of Money Supply
 - 1.2** Liquidity measures according to Reddy Committee Report.
 - 1.3** The debate relating to the definition of money
 - 1.4** Liquidity theory, Gurley and Shaw Hypothesis- Alternative money stock measures
 - 1.5** The quantity and components of money stock in India and broad trend in them
- 2: Demand for Money and Price** **15**
- 2.1** Nominal v/s Real Cash Balance
 - 2.2** Neo Classical theory, Keynes’s Theory, Friedman’s Theory.
 - 2.3** The Quantity Theory of Money Approach. QTM and Income Equation
 - 2.4** Fishers QTM, Cambridge Cash Balance
 - 2.5** QTM as the theory of Price level
 - 2.6** Baumol-Tobin theory Issues regarding endogenous and exogenous supply of money
- 3: Money Supply and Inflation** **15**
- 3.1** Goals Targets, Indicators and instruments of Monetary Policy
 - 3.2** Theory of Money Supply: high Powered Money

3.3 Money Multiplier Process, Determinants of Money Multiplier, Factor Affecting High Powered Money

3.4 Autonomy of High powered money, Reserve Bank's analysis of Money Supply, Balance sheet of Reserve Bank of India.

3.5 Definition sources of Inflation- Demand Pull Inflation- cost push inflation

3.6 Income Shares and Inflation-Phillips Curve.

4: Theories of Interest Rates, Monetary Policy and Macro economy 15

4.1 Real and monetary theories of the interest rate Loanable funds theory

4.2 Keynesian theory- Wicksellian theory, Fisher's theory, Hicksian theory

4.3 Interest rate differentials- Term-structure of interest rates

4.4 Role of interest rates in Macro-economy, Credit market imperfections

4.5 Monetary transmission mechanism and targeting Inflation Money growth an Interest Rates

4.6 Interest rate rules -Taylor rule

4.7 Rules versus discretion, Central Bank autonomy

4.8 Dynamic inconsistency of monetary policy credibility and reputation

Suggested Reading

- Mishkin Frederic (2007), The Economics of Money Banking and Financial Markets, 8th edition Addison Wesley Longman Publishers
- Bain, Keith & Howells, Peter (2009), Monetary Economics: Policy and Its Theoretical Basis, Palgrave.
- Agarwal Vanita Macroeconomics Theory and policy Person Publication, New Delhi.
- D'souza Errol (2008) Macroeconomics : Person Publication, New Delhi.
- Wrightman D:- An Introduction to Monetary Theory and Policy
- Gupta S. B. :- Monetary Economics Institutions, theory and policy
- Gupta S. B :- Monetary Planning for India
- Harris:- Monetary Theory
- Laidler, D.E.W. (1977), Demand for Money: Theory and Evidence, DumDon Valley, New York.
- Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
- Rakshit, M. (1998), Studies in the Macroeconomics of Developing Countries, Oxford University Press, New Delhi.
- Gurley, J. and E.S. Shaw (1960), Money in a Theory of Finance, Brookings Institution, Washington.
- Romer, D. (2006), Advanced Macroeconomics, 3 edn, McGraw-Hill Higher Educational
- <http://www.journals.elsevier.com/journal-of-macroeconomics/>
- <http://onlinelibrary.wiley.com> <http://www.ccsenet.org>
- <http://journals.cambridge.org> <http://www.oxfordjournals.org>
- <http://www.economist.com> <http://www.macrobasics.com>
- <http://econ.worldbank.org>

University of Pune
M.A Economics Part II Semester IV
EC-4002 Growth and Development –II
Core Course
(This course will have *FOUR* credits.)
(From June 2014)

Preamble:

Growth and Development is one of the most important areas of economic exploration in the last 50-60 years. Although relatively recent in origin this subject occupies a significant position in economic theory and practice. India being a developing country, this subject becomes extremely relevant for both teachers and students. The syllabus of Semester IV includes the practical aspects of the process of growth and development – including the role of agriculture and industry, external trade and resource mobilization and the role of the state and the markets.

- | | | |
|----------|---|-----------|
| 1 | The role of agriculture and Industry in development | 15 |
| 1.1. | Role of Agriculture in development ‘Market surplus’ Size of holding Price policy | |
| 1.2. | Disguised unemployment | |
| 1.3. | Role of industry – Major reasons for industrialization in LDCs | |
| 1.4. | The Role of Infrastructure – social and physical infrastructure – education and health infrastructure | |
| 2 | Policy Environment for growth and development | 15 |
| 2.1 | The infant industry argument – The employment argument
Police Environment | |
| 2.2 | Export promotion Vs import substitution | |
| 2.3. | Monetary Policy – trade policy | |
| 2.3 | Fiscal Policy – Inflation, savings and growth | |
| 2.4 | Non –inflationary finance of investment – Inflation and credit –
Inflation and growth | |
| 3 | Trade and development | 15 |
| 3.1 | Trade as an engine of growth - foreign borrowing – Savings –
Investment gap – The foreign exchange gap | |
| 3.2 | foreign borrowing and debt – servicing problem | |
| 3.3 | types and measurement of international capital flows | |
| 3.4 | The role of IMF, World Bank, FII and FDI | |
| 4 | The role of the government | 15 |

4.1 The role of the government and markets in the developmental process

4.2 Development of distributive institutions

4.3 poverty alleviation measures

4.4 public distribution systems – public policies like NREGA in India –

4.5 Microfinance – issues related to microfinance. Self Help Groups and savings and Gender

Suggested reading:

- Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
- Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
- Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
- Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols.1 & 2, Elsevier, Amsterdam.
- Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
- Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
- Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York. Economics
- Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), Oxford University Press, New Delhi.
- Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.
- Meier G.M. leading Issues in Development Economics

University of Pune
M.A Economics Part II Semester IV
EC-4003 Research Methodology
Core Course- (CREDIT SYSTEM)
(This course will have *FOUR* credits.)
(From June 2014)

Preamble –

Students who complete their post graduation in economics are mentally equipped to pursue research in the same discipline. It is generally accepted that the research is nothing but the extension and application of knowledge in a certain specialized field. Therefore regular and external students who do their post graduation will be given an opportunity to get exposed to a few elements of social science research. Elementary knowledge of research methodology shall consolidate and deepen their understanding of various branches of Economics.

- | | |
|--|-----------|
| 1. Introduction to Research | 15 |
| 1.1 Meaning and types of research | |
| 1.2 Social Science. Research- Meaning Objectives, Nature, importance, utility, Limitations and difficulties. | |
| 1.3 Stages involved in designing research. | |
| 2. Research Techniques | 15 |
| 2.1 Data Collection - Sources of Data | |
| 2.2 Primary - Interviews, Questionnaire, Observation, Schedule. | |
| 2.3 Secondary Data Collection. | |
| 2.4 Case studies & Historical methods | |
| 2.5 Hypothesis - Definition, Formulation and Role. | |
| 2.6 Sampling Technique - Types of Samples, Size of Samples | |
| 3. Analysis of Data | 15 |
| 3.1 Classification and Tabulation. | |
| 3.2 Graphs and Diagrams. | |
| 3.3 Measures of Central Tendencies. Mean, median mode | |
| 3.4 Dispersion. & Correlation. | |
| 3.5 Percentage. Bi-variate presentation. | |
| 3.6 Hypothesis Testing. Chi Square test. | |
| 4. Information Systems & report writing | 15 |
| 4.1 Information Systems and knowledge management. | |
| 4.2 Global Information - Internet surfing, downloading, blogs, mails. | |
| 4.3 Computerized data processing- Excel, SPSS. | |
| 4.4 Stages of report writing.. | |
| 4.5 Presentation - Power Point | |

BASIC READING LIST

- Wilkinson and Bhandarkar - Methodology and Techniques of Social research -Pauline, Young - Scientific Social Surveys and Research
- Goode and Hatt - Methods in Social Surveys and Research
- Krishnaswamy K.N. and Appa Iyer Sivakumar (2009): Management Research Methodology, Pearson Education Publication,. N.Delhi .
- Sharma Prasad and Satyanarayana (ed) Research Methods in Social Sciences
- Moser and Kalton - Survey Methods in Social Investigations
- Sadhu and Singh - Research Methodology in Social Sciences
- Kurein C. T. A guide to research in Economics.
- Devendra Thakur - Research Methodology in Social Sciences
- Basotia G.R. Sharma K.K.- Research Methodology.

ADDITIONAL READING LIST

- Acoff. Russel L.(1961) The Design of Social Research, Chicago, Uni. of Chicago,
- Allen, T. Harrell (1978) New Methods in Social Science Research. New York;Praeges Publishes.
- Berdie, Douglas R. & Andesson, John F. (1974) Questionnaires, Design and use Metuchen N.J. the sear escrow press Inc.
- Ghosh B.N. (1982) Scientific Methods & Social Research New Delhi, Sterling Publishers Pvt. Ltd.
- Goode, William J. & Hatt, Paul K. (1952) Methods in Social Research, New York MacGrow Hill.
- Wilkinson and Bhandarkar – Methodology and Techniques of Social Research.
- Pauline Young : Scientific Social survey and Research
- Moser and Kalton : Survey methods in Social Investigations.
- Kothori C.R. Research methodology New era Publication
- ज.फा. पाटील व के.जे. पठाण पी. जे ताम्हणकर : अर्थशास्त्रीय अंशोधनाची तोंडओळख
- गुरुनाथ नाथगोंडे : सामाजिक अंशोधन पध्दती.
- प्रदिप आगलाणे : अंशोधन पध्दती शास्त्र व तंत्र.
- पु.ल.भांडारकर ल सामाजिक अंशोधन पध्दती

University of Pune
M.A Economics Part II Semester IV
EC-4004 Rural Development
None Core Course
(This course will have *FOUR* credits.)
(From June 2014)

PREAMBLE

The course on Rural Development attempts to sensitize students about the dynamics of changes in the rural economy. It includes the study of problems faced by rural population and also includes the critical review of various schemes and projects that benefit the rural population. Emphasis may be laid on the study of rural development as an integral part of overall socioeconomic development. The treatment of topics shall be in the context of Indian economy and society.

1. Rural Development **15**

1.1 Concept, Scope, Objectives and Importance of Rural Development.

1.2 Various approaches to Rural Development. Gandhian Approach. PURA.

1.3 Structure of Rural Economy of India

1.4 Rural Administrative machinery. 73rd Constitutional Amendment

2. Aspects of Rural Development. **20**

2.1 Rural Infrastructure – Roads, Railway development, Irrigation, electricity, housing, sanitation facilities, communication links, Education, health and family welfare, HDI in rural India

2.2 Agricultural development in India . Land use pattern. Land Reforms. Changes in cropping pattern. Farm laborers. Farm sector vs. non-farm sector

2.3 Rural Indebtedness – magnitude, causes and remedial measures.

2.4 Role of non-institutional sources of credit Cooperatives

2.5. Role of Commercial banks. RRBs. NABARD. SHGs.

2.6 Microfinance institutions in India. Kisan Credit Cards

2.7 Rural Industrialization and agro-based industries. Cottage industries. Growth, problems and solutions.

2.8 Development of Rural entrepreneurship

3. Problems of Rural Development. **10**

3.1 Rural unemployment. Magnitude of the problem, causes, remedies, Status of women & gender bias, Women empowerment.

3.2 Causes of migration of rural population. Solution.

3.4 Rural poverty. Various measurements, causes & remedies.

3.5 Problem of Inequality in rural India. Magnitude, causes & remedial measures

4. Objectives and critical assessment of rural development programs as a part of inclusive and sustainable growth **15**

(Financial Provisions through five year plans, progress, achievements, critical evaluation of following programme)

4.1. IRDP

4.2 MGNREGS

4.3 SFDA

4.4 Food for Work Program

4.5 TRYSEM , TSP

4.6 Swarn Jayanti Gram Swarajgar Yojana.,

4.7 Food & nutrition security

4.8 National Rural Livelihood Mission (NRLM)

Recommended reading:

- Datt & Sundharam, Indian Economy S Chand & Co., New Delhi, 68th New Delhi, 2013
- India Rural Development Report 2012-13, Orient Blackswan Pvt. Ltd, New Delhi, 2013.
- Rural Development in India – Past, Present & Future, by Vasant Desai, Himalaya Publishing House, Mumbai, 2nd edition, 2013
- Satya Sundaram Rural Development, Himalaya Publishing House, Mumbai, 4th edition 2013.
- Twelfth Five Year Plan ---2012-17, vols.-1-3, Ministry of Finance, Government of India, OUP, New Delhi, 2013.
- Annual Reports : Ministry of Rural Development, Govt. of India
- Periodicals : Yojana (Marathi) Yojana (English) Kurukshetra (English) – All published by Publications Division, Ministry of I & B, Government of India, New Delhi.
- Economic & Political Weekly, Mumbai.

University of Pune
M.A Economics Part II Semester IV
EC – 4005 Economics of Environment
None core Course
(This course will have *FOUR* credits.)
(From June 2014)

PREAMBLE

Environment is a part and parcel of living things in general and human beings in particular. Hence for their well being and environmental balance its preservation and protection is of vital importance. Environmental degradation can very badly affect all living things coupled with human beings in particular. Environment can have economic aspects, which are neglected in the studies in main stream economics and its branches. This necessitates studying Economics of Environment as an Elective paper at post graduate level. The prime objective of this paper is to well equip the students regarding economic aspects of environment and development

- 1. Introduction To Economics of Environment: 15**
 - 1.1 Economics of Environment: Meaning, Nature, Scope and Significance
 - 1.2 Environment –Economic and Development - Common Property Resources - Eco-systems – Loss of Bio-diversity.
 - 1.3 Sustainable Development.
 - 1.4 Environmental degradation.
- 2. Industrial Development And Environmental Problems 15**
 - 2.1 Water pollution – Air Pollution – Noise Pollution –
 - 2.2 Depletion of Ozone Layer – Green House Effect, Global Warming and Climate Change
 - 2.3 Environment Friendly Size of Firm – Limits to Growth Theory.
 - 2.4 Effects of environment on human being.
- 3. Environmental problems of agricultural development 15**
 - 3.1 Technological changes in Agriculture and Environment; Excess use of Water, Fertilizers, Pesticides and Environment.
 - 3.2 Concept of Natural Farming – Large sized dams and Environment
 - 3.3 Forest Depletion; Cause, Consequences and Remedies – Significance of Social Forestry.
 - 3.4 Social forest
- 4. Environmental Protection and Environmental policy 15**
 - 4.1 Role of Public, Private, and Co-operative sectors in Environmental Protection
 - 4.2 Environment Management Techniques : Cost Benefit Analysis –

Assessment Environmental Impact – Environmental Audit

4.4 India's Environmental Policy : Environmental Protection Laws in India-

4.5 Pollution Control Boards (CPCB and DPCBs).

4.4 Role of environmental education.

READING LIST :

- Baumol, W.J. & W.E. (1997), *The Theory of Environmental Policy*, Prentice Hall, Englewood-cliffs.
- Bhardwaj, R. (1983), *Managing Limits to Growth*, Asian and Pacific Development Centre, Kuala Lumpur.
- Dorfman, R & N. Dorfman (Eds.) (1977), *Economics of the Environment*. W.W. Norton, New York.
- Nijkamp, P. (Ed.) (1976), *Environmental Economics*, Vol. I & II, Martinus Nijhoff, Leiden.
- Charles Peering (1987) *Economy and Environment* Cambridge University Press, New York.
- Ali, S.A. (1979), *Resources for Future Economic Growth*, Vikas Publishing House, New Delhi.
- Rathore, M.S. (Ed.) (1996), *Environmental and Development*, Rawat Publications, Jaipur.
- Garge, M. R. (Ed.) (1996) *Environmental Pollution and Protection*, Deep and Deep Publications, New Delhi.
- Lodha, S. L. (Ed.) (1991), *Environmental of Environment*. RBSA Publishers, Jaipur.
- Rajlakshmi N. And Dhulasi B. (1994), *Environomics*, Allied publishers Ltd., New Delhi.
- Singh, G. N. (Ed.) (1991), *Environmental Economics*, Mittal Publications, New Delhi.
- Mehta, C.S. (1994), *Environment and Law*, RBSA Publishers, New Delhi.
- Karpagam, M. (1993), *Environmental Economics*, Sterling Publishers, New Delhi.
- World Bank Report on Human Development.
- The Hindu Survey of Environment: Annual Reports.
- R. N. Bhattacharya (2006), *Environmental Economics: An Indian Perspective*, Oxford University Press, New Delhi.
- Ulaganathan, Sankar (2006), *Environmental Economics*, Oxford University Press, New Delhi.
- Hanley, Shogren and White (2004), *Environmental Economics in Theory and Practice*, McMillan India Limited, Delhi.
- Singh & Shishodia (2010), *Environmental Economics: Theory and Applications*, Sage Publications, New Delhi.

University of Pune
M.A Economics Part II Semester IV
EC – 4006 Econometrics
None core Course
(This course will have *FOUR* credits.)
(From June 2014)

Preamble:

Application of economic theory needs a reasonable understanding of economic relationships and relevant statistical methods. The syllabus of Econometrics is to equip the students with basic theory and relevant applications of the methods. The course covers various econometric methods applicable to different topics in economics and those needed for applied economic research. An introductory module on multivariate methods has also been included in the course, which constitutes an important tool for analysis in multivariable data in development related studies.

1: The Nature of regression analysis **15**

- 1.1 Two variable Regression model: Concept of PRF, Meaning of Linear, Stochastic specification of PRF, Significance of the Stochastic Disturbance Term, Estimation through OLS-Assumptions, Estimators and their Properties, Gauss-Markov Theorem, coefficient of determination,
- 1.2 Two Variable Regression: Interval Estimation and Hypothesis Testing- Normality Assumption and Properties of OLS Estimators under Normality Assumption, Confidence Interval and Test of Significance Approach for Regression Coefficients, Analysis of Variance, Extensions of Two Variable Linear Regression Model:- Regression through the Origin , Functional Forms

2: Multiple Regression Analysis **15**

- 2.1 Problem of Estimation, Meaning of Partial Regression Coefficients, Adjusted R Square,
- 2.2 Partial Correlation Coefficients, Problem of Inference,
- 2.3 Hypothesis testing, Uses of F test, relaxing the Assumption of the OLS: Multi co linearity and Consequences,
- 2.4 Detection through Graphical Method, Spearman's rank Correlation Method, Goldfeld - Quandt Test
- 2.6 White's test-remedial measures, Autocorrelation: Nature of the Problem,
- 2.7 BLUE Estimator in the Presence of Autocorrelation, Consequences, Detection of the Problem through Graphical Method and Durbin-Watson d test, Remedial Measures

3: Regression on Dummy Variables **15**

- 3.1 Nature of Dummy Variables, Regression on Quantitative and Qualitative Variables,
- 3.2 Testing for Structural Stability, Interaction Effects,
- 3.3 Use of Dummy variables in Seasonal Analysis, use of dummy variables in Combining Time series and Cross Sectional Data

4: Simultaneous Equation Models 15

- 4.1 Examples, Simultaneous Equation bias.
- 4.2 Problem of Identification: Definition and Rules for Identification,
- 4.3 Estimation of Simultaneous Equation models: Recursive Models, Indirect Least Squares Two stage Least Squares,
- 4.4 Introduction to Time Series Autoregressive and Distributed Lag Models, Stationary and Non-Stationary Process,
- 4.5 Concept of Unit Root Process and Testing, Transforming Non-Stationary Time Series, Introduction to Forecasting using Time Series, Vector Autoregressive Model

Suggested reading-

1. Damodar Gujarati Basic Econometrics
2. Jeffrey Wooldridge Introductory Econometrics: A Modern Approach
3. A. Koutsoyinnis Theory of Econometrics
4. G. S. Maddala Introduction to Econometrics
5. G. S. Maddala Econometric Methods



SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

M. A. Political Science Syllabus

(CREDIT & SEMESTER SYSTEM)

**Revised syllabus will be implemented with effect from the
academic year 2020-2021 at College Centers**

Savitribai Phule Pune University

Political Science

Syllabus for M.A. - II

Semester – III

List of Compulsory Courses (C= compulsory)

PO-C7 Modern Political Thought

PO-C8 Political Sociology

PO-C9 World Politics-New Developments

List of Optional Courses (O = optional)

PO-O9 Indian Administration – Structure and Organization

PO-O10 Political Thought of Dr. Babasaheb Ambedkar

PO-O11 Public Policy in India

PO-O12 Research Methodology

Semester – IV

List of Compulsory Courses (C= compulsory)

PO-C10 Fundamentals of Political Theory

PO-C11 Political Process in India

PO-C12 Politics and Society

List of Optional Courses (O = optional)

PO-O13 Twentieth Century Political Thought

PO-O14 Politics of South Asia

PO-O15 Election Studies

PO-O16 Globalization and State

M.A. – II
Political Science

Semester – III

PO-C7 Modern Political Thought

Objectives: The purpose of this course is to introduce to the student political ideas, views and concerns of leading Indian thinkers. The course encourages students to understand and decipher the diverse and often contesting ways in which the ideas of nationalism, democracy and social transformation were discussed in pre and post-independence India.

1. Mahadeo Govind Rande

- a) Views on Social Reforms
- b) Economic Ideas
- c) Political Liberalism

2. Mahatma Gandhi

- a) Truth and Non-violence
- b) Satyagraha
- c) Concepts of Trusteeship

3. Jawaharlal Nehru

- a) Secularism
- b) Democratic Socialism
- c) Nationalism and Internationalism

4. Bhimrao Ramji Ambedkar

- a) Critique of Caste System.
- b) Democracy
- c) State Socialism.

5. Ram Manohar Lohia

- a) Caste and Indian Politics
- b) Linguistic Politics
- c) Synthesis of Socialism

Readings:

1. Appadorai A., 1987, *Indian Political Thinking in the 20th Century*, New Delhi, South Asian Publishers.
2. भोळे भा. ल., २००३, *आधुनिक भारतीय राजकीय विचार*, नागपूर, पिंपळापुरे प्रकाशन.
3. Guha Ramachandra, 2010, *Makers of Modern India*, New Delhi, Penguin.
4. जावडेकर शं. द., १९९४, *आधुनिक भारत*, पुणे, कॉन्टिनेन्टल प्रकाशन.
5. Lohia Rammanohar, 1976, *Marx, Gandhi and Socialism*, Hyderabad, Scientific Socialist Educational Trust.
6. Kamble Bal (ed), 2016, *Contribution of Ram Manohar Lohia to Indian Socialism*, Nanded, Anuradha Publications.
7. Mehta V.R., 1996, *Indian Political Thought*, New Delhi, Manohar.

8. Mehta V.R. and Thomas Pantham (ed), 2006, *Political Ideas in Modern India: Thematic Explorations*, New Delhi, Sage.
9. Pantham Thomas and Kenneth Deutsch (ed), 1986, *Political Thought in Modern India*, New Delhi, Sage.
10. Parekh Bhikhu, 1999, *Gandhi*, New Delhi, Oxford University Press.
11. Rodrigues Valerian (ed), 2002, *The Essential Writings of B.R. Ambedkar*, New Delhi, Oxford University Press.
12. Singh Aakash and Silika Mohapatra (ed), 2010, *Indian Political Thought: A Reader*, New Delhi, Routledge.
13. Vajpeyi Ananya, 2012, *Righteous Republic: the Political Foundations of Modern India*, Cambridge and Massachusetts, Harvard University Press.

PO-C8: Political Sociology

Objectives: This Course will introduce the overall scope of the sub-discipline of political sociology. The focus of the course will be on the political sociology of power. The emphasis is on the nature of power in modern societies-more in the form of organizations and social formations than as individual power. Students are also expected to understand different forms of justifications of power and the role of ideology in this regard. State will be studied as a repository of power in society while class and patriarchy are two instances of how the nature of power is shaped by social factors.

1. Nature and Scope

2. Intellectual Foundations

- a) Karl Marx
- b) Max Weber
- c) Behavioral Approach

3. Political culture and Socialization

- a) Culture- Nature, Elements and Types
- b) Socialization- Nature, Importance and Agencies

4. Political Participation and Public Opinion

- a) Meaning and Nature
- b) Levels and Factors affecting Political Participation
- c) Role of Public Opinion

5. Political Development and Change

- a) Meaning and Nature
- b) Theories of Political Development
- c) Types of Political Change

Readings:

1. Awari Vilas and Devare Suresh, 2012, *Rajakiya Vishleshan*, Pune, Diamond Publication.
2. Awari Vilas and Devare Suresh, 2014, *Adhunik Rajakiya Samajshastra*, Pune, Diamond Publication.
3. Almond Gabriel and Powell Bingham, 1966, *Comparative Politics: Development Approach*, Boston, Brown and Company.
4. Best Shaun, 2002, *Introduction to Politics and Society*, New Delhi, Sage.
5. Christenson R. et al, 1971, *Ideologies in Modern Politics*, Melbourne, Nelson.
6. Coser Lewis (ed), 1967, *Political Sociology: Selected Essays*, New York, Harper & Row.
7. Dahl R.A., 1977, *Modern Political Analysis*, New Delhi, Prentice Hall.
8. Geetha V., 2007, *Patriarchy*, Calcutta, Stree.
9. Gupta Dipankar (ed), 1997, *Social Stratification*, New Delhi, Oxford University Press.
10. Krislov Samuel, 1974, *Representative Bureaucracy*, Englewood Cliffs, N.J. Prentice-Hall.

11. Milner Andrew, 1999, *Class*, London, Sage.
12. Pierson Christopher, 2004, *The Modern State*, London, Routledge.
13. Rajani Kothari, 1970, *Politics in India*, Delhi, Orient Longman.
14. Samir dasgupta, 2013, *Political Sociology*, Kolkata, Pearson Education.
15. Shah Ghanshyam (ed), 2004, *Caste and Democratic Politics in India*, New Delhi, Permanent Black.
16. Smith B.C., 2003, *Understanding Third World Politics*, London, Palgrave-Macmillan.
17. Verma S.P., 1982, *Modern Political Theory*, Delhi, Vikas Publication.
18. Wasburn P.C., 1982, *Politics and Society*, Englewood Cliffs, N.J. Prentice Hall.

PO-C9 World Politics-New Developments

Objectives:

1. The objectives of this course are to introduce the students to the contemporary issues and debates in the world politics.
2. The students would also be made aware of the dimensions of the making of the foreign policy as well as the role of Non- State Actors in World Politics.
3. They would also learn about the emerging New World Order and the challenges to it.

1. Foreign Policy

- a) Definition and making of foreign policy
- b) Factor influencing the foreign policy (Internal and external)
- c) Role of state in making of foreign policy

2. Intervention and coercive

- a) Methods of Intervention
- b) Impact of Intervention
- c) Cross- border relationship

3. Impact of world Trade on Politics

- a) World trade and behavioral of nation
- b) Role of MNCS and TNCS on national politics

4. Challenges before the nation

- a) Use of Military
- b) Terrorism
- c) Ethnic Problems
- d) Refugees

5. Environmental Issues and the nation

- a) Environmental depletion
- b) Effort mode by the nation for environmental awareness
- c) Feminism

Readings:

1. Awari Vilas, 2020, *India's Foreign Policy*, Kanpur, International Publication.
2. Awari Vilas, 2020, *International Relation*, Kanpur, International Publication.
3. Baylis John and Steve Smith, 2005, *The Globalization of World Politics*, London, Oxford University Press.
4. J. Shivananda, 2006, *Human Rights: Concepts and Issues*, New Delhi, Alfa Publications.
5. James Lutz and Brenda Lutz, 2008, *Global Terrorism*, New Delhi, Sage.
6. Kegley Jr. Charles W. and Eugene R. Wittkopf, 2005, *World Politics: Trend and Transformation*, Belmont and Thmont, Thomson Wodsworth.
7. Maqbool Hasan, 2006, *International terrorism*, Delhi, Maxford Books.

8. Nicholson Michael, 2005, *International Relations: A Concise Introduction*, New York, Palgrave-Macmillan.
9. Paul R. Viotti and Mark V. Kauppi, 2007, *International Relations and World Politics*, New Delhi, Pearson education.
10. P. Glibert-Terrorism, 1995, *Security and Nationality*, London and New York, Routledge,
11. Ronald K Mitchell, 2009, *International Environmental Politics*, Delhi, Sage.
12. Sayyad Yasin Gulabbhai, 2020, *International Relation and Global Politics*, Kanpur, International Publication.
13. W. R. Thmpson, 2001, *Evolutionary Interpretations of World Politic*, New York, Routledge.

Optional Papers

PO-O9 Indian Administration – Structure and Organization

Objectives:

1. To introduce the students to the evolution of Indian Administration.
2. To acquaint them with the Principles and structure of Indian Administration.
3. To provide comprehensive understanding of administrative development.

1. Evolution and Constitutional Framework

- a) Evolution: Ancient, Medieval and British periods
- b) Constitutional Framework: Parliamentary and Federal Features
- c) Salient Features Indian Administration

2. Central Administration

- a) Prime Minister and Council of Ministers
- b) Central and Cabinet Secretariat
- c) Prime Minister Office

3. Civil Services in India

- a) Classification- All India Central and State Services
- b) Recruitment Agencies- Union Public Service Commission and State Union Public Service
- c) Capacity Building of Civil Servants and Civil Service Reforms

4. State Administration

- a) Chief Minister and Council of Ministers
- b) Chief Secretary, State Secretariat and Directorates
- c) Chief Minister Office

5. Issues in Indian Administration

- a) Citizen Grievance Redressal Mechanism- Lok Pal, Lokayuta and Central Vigilance Commission
- b) Politician and Civil Servants Relations
- c) Combating Corruption / Generalists and Specialists Debate

Readings:

1. Avasthi A. 1980, *Central Administration*, New Delhi, Tata Mc graw Hill.
2. Chanda Ashok, 1967, *Indian Administration*, London, Allen and Unwin.
3. Jain, R. B., 1976, *Contemporary Issues in Indian Administration*, New Delhi, Vishal Publications.
4. Johari J.C., 1977, *Indian Government and Politics*, New Delhi, Vishal Publications.
5. Khera, S.S., 1975, *The Central Executive*, New Delhi, Orient Longman.
6. Maheshwari S.R., 2005, *Indian Administration*, New Delhi, Orient Longman.

7. Misra B.B., 1970, *The Administrative History of India*, London, Oxford University Press.
8. Muttalib, M.A., 1967, *Union Public Service Commission*, New Delhi, I.I.P.A.
9. Prasad Bishwanath, 1968, *The Indian Administrative Service*; Delhi, S. Chand and Company.
10. Puri, K.K., 2006, *Indian Administration*, Jalandhar, Bharat Prakashan.
11. Singh Hoshiar and Singh Mohinder, 1989, *Public Administration in India: Theory and Practice*, New Delhi, Sterling Publishers Private Ltd.
12. Subramaniam Malathi, 1987, *Management of Public Administration*, Delhi, Deputy Publications.
13. Subramaniam, V., 1971, *Social Background of India's Administrators*, New Delhi. Publication Division Government of India.

PO-O10 Political Thought of Dr. Babasaheb Ambedkar

Objectives: This course aims at training the students to study one political thinker in depth. It also expects students to know the anti-caste thinking in Indian context. The course is also expected to relate the thinking of Dr. Babasaheb Ambedkar to contemporary problems.

1. Constitution Philosophy

- a) Role in the Constitution Assembly
- b) Views on the Indian Constitution

2. Views on Caste and Untouchability

- a) Critique of Varna System
- b) Annihilation of Caste

3. Thought on Social Democracy

- a) Liberty-Equality-Fraternity
- b) Social Justice

4. Thought on Indian Economy

- a) Agricultural
- b) Industries

5. Views on Religion

- a) Critique of Hinduism
- b) Advocacy of Navyana

Readings:

1. Ambedkar B. R., 1968, *Annihilation of Caste*, Jullundur Bhimpatrika.
2. Ambedkar B. R., 1957, *The Buddha and his Dhamma*, Mumbai, Siddhart Publication.
3. Ambedkar B. R., 1947, *State and Minorities: What are their Right and how to secure them in the Constitution of free India*, Mumbai, Thakur and Company.
4. भोळे भा. ल., २००३, *आधुनिक भारतातील राजकीय विचार*, नागपूर, पिंपळापुरे प्रकाशन.
5. गायकवाड संजय, २०१९, *मार्क्स-आंबेडकर समन्वयी परिप्रेक्ष्यातून शिक्षण आणि रोजगार*, पुणे, शब्दसंग प्रकाशन.
6. Jaffrelot Christophe, 2004, *Dr. Ambedkar and Untouchability*, New Delhi, Permanent Black.
7. कसबे रावसाहेब, १९८५, *आंबेडकर आणि मार्क्स*, पुणे, सुगावा प्रकाशन.
8. कसबे रावसाहेब, २०१०, *डॉ. आंबेडकर आणि भारतीय राज्यघटना*, पुणे, सुगावा प्रकाशन.
9. कीर धनंजय, १९६६, *डॉ. बाबासाहेब आंबेडकर*, मुंबई, पॉप्युलर प्रकाशन.
10. खैरमोडे चां. भ., २०११, *डॉ. बाबासाहेब आंबेडकर- अस्पृश्यांचा उद्धारक*, पुणे, सुगावा प्रकाशन.
11. मुन वसंत (संपा), १९९०, *डॉ. बाबासाहेब आंबेडकर यांचे बहिष्कृत भारत आणि मुकनायक*, मुंबई, शिक्षण विभाग महाराष्ट्र शासन.

12. Omvelt Gail, 2004, *Ambedkar: Towards an Enlightened India*, New Delhi, Penguin Publication.
13. Omvelt Gail, 2003, *Buddhism in India*, New Delhi, Sage.
14. Omvelt Gail, 1994, *Dalits and the Democratic Revolution in Colonial India*, New Delhi, Sage.
15. Rodrigues Valerian (ed), 2002, *The Essential Writings of B. R. Ambedkar*, New Delhi, Oxford University Press.
16. वकील अलीम, १९९०, *महात्मा आणि बोधिसत्त्व*, संगमनेर, मित्र प्रकाशन.
17. Zelliott Eleanor, 1969, *Dr. Ambedkar and Mahar Movement*, University of Pennsylvania, Philadelphia. Unpublished Thesis.

PO-O11 Public Policy in India

Objectives: The purpose of this course is to provide students an understanding of the policies framed and being implemented by the Government of India to realize overall development of the country. The course has been designed to provide broad understanding of these policies to students and help them analyze these policies. It also attempts to assess how these policies have shaped life of Indians in general.

1. History of Indian Public Policy

- a) Mixed-Economy era
- b) Post Globalization era

2. Regulatory Policies

- a) Environment Policy
- b) Information Technology Policy

3. Welfare Policies

- a) SC, ST, OBC and Religious Minorities
- b) Women, Children and Third Gender

4. Distributive Policies

- a) Food security Policy
- b) Reservation Policy

5. Development Policies

- a) Energy policy
- b) Agriculture and Industrial Policy

Readings:

1. Chakrabarti Rajesh and Sanyal Kaushiki, 2015, *Public Policy in India*, New Delhi, Oxford University Press.
2. Dayal Ishwar et al, 1976, *Dynamics of Formulating Policy in Govt. of India*, New Delhi, Concept.
3. Ganapathy R.S. et al (ed), 1985, *Public Policy and Policy Analysis in India*, New Delhi, Sage Publication.
4. Joshi Vijay and I. M. D. Little, 2006, *India's Economic Reforms 1991-2001*, New Delhi, Oxford University Press.
5. Kashyap Subhash C., (ed), 1990, *National Policy Studies*, New Delhi, McGraw-Hill
6. Kumar Avanish and Narain Vishal, 2014, *Public Policy and Governance in India in Vision-The Journal of Business Perspective*, Sage, 18(4) pp 257–260.
7. Mathur Kuldeep, 2013, *Public Policy and Politics in India: How Institutions, Matter*, New Delhi, Oxford University Press.
8. Saumitra Mohan, 2018, *Indian Policy and Development: A Manual for National Schemes and International Policies*, Chennai, McGraw-Hill
9. Weiner Myron, 1979, *Social science research and public policy in India. Economic and Political Weekly*, 14(37), 1581–1587.

PO-O12 Research Methodology

Objectives:

1. To introduce the concept and techniques of the students.
2. To make the students aware of the different tools of research.
3. To explain the different stage of research such as research Design Data collection, Analysis and Report Writing.

1. Introduction to Research Methodology

- a) Meaning and Objective of Research Methodology
- b) Motivations and Types
- c) Approaches, Significance, Methods (Scientific)

2. Defining the Research Problem

- a) Concept and Need
- b) Identification of Research Problem

3. Research Questioner and Hypothesis

- a) Variables, Characteristics of good hypothesis
- b) Research question and formulation of hypothesis
- c) Directional and Non directional of hypothesis and its basis

4. Tools for data collection

- a) Primary data and Secondary data
- b) Developing Research tools
- c) Questioners, Reliability and Validity

5. Sampling

- a) Probability and Non Probability
- b) Types of Sampling

Readings:

1. Budd, Thorp and Donohero, 1967, *Content Analysis of Communications*, London, Collier-Mac.
2. Buchanan W, 1998, *Understanding Political Variables*, New York, Pearson.
3. E. Terrence Jones, 1984, *Conducting Political Research*, London, Harper & Row.
4. Garcean, 2014, *Political Research and Political theory*, Boston, Harvard University Press.
5. Lane and Sears, 1964, *Public Opinion*, New Delhi, Prentice Hall.
6. Renwick and Swinburne, 1987, *Basics Political Concepts*, London, Hutchinson Education.
7. Smith Johnson, Panlsen and Shocket, 1976, *Political Research Methods: Foundations & Techniques*, Boston, Houghton Mifflin.
8. T. C. Mc Cormicks, 1941, *Elementary Social Statistics*, New York, McGraw-Hill
9. W. Philips Shively, 1974, *The Craft of Political Research a Primer*, U.S.A, Prentice Hall.

M.A. – II
Political Science

Semester – IV

PO-C10 Fundamentals of Political Theory

Objectives: This course introduces the students to the evolution, importance to the study of Political Theory. It introduces Political Theory as a distinctive area of inquiry. It is the integral area to the study of politics. It highlights debates in the field and places them in a historical perspective.

- 1. Political Theory: Meaning, Nature and Scope**
- 2. Liberty, Equality and Fraternity**
- 3. Justice, Rights, Citizenship**
- 4. Power, Authority and Legitimacy**
- 5. State, Democracy, Civil Society**

Readings:

1. Bhargava Rajeev and Ashok Acharya (ed), 2011, *Rajakiya Siddhanta* Delhi, Pearson.
2. Goodwin Barbara, 2004, *Using Political Ideas*, Chichester, John Wiley & Sons.
3. Hampton Jean, 1998, *Political Philosophy*, New Delhi, Oxford University Press.
4. Kamble Bal, Khandve Eknath and Jagtap Pradeep, 2014, *Political Theory and Concepts*, Nanded, Anuradha Publications.
5. Kulkarni Mangesh (ed), 2011, *Interdisciplinary Perspectives in Political Theory*, New Delhi/Thousand Oaks, Sage.
6. Kymlicka Will, 2002, *Contemporary Political Philosophy*, Oxford, Oxford University Press.
7. Knowles Dudley, 2001, *Political Philosophy*, London, Routledge
8. Pierson Christopher, 2004, *The Modern State*, London, Routledge.
9. Rege M. P., 2005, *Swatantrya, Samata ani Nyaya*, Mumbai, Shanta Rege.
10. Sayyad Yasin Gulabbhai, 2018, *Fundamentals of Political Theory*, Kanpur, International Publication.
11. Swift Adam, 2001, *Political Philosophy*, Cambridge, Polity.

PO-C11 Political Process in India

Objectives: The course will introduce to the student the key issues and details of the political process in post independence India. It will also try to develop among students a perspective to understand and analyse Indian politics. The aim is to help students understand the expansive meaning of political process as it shapes in the arena of electoral and party politics, in the form of mass mobilizations and as politics of interests.

1. Nature Of party and electoral politics

- a) One party dominance
- b) Competitive multi party system
- c) Collation Politics

2. Centre –State Financial Relations

- a) Distribution of Financial Sources between Centre and State
- b) Role of Finance Commission
- c) NITI Ayog

3. Centre-State Political Relations

- a) Role of Governor
- b) Emergency Provisions.
- c) State Autonomy.

4. Social Determinants of State Politics

- a) Religion
- b) Caste
- c) Language

5. Politics of mass mobilization

- a) Naxalite movements
- b) Farmers movements
- c) Civil society organizations

Readings:

1. Brass Paul, 1990, *Politics of India since Independence*, New Delhi, Foundation Books.
2. Bholay Bhaskar Laxman, 2003, *Bhartiya Ganarajyache Shasan and Rajkaran*, Nagpur, Pimplapure and Company.
3. Chandra Bipan, Aditya Mukherjee and Mridula Mukherjee, 2009, *India after Independence*, New Delhi, Penguin Books.
4. Corbridge Stuart and John Harriss, 2000, *Reinventing India*, New Delhi, Oxford University Press.
5. Frankel Francine, Zoya Hasan, Rajeev Bhargava and Balveer Arora (ed), 2000, *Transforming India*, New Dellhi, Oxford University Press.
6. Guha Ramchandra, 2007, *India after Gandhi*, New Delhi, Picador.

7. Hasan Zoya (ed), 2002, *Parties and Party Politics in India*, New Delhi, Oxford University Press.
8. Jayal Nirja Gopal and Pratap Bhanu Mehta (ed), 2010, *The Oxford Companion to Politics in India*, New Delhi, Oxford University Press.
9. Kamble Bal and Khandve Eknath (ed), 2012, *Challenges before Indian Democracy*, Pune, Diamond.
10. Kamble Bal and Jagtap Pradeep (ed), 2016, *Indian Secularism: Value and Practice*, Nanded, Anuradha Publications.
11. Kamble Bal and Jagtap Pradeep (ed), 2014, *Indian Democracy and Fundamentalism*, Latur, Aditya Publications.
12. Kaviraj Sudipta, 2010, *The Imaginary Institution of India*, New Delhi, Permanent Black.
13. Kaviraj Sudipta, 2010, *The Enchantment of Democracy and India*, New Delhi, Permanent Black.
14. Kohli Atul (ed), 2001, *The Success of India's Democracy*, Cambridge, Cambridge University Press.
15. Sayyad Yasinbhai Gulabbhai, 2019, *UGC: NET / SET Political Science*, Kanpur International Publication.
16. Palshikar Suhas, 2004, *Samkaleen Bhartiya Rajkaran* Pune, Pratima Prakashan.
17. Shah Ghanshyam (ed), 2004, *Caste and Democratic Politics in India*, New Delhi, Permanent Black.
18. Vora Rajendra and Suhas Palshikar (ed), 2004, *Indian Democracy: Meanings and Practices*, New Delhi, Sage.

PO-C12 Politics and Society

Objectives: This Course expects students to understand the interface of politics with social structures and processes and how the nature of power is shaped by social factors.

1. Introduction

- a) Community
- b) Culture
- c) Religion

2. Inter-relationship between Politics and Society

- a) Role of State
- b) Nationalism
- c) Leadership

3. Politics, Society and Economy

- a) Inequality
- b) Class
- c) Caste

4. Social Movements and Development

- a) Anti Corruption Movement
- b) Nirbhaya Movement
- c) Environmental Movement

5. Issues in Society and Politics

- a) The Politics of National Identity
- b) Ethnicity and Gender
- c) Human Right

Readings:

1. Awari Vilas.2020, *Rajyashasra: Badalte Pravah v Bhumika*, Kanpur, Garima Prakashan.
2. Christenson R.et al, 1971, *Ideologies in Modern Politics*, Melbourne, Nelson.
3. Dahl R.A., 1977, *Modern Political Analysis*, New Delhi, Prentice Hall
4. K. Samuel, 1974, *Representative Bureaucracy*, Englewood Cliffs, N.J. Prentice-Hall.
5. Milner Andrew, 1999, *Class*, London, Sage Publication.
6. Pierson Christopher, 2004, *The Modern State*, London, Routledge.
7. Smith, B.C., 2003, *Understanding Third World Politics*, London, Palgrave-Macmillan.

Optional Papers

PO-O13 Twentieth Century Political Thought

Objectives: This Course provides glimpses of certain prominent intellectual currents that have shaped global political discourse in the twentieth century and beyond. It does so by focusing on major representative thinkers. The chief objective is to project the contemporary resonance and rich diversity of key perspectives, frameworks and agendas articulated by these seminal theorists and schools of thought.

1. Antonio Gramsci

- a) Civil Society
- b) Hegemony
- c) Revolution

2. Hannah Arendt

- a) Civic Republicanism
- b) Theory of Action
- c) Critique of Totalitarianism

3. John Rawls

- a) Theory of Justice
- b) Political Liberalism
- c) Law of People

4. Michel Foucault

- a) Power - Knowledge
- b) Govern mentality
- c) Critique of Modernity

5. Jürgen Habermas

- a) Public Sphere
- b) Ethics
- c) Cosmopolitanism

Readings:

1. Adams Ian and R. W. Dyson, 2008, *Fifty Great Political Thinkers*, London, Routledge.
2. Ball Terence and Richard Bellamy (ed), 2003, *The Cambridge History of Twentieth Century Political Thought*, Cambridge, Cambridge University Press.
3. Benewick Robert and Philip Green (ed), 1998, *The Routledge Dictionary of Twentieth-Century Political Thinkers*, London, Routledge.
4. Boucher David and Paul Kelly, 2009, *Political Thinkers*, Oxford, Oxford University Press.

5. Finlayson Alan, 2003, *Contemporary Political Thought*, Edinburgh, Edinburgh University Press.
6. Kohn Margaret and Keally McBride, 2011, *Political Theories of Decolonization*, Oxford, Oxford University Press.
7. Kolakowski Leszek, 1978, *Main Currents of Marxism*, Oxford, Oxford University Press.
8. Kulkarni Mangesh (ed), 2011, *Interdisciplinary Perspectives in Political Theory*, New Delhi/Thousand Oaks, Sage.
9. McLellan David, 2007, *Marxism after Marx*, London, Macmillan.
10. मालशे मिलिंद आणि अशोक जोशी, २००७, *आधुनिक समीक्षा सिद्धांत*, मुंबई, मौज.
11. Parekh Bhikhu, 1982, *Contemporary Political Thinkers*, Oxford, M. Robertson.
12. Parekh Bhikhu and Thomas Pantham (ed), 1987, *Political Discourse: Explorations in Indian and Western Political Thought*, New Delhi, Sage.
13. शिरवाडकर के. रं., २०१०, *आपले विचारविश्व*, पुणे, राजहंस.
14. Trivey Leonard and Anthony Wright, 1992, *Political Thought since 1945*, Aldershot, Edward Elgar.
15. Zuckert Catherine (ed), 2011, *Political Philosophy in the Twentieth Century*, Cambridge, Cambridge University Press.

PO-O14 Politics of South Asia

Objectives: The course introduces students to the region of South Asia and its shared geopolitical context. It also allows students to understand cross-national comparisons and international relations across similar cases of political systems. Thirdly, the course will introduce students to the political, social and economical phenomena that shaped the region of South Asia. Finally, the course makes students understand the struggle and challenges of the regional cooperation in South Asia

1. South Asia as a Region

- a) Geopolitical Characteristics
- b) Historical Background: colonialism and the emergence of independent states
- c) Nation building: Objectives and impediments

2. Political Institutions at Work

- a) Struggle for Democracy
- b) Role of the Military

3. Politics of Social Divisions and Human Rights

- a) Caste, Language and Ethnicities
- b) Issues of Minorities
- c) Violation and protection of Human Rights

4. Inter-State Conflicts

- a) Border disputes
- b) Cross-border terrorism
- c) Nuclearisation

5. Regionalism and Regional Organisations

- a) Regionalism
- b) South Asian Regionalism in the context of globalization
- c) South Asian Association for Regional Co-operation

Readings:

1. Ahmed Ishtiaq, 1996, *State, Nation and Ethnicity in Contemporary South Asia*, London, Pinter.
2. आवारी विलास, २०२०, *भारत व सार्क*, (ई-पुस्तक) अमेझॉन एशिया पॉसिफिक होल्डींग्स प्रायव्हेट लिमिटेड.
3. Bjorkman James W. (ed), 1991, *Fundamentalism, Revivalists and Violence in South Asia*, Delhi, Manohar.
4. Bose Sugata and Ayesha Jalal, 1998, *Modern South Asia: History, Culture, Political Economy*, New Delhi, Oxford University Press.
5. Brass Paul R. (ed), 2010, *Routledge Handbook of South Asian Politics*, London & New York, Routledge.

6. Chattopadhyay H.P. and Sarkar S.K. (ed), 2003, *Ethnic Composition and crisis in South Asia*, Delhi, Global.
7. Gellner David N. and Hachhethee Krishna (ed), 2008, *Local Democracy in South Asia*, New Delhi, Sage.
8. Guneratne Arjun and Anita M Weiss (ed), 2014, *Pathways to Power: the Domestic Politics of South Asia*, Hyderabad, Orient Blackswan.
9. Jalal Ayesha, 1995, *Democracy and Authoritarianism in South Asia*, Cambridge, Cambridge University Press.
10. Phadnis Urmila, 1991, *Ethnicity and Nation-Building in South Asia*, New Delhi, Manohar.
11. Sayyad Yasin Gulabbhai, 2018, *Politics of South Asia*, Kanpur, International Publication.
12. SDSA Team, 2008, *State of Democracy in South Asia*, New Delhi, Oxford University Press.
13. Shastri Amita and Wilson Jayaratnam (ed), 2001, *The Post-Colonial States of South Asia: Democracy, Identity, Development and Security*, Richmond, Curzon Press.
14. Spencer Jonathan, 2007, *Anthropology, Politics and State: Democracy and Violence in South Asia*, Cambridge, New York, Cambridge University Press.
15. Thakur Ramesh and Wiggen Oddney (ed) 2004, *South Asia in the world: Security, Sustainable Development and Good Governance*, Tokyo, United Nations University Press.
16. टकेकर मनीषा (संपा), २००९, *भारत आणि भारताचे शेजारी*, पुणे, साधना.
17. विजापूर अब्दुलरहीम, देवरे सुरेश (अनु), २०२०, *मानवी हक्क व आंतरराष्ट्रीय संबंध*, (ई-पुस्तक) अमेझॉन एशिया पॅसिफिक होल्डींग्ज प्रायव्हेट लिमिटेड.
18. यादव योग, सुहास पळशीकर, पीटर आर. डिसूझा, २०१०, *लोकशाही जिंदाबाद*, पुणे, समकालीन.

PO-O15 Election Studies

Objectives: - This course has a dual purpose. It seeks to introduce to the students the methods of studying elections. It also seeks to acquaint the student with the practice of studying elections in India and issues involved in it. The course expects students to understand the different methods of election study. Taking off from the history and evolution of election studies, the course further dwells on key issues in India's electoral politics.

1. History of Election Studies

- a) Meaning and Importance
- b) Demand and Development of Representation
- c) Election Studies in India

2. Overview of Elections in India

- a) Election Commission
- b) i. People's Representation Act ii. Model Code of conduct
- c) Landmark Elections: 1952, 1967, 1977, 1996, 2004 and 2014

3. Research Methods

- a) Serve
- b) Field study and Ethnographic Studies
- c) Data Analysis

4. Major Determinants of Election

- a) Social Identities
- b) Media
- c) Funding

5. Practices of Election Commission of India

- a) Electoral Awareness Program
- b) Prevention from Malpractices in Election
- c) Electoral Reforms

Readings:

1. Chopra Kumar, 1989, *Politics of Election Reforms in India*, Delhi, Mittal publication.
2. Kumar Sanjay and Rai Praveen, 2013, *Measuring Voting Behavior in India*, New Delhi, Sage.
3. Kumar Sanjay, 2013, *Changing Electoral Politics in Delhi from Caste to Class*, New Delhi, Sage.
4. Larry Diamond and Marc F. Plattner (ed), 2008, *How People View Democracy*, Baltimore, Johns Hopkins University.
5. Palshikar Suhas, (2013), "Election Studies", in K.C. Suri (ed), *Indian Democracy, Volume 2, ICSSR Research Surveys and Explorations: Political Science*, New Delhi, Oxford University Press.

6. Suhas Palshikar, Suri K.C. and Yadav Yogendra (ed) 2014, *Party Competition in Indian States Electoral Politics in Post Congress Polity*, New Delhi, Oxford University Press.
7. Paul Wallace and Ramashray Roy, 2003, *India's 1999 elections and 20th century politics*, New Delhi, Sage.
8. Roy Ramashray and Paul Wallace (ed), 2007, *India's 2004 Elections: Grass- Roots And National Perspectives*, New Delhi, Sage.
9. Rajendra Vora and Suhas Palshikar, 2004, *Indian Democracy: Meanings and Practices*, New Delhi, Sage.

PO-O16 Globalisation and State

Objectives:

1. The purpose of this course is to understand the nature of globalization & its impact on the nation states.
2. To help the students of understand the responses of the state to the process of Globalization.

1. Understanding Globalization

- a) Concept of Globalization
- b) Historical perspectives and evolution

2. Globalization, Civil Society and State

- a) Civil Society and State: An Interface
- b) Changing Nature of Civil Society after Globalization

3. Challenges to the Nation-State

- a) Issue of Legitimacy
- b) Sub-nationalism

4. The Security Dilemma of Post Colonial States

- a) Domestic Dimension
- b) International Dimension

5. Globalization and developing World

- a) Impact of Globalization on developing Societies
- b) Globalization and the Response of the Developing Countries.

Readings:

1. Sorensen George, 2001, *Changes in Statehood-The transformation of international Relations*, Hampshire, Palgrave.
2. Leibfried Stephan and Michael Zurn, 2005, *Transformations of the State*, Cambridge, Cambridge University Press.
3. Clark Ian, 1999, *Globalization and International Relations theory*, Oxford, Oxford University Press.
4. Basu Rumki, 2008, *Globalization and the Changing Role of State: Issues and Impact*, New Delhi, New Dawn Press.
5. Misra Ramesh, 1999, *Globalization and the Welfare State*, UK. Edward Elgar Publishing Ltd.
6. Holtan R. J., 1998, *Globalization and the Nation State*, Macmillan, Palgrave.
7. Sayyad Yasibhai Gulabbhai, 2020, *International Relation and Global Politics*, Kanpur, International Publication.
8. Sayyad Yasibhai Gulabbhai, 2020, *UGC NET/SET Political Science*, Kanpur, International Publication.

M.A. (Political Science)
Semester and Credit System
Rules and Regulations
2013-14

I. General Information

- The M.A. degree will be awarded to students who complete a total of 64 credits in a minimum of two years taking four courses per Semester ($4 \times 4 = 16$ Credits). Each course will be of 4 credits.
- For the students doing M.A. degree in Politics the courses are divided into compulsory and optional. Every student has to take one optional course in each semester along with the three compulsory courses.

II. Evaluation

- Each course will have 50% marks as semester end examination and 50 % marks for in-semester assessment.
- The student has to pass in the combined total of internal assessment and semester end examination.
- In order to pass a student shall have to get minimum 40% marks (E and above on grade point scale) in each course.
- The system of evaluation will be as follows: Each assignment/test will be evaluated in terms of marks. The marks for separate assignments and the final (semester end) examination will be added together and then converted into a grade and later grade point average. Results will be declared for each semester and the final examination will give total marks, grades and grade point average.
- If a student misses an internal assessment examination he/she will have a second chance subject to permission of the teacher concerned.
- Students who have failed for the entire course may reappear at the semester-end exam. Their internal marks will not change. They can also repeat during the 5th /the 6th semester whichever is applicable.

Marks/Grade/Grade Point

Marks	Grade	Grade Point
100 to 75	O: Outstanding	06
74 to 65	A: Very Good	05
64 to 55	B: Good	04
54 to 50	C: Average	03
49 to 45	D: Satisfactory	02
44 to 40	E: Pass	01
39 to 0	F: Fail	00

The formula for conversion of Grade Point Average (GPA) into the final grade

05.5 - 06 - O

04.5 - 05.49 - A

03.5 - 04.49 - B

02.5 - 03.49 - C

01.5 - 02.49 - D

00.5 - 01.49 - E

• Grade point average will be calculated as per the following formula : GPA

= Total No. of Grade Points X 4

Grades

O : Outstanding Excellent analysis of the topic, Accurate knowledge of the primary material, wide (75% and above) range of reading, logical development of ideas, originality in approaching the subject, neat and systematic organization of content, elegant and lucid style.

A : Very Good Excellent analysis of the topic, Accurate knowledge of the primary material, (65 to 74%) acquaintance with seminal publications, logical development of ideas, neat and systematic organization of content, effective and clear expression.

B : Good Good analysis and treatment of the topic, Basic knowledge of the primary material, (55 to 64%) logical development of ideas, neat and systematic organization of content, effective and clear expression.

C : Average Some important points covered, basic knowledge of the primary material, (50 to 54%) logical development of ideas, neat and systematic organization of content, good language or expression.

D : Satisfactory Some point discussed, basic knowledge of the primary material, some organization, (45 to 49) acceptable language or expression.

E : Pass Any two of the above
(40 to 44%)

F : Fail None of the above
(O to 39%)

There will be an evaluation of each course by students at the end of every semester

The teacher would evaluate a student towards a course through interaction throughout the semester which would include one or more (but not less than 4 including compulsory written Test/s) of the following mechanisms with their maximum weightage out of 50 marks and this essentially enables the teacher to get positive feedback about a student's overall understanding/ability and in nutshell enhances the teaching learning process.

- Written test – Max 2 with not more than 15 marks for each

- Assignment – Max 2 with not more than 5 marks for each
- Seminar presentation – 5 marks (not for all the students)
- Group discussion – 5 marks (not for all the students)
- Extension work – 5 marks (not for all the students)
- An open book test – 10 marks (to be conducted in a classroom for not more than 3 questions)
- Report/Note on research paper/s or study tours – 5 marks (not for all the students and to be presented in the respective class)
- Term Paper -5 marks (not for all the students)
- . Journal/Lecture/Library notes -5 marks (not for all the students)
- . Short Quizzes -5 marks (not for all the students)

All the CA written test papers/assignments will be made available to the students. A teacher may propose any other mean towards CA that may suit for a particular course and implement only after the approval of the Departmental Committee constituted by the Principal of the college.

UNIVERSITY OF PUNE

Political Science Syllabus for M. A. Part II

**Credit and Semester System to be implemented from 2013-14 at
college centers
M. A. Part II Semester III**

List of Compulsory Courses (C = Compulsory)

Paper No.

Paper title

PO-C7:	POLITICAL THINKING IN MODERN INDIA
PO-C8:	POLITICAL SOCIOLOGY
PO-C9:	THEORY OF INTERNATIONAL RELATIONS

List of Optional Courses (O = Optional)

PO-O9:	COMPARATIVE POLITICS II
PO-O10:	INDIAN ADMINISTRATION
PO-O11:	POLITICS OF NON-DEMOCRATIC REGIMES
PO-O12:	RESEARCH METHODS IN POLITICAL SCIENCE

M. A. Part II Semester IV

List of Compulsory Courses (C = Compulsory)

Paper No.	Paper title
PO-C10:	TRADITIONS OF POLITICAL THOUGHT
PO-C11:	POLITICAL PROCESS IN INDIA
PO-C12:	POLITICAL PARTICIPATION

List of Optional Courses (O = Optional)

Po-O13:	POLITICAL THOUGHT OF DR.AMBEDKAR
PO-O14:	PARTY SYSTEM IN INDIA
PO-O15:	CO-OPERATION IN ASIA PACIFIC REGION
PO-O16:	POLITICAL ECONOMY OF INDIA

PO-C7: Political Thinking in Modern India

Objectives: The course introduces the student to the key ideas of political thinking in modern India as it shaped in the colonial context. The course is woven around ideas/ issues and **not around individual thinkers**. Students will be encouraged to understand and decipher the diverse and often contesting ways in which ideas of nationalism, democracy and social transformation were discussed by leading Indian thinkers.

1. Imagining the Modern: Rammohan Roy, Nehru
2. The idea of the nation : Tilak, Azad
3. Democracy: Ambedkar, Gandhi
4. Liberty, Equality, Justice: Lohia, Periyar
5. Economic Transformation and Development: M N Roy, Nehru
6. Swarajya and Sarvodaya: Gandhi, Jayprakash Narayan

Readings:

1. Appadorai A., 1987, *Indian Political Thinking in the 20th Century*, New Delhi, South Asian Publishers
2. Mahendra Pratap Singh, 2011, *Indian Political Thought and Thinkers*, Pearson Education
3. Bholay Bhaskar Laxman, 2003 , *Aadhunik Bhartiya Rajkiya Vichar*, (Marathi), Nagpur, Pimplapure Publishers
4. Guha Ramchandra, 2010, *Makers of Modern India*, New Delhi, Penguin/ Viking
5. Lohia Rammanohar, 1976, *Marx, Gandhi and Socialism*, Hyderabad, Scientific Socialist Educational Trust,
6. Mehta V R, 1996, *Indian Political Thought*, New Delhi, Manohar
7. Mehta V R and Thomas Pantham (eds.), 2006, *Political Ideas in Modern India: Thematic Explorations*, New Delhi, Sage
8. Pantham Thomas and Kenneth Deutsch (eds.), 1986, *Political Thought in Modern India*, New Delhi, Sage.
9. Parekh Bhikhu, 1999, *Gandhi*, OUP
10. Rodrigues Valerian (ed.), 2002, *The Essential Writings of B R Ambedkar*, New Delhi, OUP
11. Singh Aakash and Silika Mohapatra (eds.), 2010, *Indian Political Thought: A Reader*, New Delhi, Routledge

PO-C8: Political Sociology

Objectives: This Course will introduce the overall scope of the sub-discipline of political sociology. The focus of the course will be on the political sociology of power. The emphasis is on the nature of power in modern societies—more in the form of organizations and social formations than as individual power. Students are also expected to understand different forms of justifications of power and the role of ideology in this regard. State will be studied as a repository of power in society while class and patriarchy are two instances of how the nature of power is shaped by social factors.

1. Meaning and intellectual foundations of political sociology:

a. Origins

b. Legacy of Marx and Weber

2. Power and Authority:

a. Meaning and nature of Power and Authority,

b. Sources of power and authority

3. Ideology and Hegemony:

a. Role of Ideology and End of Ideology debate

b. Meaning of hegemony

4. State, Military and bureaucracy:

a. State and Globalization

b. Military and Bureaucracy as apparatuses of state

5. Class:

a. Meaning and nature

b. Criticisms of Marx's class model

6. Patriarchy:

a. Meanings of the term

b. Caste, Race, Religion and patriarchy

Readings:

1. Samir Dasgupta, 2013, *Political Sociology*, Pearson Education
2. Christenson R. et al, 1971, *Ideologies in Modern Politics*, Melbourne, Nelson
3. Coser Lewis (ed.), 1967, *Political Sociology: Selected Essays*, N.Y., Harper & Row
4. Dahl R.A., 1977, *Modern Political Analysis*, New Delhi, Prentice Hall
5. Geetha V., 2007, *Patriarchy*, Calcutta, Stree.
6. Krislov Samuel, 1974, *Representative Bureaucracy*, Englewood Cliffs, N.J., Prentice-Hall
7. Milner Andrew, 1999, *Class*, London, Sage
8. Pierson Christopher, 2004, *The Modern State*, London, Routledge
9. Smith, B.C. 2003, *Understanding Third World Politics*, London, Palgrave-Macmillan; 2nd edn.
10. Verma S.P., 1982, *Modern Political Theory*, Delhi, Vikas
11. Wasburn P.C., 1982, *Politics and Society*, Englewood Cliffs, N.J. Prentice Hall

PO-C9: Theory of International Relations

Objectives: This course introduces the students to the evolution and important theories. Students need a brief history of international politics to understand why we study the subject and how current scholarship is informed by what preceded it. Theories provide interpretative frameworks for understanding what is happening in the world and the levels of analysis. Competing theories are presented.

1. Introduction: The end of the Cold war, the Classical tradition and International Change
2. Realism, Liberalism, Marxism
3. Behaviouralism and Systemic explanations, Structure and Polarity.
4. Geopolitical and Conflict Theories
5. Positivist and Post Positivist debates
 - a. Critical theory, post-modernism
 - b. Constructivism and Normative theory.
6. New Issues – Environment, Gender.

Readings:

1. Brown, Chris and Ainley, Hirstein., 2010, *Understanding International Relations*, New York, Palgrave
2. Aneek Chatterjee, 2012, *International Relations Today: Concepts and Applications*, Pearson Education
3. Burchill, Scott et al 2009, *Theories of International Relations*, New York, Palgrave.
4. Chan, Stephen and Cerwyn Moore, (Eds) 2006, *Theories of International Relations Vol 1 to*, London, Sage
5. Dougharty, James E. and Robert L. Pfaltgraff Jr. 2009, *Contending Theories of International Relations*, New York, Longman
6. Doyle, Michael W. and G. John Ikenberry , (Ed) 1999, *New Thinking in International Relations Theory*, Boulder, Westview Press
7. Jackson, Robert and Georg Sorensen, 2010, *Introduction to International Relations – Theories and Approaches* (IV Edn) New-York, Oxford University Press.
8. Mingst, Karen A and Ivan .M. Arreguin-Toft 2011, *Essential Readings in World Politics*, New York, W.W. Norton and Co.
9. Ray, Ashwini K., 2004, *Western Realism and International Relations- A Non-Western view* Delhi, Foundation Books
10. Viotti, Paul R. and Mark. V. Kauppi , 2011, *International Relations Theory—Realism, Pluralism, Globalism, and Beyond*, Boston, Allyn and Bacon

PO-O9: Comparative Politics II

(Bangladesh, Nepal, Pakistan and Sri Lanka)

Objectives: This course expects students to understand comparisons in the context of concrete processes. Therefore, four political systems are selected with the common background— influence of India and a shared geopolitical context. Two are Muslim dominated systems with varying responses to the issue of Islam; two torn with internal ethnic claims; one still making a constitution and having got rid of monarchy; all facing the problems of underdevelopment and a liberalized economy. Above all, this course in comparative politics will allow students to understand the nuances of democratic politics and obstacles in democratization.

1. Legacy of the past:
 - a. Colonial Legacy
 - b. Monarchy in Nepal
2. Governmental Institutions at Work:
 - a. Constitution making
 - b. Governmental Structures
3. Electoral and Party Politics:
 - a. Party systems
 - b. Trends in Electoral politics
4. Social Divisions and Politics:
 - a. Caste, Language and ethnicity
 - b. Issue of minorities
5. Social Movements:
 - a. Democracy movements
 - b. Women's movements
6. Economy and Development:
 - a. Economic growth
 - b. Poverty

Readings:

1. Gabriel Almond, 2010, Comparative Politics Today 9/e, Pearson Education
2. Prabir Kumar De, 2011, Comparative Politics 1/e, Pearson Education

3. Ahmed Ishtiaq, 1996, *State, Nation and Ethnicity in Contemporary South Asia*, London, Pinter
4. Bjorkman James W. (ed.) 1991, *Fundamentalism, Revivalists and Violence in South Asia*, Delhi, Manohar
5. Bose Sugata and Ayesha Jalal, 1998, *Modern South Asia: History, Culture, Political Economy*, New Delhi, OUP
6. Brass Paul R. (ed.), 2010, *Routledge Handbook of South Asian Politics*, London & NY, Routledge
7. Jalal Ayesha, 1995, *Democracy and Authoritarianism in South Asia*, Cambridge, Cambridge University Press
8. Phadnis Urmila, 1991, *Ethnicity and Nation- Building in South Asia*, New Delhi, Manohar
9. SDSA Team, 2008, *State of Democracy in South Asia*, New Delhi, OUP
10. Shastri Amita and Wilson Jayaratnam (eds.), 2001, *The Post-Colonial States of South Asia: Democracy, Identity, Development and Security*; Richmond, Curzon Press
11. Spencer Jonathan, 2007, *Anthropology, Politics and the State: Democracy and Violence in South Asia*, Cambridge, NY, CUP
12. Thakur Ramesh and Wiggen Oddney (eds.) 2004, *South Asia in the World: Security, Sustainable Development and Good Governance*, Tokyo, United Nations University Press
13. Wink Andre Gunter (ed.) 1991, *Islam, Politics and Society in South Asia*, New Delhi, Manohar
14. Tikekar Maneesha (ed.), 2009, *Bharat ani Bharatache Shejari*, Pune, Sadhana
15. Yadav Yogendra, Suhas Palshikar, Peter R De Souza, 2010, *Lokshahi Jindabad*, Pune, Samakaaleen

PO-O10: Indian Administration

Objectives: The purpose of this course is to provide students with broad understanding of key dimensions of Indian Administration functioning at different levels. The objective of the course is to help students to understand and analyze the administrative reforms introduced recently to make administration people-centric and to what extent that goal has been realized.

1. Evolution
 - a. Colonial Legacy
 - b. Context: Value premises, Parliamentary Democracy, Federalism
2. Central Administration
 - a. Prime Minister, Prime Minister's Office (PMO) and Council of Ministers
 - b. Central Secretariat and Cabinet Secretariat
3. State Administration
 - a. Governor- Role and Responsibilities
 - b. Chief Minister and Council of Ministers
 - c. State Secretariat and Directorates
4. Restructuring Indian Administration
 - a. Civil Service Reform in the context of Liberalization
 - b. New Regulatory Institutions
5. Citizen Centric Administration- Some Initiatives
 - a. Citizens' Charter
 - b. Right to Information (RTI)
 - c. E-Governance
6. Challenges Before Indian administration
 - a. Governance challenges
 - b. Socio-economic challenges
 - c. Political challenges

Reading

1. Ahuja Kanta and A.K. Ojha (ed.), 2008, *Governance and Reforms*, Jaipur; Aalekh Publishers
2. Arora Ramesh K. and Rajni Goyal, 1996, *Indian Public Administration: Institutions and Issues*, New Delhi; Vishwa Prakashan
3. Das S.K., 1998, *Civil Service Reforms and Structural Adjustment*, New Delhi; Oxford University Press.

4. Debroy Bibek (ed.), 2004, *Agenda for Improving Governance*, New Delhi; Academic Foundation
5. Jain L.C. (ed.), 2005, *Decentralization and Local Governance*, New Delhi; Orient Longman
6. Jain R.B., 2002, *Public Administration in India: 21st Century Challenges for Good Governance*, New Delhi; Deep & Deep Publications.
7. Kapur Devesh and Pratap Bhanu Mehta (ed.), 2005, *Public Institutions in India*, New Delhi; Oxford University Press.
8. Maheshwari S.R., 2009, *Indian Administration*, New Delhi; Orient Blackswan, 6th Edition.
9. Prasad Kamala, 2006, *Indian Administration: Politics, Policies and Prospects*, Delhi; Dorling Kindersley India Pvt. Ltd.
10. Singh Hoshiar, 2001, *Indian Administration*, New Delhi; Kitab Mahal

PO-O11: Politics of Non-Democratic Regimes

Objectives: The purpose of this course is to develop a comparative perspective about functioning of the non-democratic regimes of different types with following specific objectives:

- I. To familiarize the students with the theorization of non-democratic regimes;
- II. To understand these regimes in terms of their sources of legitimacy and actual exercise of political control; and
- III. To offer a comparative perspective by way of comparing policy frameworks of democratic and non-democratic regimes.

1. Democratic-non-democratic regimes
2. Theories of non-democratic government
3. Types of Non-Democratic regimes
4. Legitimacy and Control in Non-Democratic regimes
5. Issues of Economic Development
6. Processes of Democratization

Readings:

1. Brooker Paul, 2000, Non-Democratic Regimes Theory; government and Politics, New York, St. Martin Press
2. Cammack Paul, David Pool and William Tordoff, 1993, Third World Politics, A Comparative Introduction, London, Macmillan
3. Tornquist Olle, 1999, Politics and Development: A Critical Introduction, London, Sage

PO-O12: Research Methods in Political Science

Objectives: Systematic inquiry is the basis of good research. This course aims at introducing the issues of research methods and acquainting the students with primary issues of identifying the research question and locating appropriate sources. The focus of this course will be on possible methods of investigation in political science. The course also aims at introducing a culture and ethic of good social research.

1. What is Research? Framing a Research Question
2. Theories, Concepts, Hypothesis, Variables
3. Ethical issues in Social Research
4. Data Collection for Quantitative and Qualitative research in Political Science
5. Data Analysis
6. Report Writing/ Presentation of Research/ Research Outcomes

Readings:

1. Blackie Norman, 2000, *Designing Social Research*, Cambridge, Polity Press
2. Chatterji Rakahari, 1979, *Methods of Political Inquiry*, Calcutta, The World Press
3. Cole Richard, 1980, *Introduction to Political Inquiry*, New York, Macmillan
4. Johnson Janet and Richard Joslyn, 1987, *Political Science Research Methods*, New Delhi, Prentice Hall of India
5. Manheim J. B. and Rich R. C., 1981, *Empirical Political Analysis*, Englewood Cliffs, Prentice-Hall
6. Neuman Lawrence W., 1997, *Social Research Methods: Qualitative and Quantitative Approaches*, Boston, Allyn and Bacon
7. Shively P. W., 1980, *The Craft of Political Research*, Englewood Cliffs, Prentice-Hall
8. Trigg Roger, 2001, *Understanding Social Research*, Oxford, Blackwell
9. Vedung Evert, 1982, *Political Reasoning*, Beverly Hills, Sage

M. A. Part II Semester IV

PO-C10: Traditions of Political Thought

Objectives: This Course is meant to serve as a window on the major traditions of thought that have shaped political discourse in different parts of the world over the last three millennia. It stresses the great diversity of social contexts and philosophical visions that have informed the ideas of key political thinkers across epochs. The chief objective is to project the history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life.

1. Ancient Era: Confucius, Plato
2. Medieval Era: Abu Nasr al-Farabi, Thomas Aquinas
3. Early Modern Era: Niccolo Machiavelli, John Locke
4. Modern Era: Jean-Jacques Rousseau, G. W. F. Hegel
5. Industrial Era: John Stuart Mill, Karl Marx
6. Colonial Era: M. K. Gandhi, Frantz Fanon

Readings:

1. Adams Ian and R. W Dyson, 2004, *Fifty Great Political Thinkers*, London, Routledge.
2. Benewick Robert and Philip Green (eds.), 1998, *The Routledge Dictionary of Twentieth-Century Political Thinkers*, London, Routledge.
3. Boucher David and Paul Kelly, 2003, *Political Thinkers*, Oxford, Oxford University Press.
4. Dole N. Y., 2009. *Rajakiya Vicharacha Itihas*, Pune, Continental Prakashan.
5. Jha Shefali, 2010, *Western Political Thought: From Plato to Marx*, Delhi, Pearson.
6. Mehta V. R., 1996, *Foundations of Indian Political Thought*, New Delhi, Manohar.
7. Nelson Brian, 2004, *Western Political Thought*, Delhi, Pearson Education.
8. Parel Anthony and Ronald Keith (eds.), 2003, *Comparative Political Philosophy: Studies under the Upas Tree*, Lanham, Lexington Books.
9. Rege M. P., 1974, *Pashchatya Nitishastracha Itihas*, Pune, Samaj Prabodhan Sanstha.
10. Sabine G. H., 1971, *A History of Political Theory*, Calcutta, Oxford & I.B.H.

PO-C11: Political Process in India

Objectives: The course will introduce to the student the key issues and details of the political process in post independence India. It will also try to develop among students a perspective to understand and analyse Indian politics. The aim is to help students understand the expansive meaning of political process as it shapes in the arena of electoral and party politics, in the form of mass mobilizations and as politics of interests.

1. Overview of electoral politics
 - a. 1951-1967
 - b. 1968-1989
 - c. 1990-2009
2. Nature of party system
 - a. One party dominance
 - b. Competitive multi party system
3. Politics of Regionalism
 - a. Politics of language
 - b. Issues of autonomy and ethnicity
 - c. Inter- state disputes
4. Role of caste in Indian politics
 - a. Dalit politics
 - b. OBC politics
 - c. Limits of caste politics post1999n
5. Political economy
 - a. Economic reforms
 - b. Inequalities and redistribution
6. Politics of mass mobilizations
 - a. Naxalite movements
 - b. Farmers' movements
 - c. NGOs

Readings

1. Brass Paul,1990, *Politics of India since Independence*, New Delhi, Foundation Books (Indian edition)
2. Bholay Bhaskar Laxman, 2003, *Bhartiya Ganarajyache Shasan and Rajkaran* (Marathi), Nagpur, Pimplapure and Co.
3. Chandra Bipan, Aditya Mukherjee and Mridula Mukherjee, 2009 (second revised edition), *India after Independence*, New Delhi, Penguin Books
4. Corbridge Stuart and John Harriss,2000, *Reinventing India*, New Delhi, OUP

5. Frankel Francine, Zoya Hasan, Rajeev Bhargava, Balveer Arora (eds), 2000, *Transforming India*, New Delhi, OUP
6. Guha Ramchandra, 2007, *India after Gandhi*, New Delhi, Picador
7. Hasan Zoya (ed), 2002, *Parties and Party Politics in India*, New Delhi, OUP
8. Jayal Nirja Gopal and Pratap Bhanu Mehta (eds), 2010, *The Oxford Companion to Politics in India*, New Delhi, OUP
9. Kaviraj Sudipta, 2010, *The Imaginary Institution of India*, New Delhi, Permanent Black
10. Kaviraj Sudipta, 2010, *The Enchantment of Democracy and India*, New Delhi, Permanent Black
11. Kaviraj Sudipta, 2010, *The Trajectories of the Indian State*, New Delhi, Permanent Black
12. Kohli Atul (ed), 2001, *The Success of India's Democracy*, Cambridge, CUP (paperback edition)
13. Palshikar Suhas, 2004, *Samkaleen Bhartiya Rajkaran* (Marathi), Pune, Pratima Prakashan
14. Shah Ghanshyam (ed), 2004, *Caste and Democratic Politics in India*, New Delhi, Permanent Black
15. Vora Rajendra and Suhas Palshikar (eds), 2004, *Indian Democracy: Meanings and Practices*, New Delhi, Sage

PO-C12: Political Participation

Objectives: This course is a continuation of the study of power. Political action is seen as integrally related to search for and justifications of power. Political socialization is the process that shapes the durable set of attitudes and beliefs which affect nature and extent of participation. Public opinion also shapes political activity. The course expects that students will go beyond the study of routine participation and understand the relevance of collective action in the form of social movements and/or collective violence.

1. Political Socialization and Political Culture:
 - a) Meaning
 - b) Socialization as reservoir of support
 - c) Idea of civic culture
2. Public Opinion:
 - a) Meaning and relation with political culture
 - b) Media and Public Opinion
3. Routine Political participation:
 - a) Costs and Benefits of political participation
 - b) Determinants of political participation
4. Women and Politics:
 - a) Extent of women's participation
 - b) Measures for ensuring fair participation of women in politics
5. Social Movements:
 - a) Meanings
 - b) Typologies
 - c) New Social Movements
6. Collective Violence:
 - a) Violence as participation
 - b) Forms of collective violence

Readings:

1. Bennett (1993). Constructing publics and their opinions. *Political Communication*
2. Dahlerup Drude, (ed.) 2007, *Women Quotas and Politics*, London & NY, Routledge
3. Foweraker Joe, 1995, *Theorizing Social Movements*, London, Pluto Press
4. Janoski Thomas, Robert Alford et al (eds), 2005, *The Handbook of Political Sociology*, Cambridge, CUP
5. Kavanagh Dennis, 1983, *Political Science and Political Behaviour*, London, George Allen and Unwin
6. Tilly Charles, 2003, *The Politics of Collective Violence*, Cambridge, CUP
7. Verma S.P., 1982, *Modern Political Theory*, Delhi, Vikas
8. Wasburn P.C., 1982, *Politics and Society*, 1982, Englewood Cliffs, N.J. Prentice Hall

PO-O13: Political Thought of Dr. Ambedkar

Objectives: This course aims at training the students to study one political thinker in depth. It also expects students to know the anti-caste thinking in Indian context. The course is also expected to relate the thinking of Dr Ambedkar to contemporary problems.

1. Intellectual and socio-political Background of Ambedkar's Thought
2. Critique of Indian Nationalism
3. Interpretation and critique of Caste System
4. Interpretation of Buddhism
5. Views on Liberal Democracy and role of State
6. Economic Thought

Readings:

1. Gore M. S. 1993, Social Context of an Ideology: Political and Social Thought of Dr. Ambedkar, New Delhi, Sage
2. Jaffrelot Christophe 2004, Dr. Ambedkar and Untouchability, New Delhi, Permanent Black
3. Kasabe, Raosaheb, 1985, Ambedkar ani Marx, Pune, Sugava Prakashan
4. Omvedt Gail, 2004, Ambedkar: Towards an Enlightened India, New Delhi, Penguin
5. Omvedt Gail, 2003, Buddhism in India', New Delhi, Sage
6. Omvedt Gail 1994, Dalits and the Democratic Revolution in Colonial India', New Delhi, Sage
7. Rodrigues Valerian, (ed.), 2002, The Essential Writings of B. R. Ambedkar, New Delhi, OUP

PO-O14: Party System in India

Objectives: The course introduces students to the nature of party system in India and to the functioning of main political parties operating in the system. The course will also acquaint students with analytical perspectives on party politics in India.

1. Early phase of party politics
 - a. Nationalist movement and issues of representation
 - b. Party politics up to 1950
2. Congress
 - a. Congress dominance
 - b. Decline of the Congress
 - c. Congress resurgence
3. BJP
 - a. BJS
 - b. Rise of the BJP
 - c. BJP's stagnation post 1999
4. Other all- India parties
 - a. Left parties
 - b. BSP
5. State parties
 - a. Role before 1980
 - b. Rise of regional parties after 1980
6. Perspectives on party politics in India
 - a. Dominant party system
 - b. Convergence party system

Readings:

1. De Souza Peter Ronald and E. Sridharan (eds.), 2006, *India's Political Parties*, New Delhi, Sage
2. Harman Horst, 1977, *Political Parties in India*, Meerut, Meenakshi Prakashan.
3. Hasan Zoya (ed.), 2002, *Parties and Party Politics in India*, Delhi, OUP.
4. Prasad Nageshwar, 1980, *Ideology and Organization in Indian Politics*, Bombay, Allied Publishers.
5. Sisson Richard and Ramashray Roy (eds.), 1990, *Diversity and Dominance in Indian Politics*, New Delhi, Sage.
6. Suri K C, 2005, *Parties under Pressure: Political parties in India since Independence*, Delhi, Lokniti-CSDS, working paper I

PO-O15: Conflict and Cooperation in Asia Pacific Region

Objectives: This course introduces the student to a region which is the centre of the New Cold War, with major players, USA, China, Japan and Russia. Several mechanisms are being put in place for cooperation as well as existing sources of conflict between the major powers as well as with middle powers.

1. Introduction- From Imperialism to the end of the Cold War
2. The New Regional Order- Security and Economic resurgence
3. Conflict Issues- Taiwan, Spartyls, North/ South Korea
4. Japan, China, Russia and USA
5. Asia- Pacific middle and small powers
6. Asia- Pacific Community

Readings:

1. Ayson, Robert and Desmond Ball (Ed) 2007, *Strategy and Security in the Asia- Pacific* , Crows Nest,NSW, Allen &Unwin.
2. Connors, Michael.K.,Remy Davison and Jorn Dosch, 2004 *The New Global Politics of theAsia-Pacific* London, Routledge Curzon.
3. Foot, Rosemary &Andrew Walter 2011, *China, the US and Global Order*, Cambridge, Cambridge University Press.
4. Ikenberry, John G. and Michael Mastanduno ,(Ed) 2003 *International Relations Theory and the Asia- Pacific*, New York, Columbia University Press.
5. McDougall, Derek, 2007 *Asia-Pacific in World Politics*, London, Lynne Rienner Publishers.
6. Mc Graw, Anthony and Christopher Brook [Ed],2005 *Asia Pacific in the New World Order* London, Routledge.
7. Odgaard , Liselotte ,2007 *Balance of Power in Asia Pacific Security- US China policies on a regional order* London, Routledge.
8. Shambaugh, David and Michael Yahuda [Ed] 2008 *International Relations of Asia* London, Rowman and Littlefield Pub. Inc.
9. Tow, William.T. [Ed] 2011 *Security Politics in the Asia-Pacific- A Regional –Global Nexus*, Cambridge, Cambridge University Press.
10. Yahuda,Michael 2011 *International Politics in the Asia-Pacific since 1945* London, Routledge.
11. Zhao,Suisheng [Ed] 2010 *US- China relations transformed-Perspectives and strategic interactions* London, Routeledge.

PO-O16: Political Economy of India

Objectives: This course introduces to the students issues related to the intersection of political and economic processes in India. The purpose is to introduce the idea that political processes are not entirely insulated from economy and vice versa. The course intends to take up specific issues regarding development policies, economic reforms and regional disparities in order to analyze the class structure and class-caste relationship.

1. Planning as strategy for development
 - a. Mixed economy model
 - b. Review of development plans
2. Economic Reforms
 - a. Liberalization, Privatization, Globalization
 - b. Political context of Liberalization
 - c. Challenges to the development agenda of the state
3. Class structure
 - a. Ruling classes
 - b. Politics of middle class
 - c. In formalization and dispersal of working classes
4. Class and caste
 - a. Caste composition of classes
 - b. Class divisions within castes
5. Regional Disparities
 - a. Inter- state disputes
 - b. Intra- state inequalities
6. The Indian state
 - a. Dominant coalition
 - b. The question of state autonomy

Readings:

1. Bardhan Pranab, 1998, *The Political Economy of Development in India*, Delhi, OUP
2. Byres TerenceJ (ed.), 1998, *The state, Development Planning and Liberalization in India*, Delhi, OUP
3. Corbridge Stuart and John Harris, 2000, *Reinventing India*, Cambridge, Polity
4. Frankel Franicne R, 2004, *India's Political Economy*, Delhi, OUP
5. Hasan Zoya (ed.), *Politics and State in India*, New Delhi, Sage
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6. Jenkins Rob, 2000, *Economic Reforms in India*, Cambridge, CUP
7. Kaviraj Sudipta, 2010, *The Trajectories of the Indian State*, New Delhi, Permanent Black
8. Ray Shovan (ed.), 2010, *Backwaters of Development: Six Deprived States of India*, New

delhi, OUP

9. Rudolph Lloyd and Susanne Hoeber Rudolph, 1987, *In Pursuit of Laxmi: The Political Economy of the Indian State*, Orient Longman

10. Vanaik Achin, 1990, *The Painful Transition*, London, Verso

**M. A. (English-Part-I) Credit and
Semester system (CSS)
Revised syllabus will be implemented with effect from the academic
year 2013-2014**

Implementation of Credit and Semester System at PG Centers

- 1- The post-graduate degree will be awarded to students who obtain a total credit as follows:

Sr. No.	Name of the Faculty	Total credits	Average credits per semester
1	Faculty of Arts & Fine Arts, Social Sciences, Commerce, Education, Physical Education, Law	64	16

- 2- One credit will be equivalent to 15 clock hours of teacher-student contact per semester. There will be no mid-way change allowed from CSS to non-credit (external) system or vice versa.
- 3- Among the total number of credits required to be completed for degree course (64 credits) students have to opt for minimum 75% credits from parent Department and remaining 25 % can be opted from either parent Department or other Department/Centers/Faculty. In addition to that students have to obtain compulsory credits over and above.

Examination Rules

- 1- Assessment shall consist of a) In-semester continuous assessment and b) end-semester assessment. Both shall have an equal weightage of 50 % each.
- 2- The teacher concerned shall announce the units for which each in-semester assessment will take place. However, the end-semester assessment shall cover the entire syllabus prescribed for the course.
- 3- An in-semester assessment of 50% marks should be continuous and at least two tests should be conducted for full course of 4 credits and a teacher must select a variety of procedures for examination such as:

- i. Written Test and/or Mid Term Test (not more than one or two for each course)
 - ii. Term Paper;
 - iii. Journal/Lecture/Library notes;
 - iv. Seminar presentation;
 - v. Short Quizzes;
 - vi. Assignments;
 - vii. Extension Work;
 - viii. An Open Book Test (with the concerned teacher deciding what books are to be allowed for this purpose)
- or
- ix. Mini Research Project by individual student or group of students

The concerned teacher in consultation with the Head of the PG Department shall decide the nature of questions for the Unit Test.

- 4- Semester end examination for remaining 50% marks will be conducted by the UoP.
- 5- The student has to obtain 40 % marks in the combined examination of In Semester assessment and Semester-End assessment with a minimum passing of 30 % in both these separately.
- 6- To pass the degree course, a student shall have to get minimum aggregate 40% marks (E and above on grade point scale) in each course.
- 7- If a student misses an internal assessment examination he/she will have a second chance with the permission of the Principal in consultation with the concerned teacher. Such a second chance shall not be the right of the student.
- 8- Internal marks will not change. A student cannot repeat Internal Assessment. In case she/he wants to repeat internal assessment she/he can do so only by registering for the said courses during the 5th / 6th semester and onwards up to 8th semester.
- 9- Students who have failed semester-end exam may reappear for the semester-end examination only twice in subsequent period. The student will be finally declared as failed if she\he does not pass in all credits within a total period of four years. After that, such students will have to seek fresh admission as per the admission rules prevailing at that time.
- 10- A student cannot register for the third semester, if she/he fails to complete 50% credits of the total credits expected to be ordinarily completed within two semesters.

- 11- There shall be Revaluation of the answer scripts of Semester-End examination but not of internal assessment papers as per Ordinance no.134 A & B.
- 12- While marks will be given for all examinations, they will be converted into grades. The semester end grade sheets will have only grades and final grade sheets and transcripts shall have grade points average and total percentage of marks (up to two decimal points). The final grade sheet will also indicate the PG Center to which the candidate belongs.

Assessment and Grade point average

- 1- **The system of evaluation will be as follows:** Each assignment/test will be evaluated in terms of grades. The grades for separate assignments and the final (semester-end) examination will be added together and then converted into a grade and later a grade point average. Results will be declared for each semester and the final examination will give total grades and grade point average.

2- Marks/Grade/Grade Point

Marks	Grade	Grade Point
100 to 75	O: Outstanding	06
74 to 65	A: Very Good	05
64 to 55	B: Good	04
54 to 50	C: Average	03
49 to 45	D: Satisfactory	02
44 to 40	E: Pass	01
39 to 0	F: Fail	00

3- Final Grade Points:

Grade Points	Grade
05.00-6.00	O
04.50-04.99	A
03.50-04.49	B
02.50-03.49	C
01.50-02.49	D
00.50-01.49	E
00.00-00.49	F

M. A. (English) Part -I (w.e.f. June 2013-14)

(Credit and Semester system-CSS)

Rationale for studying/teaching literature

- The rationale for studying Literature in English is primarily that it reinforces the guiding principles for education reform outlined in the UGC guidelines
- The Literature component in English Curriculum provides learners with learning experiences to appreciate and enjoy literature, encourage self-expression and creativity, enhance their critical and analytical skills, improve their competence in the use of English, develop their cultural understanding as well as positive values and attitudes conducive to lifelong learning, and prepare them for further study or work.
- The aims of studying/teaching the Literature component in English curriculum are to enable learners to appreciate and enjoy a wide range of literary or creative texts and other related cultural forms.
- It helps learners to develop a humanistic outlook on life. Through a close interaction with literary or creative works which portray a diverse range of human thought, emotion and experience, learners gain knowledge and understanding of the nature of human existence and of the world and the society in which they live.
- The study of Literature in English has many practical aspects- it provides ample opportunities for learners to develop their creativity, sharpen their critical and analytical skills, and enhance their language proficiency.
- It broadens students' awareness of the culture of different places where English is used and enhances their appreciation and understanding of culturally diverse society.

- The intellectual, aesthetic and emotional qualities, which learners develop through studying Literature in English, prepare them for further study or work, particularly in areas such as publishing and the media, where creativity, critical thinking and intercultural understanding are highly valued.

Paper – 1.1: English Literature from 1550-1798

(I) Objectives

- 1) To introduce students to major movements and figures of English Literature through the study of selected literary texts
- 2) To create literary sensibility and emotional response to the literary texts and implant sense of appreciation of literary texts
- 3) To expose students to the artistic and innovative use of language employed by the writers
- 4) To instill values and develop human concern in students through exposure to literary texts
- 5) To enhance literary and linguistic competence of students

(II) Allotment of Credits: One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). This also includes the completion of the background survey of literary movements. The allotment is as below:

(III) Course Content

SEMESTER ONE-

- 1) Unit I: Sidney, Spenser- 15 clock hours** (7 clock hours to poems by Sidney and 8 clock hours to poems by Spenser)
- 2) Unit II: Herrick, Donne, Marvell-18 clock hours** (6 clock hours to poems by Herrick, Donne and Marvell)
- 3) Unit III: *The Spanish Tragedy*- 12 clock hours**
- 4) Unit IV: *King Lear*- 15 clock hours**

Semester- I

Units

Teachers are expected to discuss literary background, movements, important writers and works in the beginning of their course teaching. There will be a separate question on literary background. The topics for this question will be like the rise of humanism, the rise of the sonnet sequence, revenge tragedy etc. These topics are suggested as examples only; teachers may discuss other relevant topics as well.

Unit I:

Sir Philip Sidney: Following lyrics from *Astrophel and Stella*-

i) 'Loving in Truth...' ii) 'The Curious Wits...' iii) 'Stella since thou...'

Edmund Spenser: Following lyrics from *Amoretti* – i) 'In that proud port...' ii) 'What guile is this...' iii) 'The merry Cuckow...'

Unit II:

Robert Herrick: i) Upon Julia's Clothes, ii) Delight in Disorder, iii) To Daffodils

John Donne: i) The Sunne Rising, ii) A Valediction Forbidding Mourning, iii) Canonization

Andrew Marvell: i) Definition of Love, ii) To His Coy Mistress

Thomas Kyd: *The Spanish Tragedy*

Unit IV:

William Shakespeare: *King Lear*

Paper – 2.1: English Literature from 1550-1798

Semester II

- 1) **Unit I: *Paradise Lost (Book IX)*- 10 clock hours**
- 2) **Unit II: Dryden, Goldsmith- 20 clock hours** (10 clock hours to Dryden's poem and 10 clock hours to Goldsmith's poem)
- 3) **Unit III: *The Duchess of Malfi* - 15 clock hours**
- 4) **Unit IV: *Joseph Andrews* - 15 clock hours**

Unit I: John Milton: *Paradise Lost (Book IX)*

Unit II: John Dryden: *MacFlecknoe*

Oliver Goldsmith: *Deserted Village*

Unit III: John Webster: *The Duchess of Malfi*

Unit IV: Henry Fielding: *Joseph Andrews*

(IV) Suggestions for Teachers

It is important that teachers introduce students to the socio-political and historical conditions of the prescribed period, the tendencies and trends dominant in the period, the stylistic features of the prescribed authors and the major characteristics of their works. Such information provides students with background and necessary contexts. Teachers can encourage students to read original texts prescribed, literary histories and critical works. Exercises into literary pieces, practical criticism and analytical discussions may be conducted in the classroom for effective understanding. Teachers can make use of ICT methods to create interest and promote literary sensibility in students.

(5) References:

Standard and recognized editions of textbooks and reference books may be used as bibliography for the course contents.

Semester I

Elizabethan and Metaphysical Poetry

Bennett, Joan, *Five Metaphysical Poets*, (Cambridge: 1934)

Berger, Harry, Jr.(ed.) *Spenser: a collection of critical essays* (Englewood Cliffs,N.J. Princeton-Hall Inc. 1968)

Bullet, Gerald (ed.), *Silver Poets of the Sixteenth Century* (London:J.M.Dent and Sons Ltd; 1947)

Gardner, Helen (ed.), *Metaphysical Poetry* (Harmondsworth: Penguin, 1957)

Inglis, Fred, *The Elizabethan Poets* (London: Evans Brothers, 1969)

Thomas Kyd

Bowers, Fredson, *Elizabethan Revenge Tragedy* (Princeton,N.J. Princeton University Press, 1940)

Bradbrook, M.C. *Themes and Conventions of Elizabethan Tragedy* (Cambridge, 1935)

Heilman, Robert, *Tragedy and Melodrama: Versions of Experience* (London and Seattle, 1968)

Maus, Katherine,(ed.), *Four Revenge Tragedies* (Oxford, 1995)

William Shakespeare

Bradley, A.C. *Shakespearean Tragedy* (London: Macmillan and Company,1904, reprinted several times)

Granville-Barker, Harley, *Prefaces to Shakespeare*, first series,(London: Sidgwick and Jackson, 1927)

Muir, Kenneth (ed.) *King Lear* (London: Methuen &Co. 1972).

Nagarajan, S. and Vishwanathan,(ed.) *Shakespeare in India* (OUP,1987)

Webster, Margaret, *Shakespeare Without Tears* (Cleaveland and New York: The World Publishing Company, 1955)

Semester II

John Milton

Campbell, Gordon and Corns, Thomas. *John Milton: Life, Work, and Thought*. Oxford: Oxford University Press, 2008.

Hunter, William Bridges. *A Milton Encyclopedia*. Lewisburg: Bucknell University Press, 1980.

Johnson, Samuel. *Lives of the Most Eminent English Poets*. London: Dove, 1826.

Wilson, A. N. *The Life of John Milton*. Oxford: Oxford University Press, 1983.

John Dryden

Hopkins, David, *John Dryden*, ed. by Isobel Armstrong, (Tavistock: Northcote House Publishers, 2004)

Hopkins David (ed.) *John Dryden Selected Poems*. (London: Everyman Paperbacks, 1998)

Marriott, David (ed.) *The Works of John Dryden*. (Hertfordshire: Wordsworth Editions, 1995)

Winn, James Anderson. *John Dryden and His World* New Haven: Yale UP, 1987

John Webster

Rene Weis, (ed) *John Webster: The Duchess of Malfi and Other Plays*. (Oxford World's Classics, 1996)

Forker Charles R. *Skull beneath the Skin: The Achievement of John Webster*.

Carbondale, IL, Southern Illinois University Press, 1986.

Henry Fielding

Battestin Martin C. *A Henry Fielding Companion*, Westport, Conn.: Greenwood Publishing, 2000.

Battestin Martin C. *Henry Fielding: A Life*. Routledge, 1989.

Oliver Goldsmith

Austin Dobson, Henry (Editor) *The Complete Poetical Works of Oliver Goldsmith*

Rousseau, George (1974), *Goldsmith: The Critical Heritage* (London: Routledge and Kegan Paul, 1974)

Paper – 1.2: English Literature from 1798-2000

(I) Objectives

1. To introduce students to major movements and figures of English Literature through study of selected literary texts
2. To create literary sensibility for appreciation in students and expose them to artistic and innovative use of language by writers and to various worldviews
3. To instill values and develop human concern in students through exposure to literary texts
4. To enhance literary and linguistic competence of students

(II) Allotment of Credits: One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). This also includes the completion of the background survey of literary movements. The allotment is as below:

(III) Course Content

SEMESTER-I

Unit I: Coleridge, Wordsworth-18 clock hours (9 clock hours to poems by Coleridge and 9 clock hours to poems by Wordsworth)

Unit II: Shelley, Keats-18 clock hours (9 clock hours to poems by Shelley 9 clock hours to poems by Keats)

Unit III: Emma-12 clock hours

Unit IV: A Tale of two Cities-12 clock hours

Semester- I

Units

Teachers are expected to discuss literary background, movements, important writers and works in the beginning of their course teaching. There will be a separate question on literary background. The topics for this question will be like the salient features of romanticism, conflict between science and religion in Victorian times, characteristics of modern poetry, stream of consciousness novels, absurd theatre etc. These topics are suggested as examples only; teachers may discuss other relevant topics as well.

Unit I:

S. T. Coleridge: i) Dejection: An Ode, ii) Frost at Midnight

William Wordsworth: i) Lucy Poems, ii) The Skylark

Unit II:

P. B Shelley: i) To a Lady with Guitar, ii) The word is too profaned
iii) Ozymandias

John Keats: i) On First Looking into Chapman's Homer, ii) Ode to Nightingale,
iii) Ode to Psyche

Unit III:

Jane Austen: *Emma*

Unit IV:

Charles Dickens: *A Tale of Two Cities*

Paper – 2.2: English Literature from 1798-2000

Semester-II

Unit I: Tennyson, Browning, Arnold- 15 clock hours (5 clock hours to poems by Tennyson, Browning, Arnold)

Unit II: Eliot, Yeats, Thomas, Heaney: 20 clock hours (5 clock hours to poems by Eliot, Yeats, Thomas, Heaney)

Unit III: *Lord of the Flies*: 12 clock hours

Unit IV: *Waiting for Godot*: 13 clock hours

Unit I:

Alfred Lord Tennyson: i) I held it truth with him, ii) I sometimes hold it half
a sin

Robert Browning: Childe Roland to the Dark Tower Came
Matthew Arnold: Dover Beach

Unit II:

T. S. Eliot: The Waste Land (Section I & II- The Burial of the Dead & A Game of Chess)

W. B. Yeats: i) Sailing to Byzantium, ii) Among Schoolchildren

Dylan Thomas: Fern Hill

Seamus Heaney: i) Bogland, ii) The Tollund Man

Unit III:

William Golding: *Lord of the Flies*

Unit IV:

Samuel Beckett: *Waiting for Godot*

(IV) Suggestions for Teachers

It is important that teachers introduce students to the socio-political and historical conditions of the prescribed period, the tendencies and trends dominant in the period, the stylistic features of the prescribed authors and the major characteristics of their works. Such information provides students with background and necessary contexts. Teachers can encourage students to read original texts prescribed, literary histories and critical works. Exercises into literary pieces, practical criticism and analytical discussions may be conducted in the classroom for effective understanding. Teachers can make use of ICT methods to create interest and promote literary sensibility in students.

(V)References:

Semester I

S T Coleridge

Barth, J. Robert. *The Symbolic Imagination* (New York: Fordham, 2001).

Beer, John B. *Coleridge the Visionary* (London: Chatto and Windus, 1970).

Engell, James. *The Creative Imagination* (Cambridge: Harvard, 1981)

Holmes, Richard (1982). *Coleridge*. Oxford University Press.

Vallins, David. *Coleridge and the Psychology of Romanticism: Feeling and Thought* (London: Macmillan, 2000).

William Wordsworth

Stephen Gill, *William Wordsworth: A Life*, Oxford University Press, 1989

Emma Mason, *The Cambridge Introduction to William Wordsworth* (Cambridge University Press, 2010)

P B Shelley

Altick, Richard D., *The English Common Reader*. Ohio: Ohio State University Press, 1998.

Holmes, Richard. *Shelley: The Pursuit*. New York: E. P. Dutton, 1975.

Hay, Daisy. *Young Romantics: the Shelleys, Byron, and Other Tangled Lives*, Bloomsbury, 2010.

John Keats

Colvin, Sidney (1917). *John Keats: His Life and Poetry, His Friends Critics and After-Fame*.

London: Macmillan.

Gittings, Robert (1968). *John Keats*. London: Heinemann.

Hirsch, Edward (Ed.) (2001). *Complete Poems and Selected Letters of John Keats*. Random House Publishing.

O'Neill, Michael & Mahoney Charles (Eds.) (2007). *Romantic Poetry: An Annotated Anthology*. Blackwell.

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Johnson, E.D.H. (1969). *Charles Dickens: An Introduction to His Novels*. Random House Studies in Language and Literature. Random House

Semester II

Alfred Lord Tennyson

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Pitt Valerie (1962). *Tennyson Laureate*. London: Barrie & Rockliff.

Turner Paul (1976). *Tennyson*. Boston & London: Routledge & Kegan Paul.

Robert Browning

Drew, Philip. *The poetry of Robert Browning: A critical introduction*. (Methuen, 1970)

Hudson, Gertrude Reese. *Robert Browning's Literary Life from First Work to Masterpiece*. (Texas, 1992)

Litzinger, Boyd and Smalley, Donald (eds.) *Robert Browning: the Critical Heritage*. (Routledge, 1995)

Matthew Arnold

Kenneth Allott (ed.). *The Poems of Matthew Arnold* (London and New York: Longman Norton, 1965)

Renzo D'Agnillo. *The Poetry of Matthew Arnold* (Rome: Aracne, 2005)

Professors Chauncey Brewster Tinker and Howard Foster Lowry. *The Poetry of Matthew Arnold: A Commentary* (New York: Oxford University Press, 1940)

T. S. Eliot

Madge V. M. *The Knight and the Saint: A Study of T. S. Eliot's Development*. Jaipur: Book Enclave, 2004.

Kenner, Hugh. *The Invisible Poet: T. S. Eliot*. (1969)

Maxwell, D. E. S. *The Poetry of T. S. Eliot*, Routledge and Keagan Paul. (1960).

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W. B. Yeats

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Vendler, Helen (2004). *Poets Thinking: Pope, Whitman, Dickinson, Yeats*. Harvard University Press.

Dylan Thomas

Bold, Norman (1976). *Cambridge Book of English Verse, 1939–1975*. Cambridge University Press.

Ferris, Paul (1989). *Dylan Thomas, A Biography*. New York: Paragon House.

Charles B. Cox (editor), *Dylan Thomas: a Collection of Critical Essays*, 1966

William Golding

Carey, John (2009). *William Golding: The Man Who Wrote Lord of the Flies*. New York: Simon & Schuster.

L. L. Dickson. *The Modern Allegories of William Golding* (University of South Florida Press, 1990).

Samuel Beckett

Ackerley, C. J. and S. E. Gontarski, ed. (2004). *The Grove Companion to Samuel Beckett*. New York: Grove Press

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Cronin, Anthony (1997). *Samuel Beckett: The Last Modernist*. New York: Da Capo Press

Esslin, Martin (1969). *The Theatre of the Absurd*. Garden City, NY: Anchor

Books Fletcher, John (2006). *About Beckett*. Faber and Faber, London

Seamus Heaney

Corcoran, Neil. *The Poetry of Seamus Heaney: A Critical Study*, 1998.

Elmer Andrews (ed.) *The Poetry of Seamus Heaney*, 1993.

Garratt, Robert F. (ed.) *Critical essays on Seamus Heaney*, 1995.

Parker, Michael. *Seamus Heaney: The Making of the Poet*, 1993.

Paper – 1.3: Contemporary Studies in English Language

(I) Objectives

1. To introduce students to the basic tools essential for systematic study of language
2. To acquaint students with the basic concepts and issues in linguistics
3. To introduce them to various sub-disciplines of linguistics
4. To initiate them into theoretical perspectives and enable them to apply the acquired linguistic skills in real life situations

(II) Allotment of Credits: One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). The allotment is as below:

SEMESTER-I

Unit I:

Contemporary Theories/Views of Language: 15 clock

hours Unit II: Phonology: 15 clock hours

Unit III: Morphology: 15 clock hours

Unit IV: Syntax: A Descriptive View: 15 clock hours

(III) Course Content

Semester-I

Teachers are expected to discuss background to linguistic theories, linguists and models in the beginning of their course teaching. There will be a separate question on linguistic background.

Unit 1: Cotemporary Theories/Views of Language

i) Saussure's Theory of Structuralism:

- a) Synchronic and Diachronic Studies
- b) Langue and Parole
- c) Syntagmatic and Paradigmatic Relations

ii) Chomsky's Theory of Generative Grammar:

- a) Competence and Performance
- b) The Concept of Universal Grammar

iii) Michael Halliday's Concept of Systemic Grammar

iv) Dell Hymes' Concept of Communicative Competence

Unit 2: Phonology

- i)** Phonemes of English: Description and Classification
- ii)** Syllable : Structure and Types, Syllabic Consonants
- iii)** Word Stress, Degrees of Stress, Stress Shift, Grammatical Stress
- iv)** Sentence Stress: Use of Weak and Strong Forms, Tone Groups, The Concept of Nucleus (types- end-placed and contrastive), Tonic Accents, Pre-tonic Accent, Post-tonic Accent
- v)** Intonation Patterns/Uses of Tones, Grammatical and Attitudinal Function of Intonation

Unit 3: Morphology

- i)** Structure of words, Concepts of Morpheme and Allomorph
- ii)** Types of Morpheme (free, bound, prefixes, suffixes: class changing, class-maintaining, inflectional, derivational)
- iii)** Morphophonemic Changes, Phonological and Morphological Conditioning
- iv)** Problems of Morphological Analysis

Unit 4: Syntax: A Descriptive View

- i)** Elements of Grammar
- ii)** Verbs and Verb Phrase

- iii) Nouns, Pronouns and basic Noun Phrase
- iv) The Simple Sentence

Paper – 2.3: Contemporary Studies in English Language

SEMESTER-II

Unit I: Sociolinguistics: 15 clock hours

Unit II: Syntax: Theoretical Perspectives: 15 clock hours

Unit III: Semantics: 15 clock hours

Unit IV: Speech Act Theory and Discourse Analysis: 15 clock hours

Unit 1: Sociolinguistics

- i) Language Variation: Regional Dialects, Social Dialects/ Sociolects, Idiolects, Formal and Informal Styles, Registers, Standard and Non-Standard Varieties, Slang, Jargon
- ii) Language Contact:
 - a) Code Switching and Code Mixing
 - b) Pidgins and Creoles c) Borrowing

Unit 2: Syntax: Theoretical Perspectives

- i) Structuralist View of Grammar and IC Analysis
- ii) Transformational Generative Grammar: The Concepts of Kernel and Non- Kernel Sentences (i.e. Deep and Surface Structure)

Unit 3: Semantics

- i) Nature of Semantics
- ii) Seven Types of Meaning
- iii) Lexical Semantics:
 - a) Synonym, Antonym
 - b) Homonymy, Polysemy
 - c) Hyponymy, Super ordinate Terms
 - d) Metonymy, the Concept of Prototype

Unit 4: Speech Act Theory and Discourse Analysis

- i) J. L. Austin's Speech Act theory:

- a) Constative and Performative Utterances
- b) Felicity Conditions
- c) Locutionary, Illocutionary and Perlocutionary Acts

- ii) J. R. Searle's Typology of Speech Acts:
 - a) Assertives b) Declaratives
 - c) Expressives d) Directives
 - e) Commissives
- iii) Direct and Indirect Speech Acts
- iv) The Concepts of Entailment, Presupposition and Implicatures
- v) The Concept of Discourse:
 - a) Cohesion and Coherence
 - b) Turn Taking and Adjacency Pairs

(IV) Suggestions for Teachers

It is obvious from the course contents that the new unit of contemporary theories is introduced with the intention to provide knowledge of different theories of language. It is also an attempt to make students acknowledge the contemporary trend to interrogate all cultural and social phenomena in terms of language. Other units reveal the technical aspects and usage of language. Teachers are expected to explain the difference between the traditional and modern theories of language so that students realize the significance and radicality of contemporary language theories. New methods of ICT can be of great help and practical assignments can prove useful in teaching the units.

(V) References:

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- Cook, Guy (1989), *Discourse*, Oxford : OUP.
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- Hudson, R. A. (2003), *Sociolinguistics*, Cambridge: CUP.
- Koach, P. (1983), *English Phonetics and Phonology* (CUP)
- Krishnaswamy, Verma and Nagarajan (1992), *Modern Applied Linguistics* (Macmillan)
- Leech, G. N. (1983), *Principles of Pragmatics*, London: Longman.
- Levinson, S. C. (1983), *Pragmatics*, Cambridge: CUP.
- Kennedy, Graeme (2011), *Structure and Meaning in English* (New Delhi: Pearson).
- Lyons, J. (1981), *Language, Meaning and Context*, Cambridge: CUP.
- Lyons, J. (1981), *Language and Linguistics*, Cambridge: CUP.
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O'Connor, J. D. (1980, rpt. 1992), *Better English Pronunciation* (New Edition), New Delhi : Universal Book Stall,

Palmer, Frank (1982), *Semantics*, Cambridge : CUP

Prasad, Tarni (2008), *A Course in Linguistics*, New Delhi : Prentice Hall of India

Quirk, R, S. Greenbaum (1973), *A University Grammar of English*, London: Longman.

Radford, Atkinson and Others (1999), *Linguistics: An Introduction* (CUP)

Saeed, John (1997), *Semantics*, Oxford: Blackwell.

Saussure, Ferdinand De (1974), *Course in General Linguistics* (with introduction by Jonathan Culler), Fontana: Collins.

Sethi and Dhamija (1989), *A Course in Phonetics and Spoken English* (Prentice Hall of India)

Syal, Pushpinder and D.V. Jindal (2001), *An Introduction to Linguistics : Language Grammar and Semantics*, (Prentice Hall of India)

Thakur, Damodar, (1998), *Linguistics Simplified : Syntax*. Bharati Bhawan : Patna

Trask, R. L. (2003), *Language : The Basics*. (Routledge)

Verma and Krishnaswamy (1989), *Modern Linguistics: An Introduction* (OUP)

Verschueren, Jeff (1999), *Understanding Pragmatics* (London: Edward Arnold)

Yule, George (1996), *Pragmatics*, Oxford : OUP.

Paper – 1.4: Literary Criticism and Theory

(I) Objectives:

- 1) To introduce students to the nature, function and relevance of literary criticism and theory
- 2) To introduce them to various important critical approaches and their tenets
- 3) To encourage them to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability
- 4) To develop sensibility and competence in them for practical application of critical approach to literary texts

(II) Allotment of Credits: One credit (which is equal to 15 clock hours) per unit for both the semesters. This also includes the completion of the background survey and tenets of critical approaches. The allotments are as below;

SEMESTER-I

Background survey and tenets of critical approaches: 4 clock hours

Unit I: Classical Criticism- 14 clock hours (7 clock hours to each essay)

Unit II: Neoclassical Criticism-14 clock hours (7 clock hours to each essay)

Unit III: Romanticism and Victorian Criticism-14 clock hours (7 clock hours to each essay)

Unit IV: Modernism and New Criticism- 14 clock hours (7 clock hours to each essay)

(III) Course Content

Semester- I

Teachers are expected to discuss background to critical approaches, tenets, important theorists and critics in the beginning of their course teaching. There will be a separate question on this background.

Unit I: Classical Criticism

- i) Aristotle: *Poetics* (Chapter 1 to 10)

ii) Longinus: *On the Sublime* (Chapter 2 to 8)

Unit II: Neoclassical Criticism

i) Pierre Corneille: Of the Three Unities of Action, Time and Place

ii) Samuel Johnson: The Rambler, No.4 [*On Fiction*]

Unit III: Romanticism and Victorian Criticism

i) William Wordsworth: *Preface to Lyrical Ballads*

ii) Matthew Arnold: The Study of Poetry

Unit IV: Modernism and New Criticism

i) T. S. Eliot: Tradition and the Individual

Talent ii) John Crowe Ransom: Criticism,

Inc.

Paper – 2.4: Literary Criticism and Theory

SEMESTER-II

Background survey and tenets of critical approaches: 6 clock hours

Unit I: Structuralism and Poststructuralism-12 clock hours (6 clock hours to each essay)

Unit II: Psychoanalysis and Reader Response Criticism-12 clock hours (6 clock hours to each essay)

Unit III: Marxist Criticism, Cultural Studies and Digital Humanities- 18 clock hours (6 clock hours to each essay)

Unit IV: Feminist Criticism and Postcolonialism-12 clock hours (6 clock hours to each essay)

Unit I: Structuralism and Poststructuralism

i) Tzvetan Todorov: Structural Analysis of Narrative

ii) J. Hillis Miller: Derrida and Literature

Unit II: Psychoanalysis and Reader Response Criticism

- i) Feirstein, Frederick: Psychoanalysis and Poetry
- ii) Wolfgang Iser: Interaction between Text and Reader

Unit III: Marxist Criticism, Cultural Studies and Digital Humanities

- i) Terry Eagleton: *Marxism and Literary Criticism* (Chapters 1&2)
- ii) Stuart Hall: Cultural Identity and Diaspora.
- iii) Stuart Moulthrop: You Say You Want a Revolution? Hypertext and the Laws of Media

Unit IV: Feminist Criticism and Postcolonialism

- i) Simone de Beauvoir: Woman's Situation and Character, Chapter 6 (from *The Second Sex*)
- ii) Gauri Viswanathan: The Beginnings of English Literary Study in British India

(IV) Suggestions for Teachers

The course content tries to cover major critical approaches from the ancient to the poststructural period. It is therefore advisable that teachers introduce the characteristics and tenets of all major approaches along with the necessity and relevance of their emergence. The broad differences between the traditional and the modern criticism and between criticism and theory should be explained to students. The critical terms generally used as the critical short hands need to be introduced in clear and simple words possible. It is important to explain the relevance of these approaches to the present literature and language study and this can be done by applying the approaches to texts. Teachers should encourage students to take efforts to understand the approaches and apply them to texts of their choice.

(V)References

Kulkarni Anand and Chaskar Ashok (2013). *Introduction to Literary Theory and Criticism*. Orient Blackswan.

Leitch Vincent. B. (ed.): *The Norton Anthology of Theory and Criticism*. W.

W. Norton & Company, Inc. 2001.

Blamires Harry. *A History of Literary Criticism*. Macmillan. 2000 (reprinted)
Murray Penelope & Dorsch T. S. (trans.) *Classical Literary Criticism*. Penguin
Books, 20004 edition.

Mure William: *Critical History: Language and Literature of the Ancient Greece*.
London: Longman.1850.

Bennett Andrew and Royle Nicholas. *Introduction to Literature, Criticism
and Theory*. Pearson-Longman. IIIrd edition, 2004.

Castle Gregory. *The Blackwell Guide to Literary Theory*. Blackwell, 2007.

Habib M. A. R. *A History of Literary Criticism: from Plato to the Present*.
Blackwell, 2005.

Seturaman V. S. (ed.) *Contemporary Criticism: An Anthology*. Macmillan, 2011
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Wellek, Rene and Austin Warren. *Theory of Literature*.3d ed. New
York: Harcourt, 1962.

Hall, Vernon. *Literary Criticism: Plato through Johnson*. New York: Appleton-
Century--Crofts,
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Adams Hazard, ed. *Critical Theory since Plato*. 2nd ed. Fort-Worth:
Harcourt Brace Jovanovich, 1992.

Beckson Karl. Ed. *Great Theories in Literary Criticism*. New York: Noonday,
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Davis, Robert Con, and Laurle Finke, eds. *Literary Criticism and Theory:
The Greeks to the Present*.New York: Longman, 1989.

Bloom, Harold. ed. *The Art of The Critic: Literary Theory and Criticism from the
Greek to the Present. Vol. I, Classical and Medieval*. New York: Chelsea House,
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Greek to the Present. Vol. II, Early Renaissance*. New York: Chelsea House, 1986

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Greek to the Present. Vol. 5, Early Romantics*. New York: Chelsea House, 1988

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Greek to the Present. Vol. 6, Later Romantics*. New York: Chelsea House, 1988

Burgum, Edwln R, ed. *The New Criticism*. New York: Prentice Hall, 1930.

Davll, Robert Con, and Ronald Schleifer, ed. *Contemporary Literary Criticism:
Literary and Cultural Studies*. 4th ed: New York: Longman, 1998.

Brooker, Peter, and Peter Wlddowson, eds. *A Practical Reader in Contemporary
Literary Theory*. New·York: Prentice Hall/Harvester Wheatsheaf, 1996.

Newton, K. M., ed. *Twentieth-Century Literary Theory: A Reader*. New York: St.

Martin's, 1997.

Ashcroft, B., Griffiths, G. and Tiffin, H. (1995) *The Post-Colonial Studies Reader*, London: Routledge.

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Viswanathan, Gauri (1989) *Masks of Conquest: Literary Study and British Rule in India*. New York: Columbia University Press.

Plain Gill and Sellers Susan. (ed.) *History of Feminist Literary Criticism*. Cambridge University Press: 2007.

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Culler, Jonathan. 1997. *Literary Theory: A Very Short Introduction*. Oxford: Oxford University Press.

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Jefferson, Ann and David Robey. 1986. *Modern Literary Theory: A Comparative Introduction*. 2nd edn. London: Batsford.

Lentricchia, Frank and Thomas McLaughlin, eds. 1995. *Critical Terms for Literary Study*. 2nd edn. London and Chicago: Chicago University Press.

Selden, Raman, Peter Widdowson and Peter Brooker. 1997. *A Reader's Guide to Contemporary Literary Theory*. 4th edn. Hemel Hempstead: Prentice Hall.

Coyle, Martin, Peter Garside, Malcolm Kelsall and John Peck, eds. 1990.

Encyclopedia of Literature and Criticism. London and New York: Routledge.

Cuddon, J.A., ed. 1992. *The Penguin Dictionary of Literary Terms and Literary Theory*. Harmondsworth: Penguin.

Evans, Dylan. 1996. *An Introductory Dictionary of Lacanian Psychoanalysis*. London: Routledge.

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Groden, Michael and Martin Kreiswirth, eds. 1994. *The Johns Hopkins Guide to Literary Theory and Criticism*. Baltimore: Johns Hopkins University Press.

Makaryk, Irena R., ed. 1993. *Encyclopaedia of Contemporary Literary Theory: Approaches, Scholars, Terms*. Toronto: University of Toronto Press.

Sim, Stuart. 1995. *The A-Z Guide to Modern Literary and Cultural Theorists*. Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.

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Wright, Elizabeth, ed. 1992. *Feminism and Psychoanalysis: A Critical Dictionary*. Oxford and Cambridge, Mass.: Basil Blackwell.

During, Simon. *The Cultural Studies Reader*. Routledge, 1993.

Talis Raymond. *Theorrhoea and After*. London: Macmillan Press, 1999. Patai Daphne and Corral (ed.). *Theory's Empire*. Columbia, 2005.

Question paper patterns of all the courses will be given in due course of time.

NOTE FOR EXTERNAL STUDENTS: The Syllabus for M.A English External students is the same as given above to the Credit and Semester system-CSS (Internal Students). But there will be an annual examination of 100 marks. The nature of question paper will be given in due course of time.

UNIVERSITY OF PUNE
BOARD OF STUDY IN ECONOMICS
M.A. ECONOMICS - PART I (CREDIT & SEMESTER SYSTEM)
SYLLABUS : FROM JUNE 2013

M.A. Part I Semester I		M.A. Part I Semester II	
Core courses Compulsory Paper		Core courses Compulsory Paper	
EC-1001	Micro Economic Analysis I	EC-2001	Micro Economic Analysis II
EC-1002	Public Economics I	EC-2002	Public Economics II
EC-1003	International Trade	EC-2003	International Finance
Non-Core course Any one of the following		Non-Core course Any one of the following	
EC-1004	Indian Economic Policy	EC-2004	Agricultural Economics
EC-1005	Labour Economics	EC-2005	Industrial Economics
EC-1006	Mathematical Economics	EC-2006	Statistical Technique

M.A. ECONOMICS PART I CREDIT & SEMESTER SYSTEM
REVISED SYLLABUS COMMITTEE.

Dr. Suhas Avhad	Chairman
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Dr. R.D.Jadhavar	BOS Member
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Dr. Santosh Dastane	Subject Expert
Dr. S.L. Matkar	Subject Expert
Dr. D.G Ushir	Subject Expert
Dr. Manjusha Musmade	Subject Expert

**M.A. Economics Part I Semester I
Core Course**

EC-1001 Micro-Economic Analysis–I

(This course will have *FOUR* credits.)

1: Introduction (6 Lectures)

1.1 The Basic Micro- Economic Problems of Scarcity and Choice.

1.2 Market and Price Mechanism

1.3 Disturbances to Equilibrium, Floor Price, Ceiling Price.

2. Consumer Theory (14 Lectures)

2.1 The Concept of and Measurement of Utility: Cardinal and Ordinal.

2.2 Theory of Consumer Choice: Marginal Utility Theory, Indifference Curve Approach, Income and Price Expansion Paths, Demand Curve.

2.3 Income and Substitution Effects: Slutsky and Hicksian approach.

2.4 Theory of Revealed Preference, Index Numbers.

2.5 Concept of Elasticity: Price, Income and Cross Elasticity.

2.6 Concept of Consumers' Surplus.

2.7 Preference Ordering

3. Production Theory (14 Lectures)

3.1 Production Function – One Input, Two Inputs: Isoquants.

3.2 Law of Variable Proportions, Returns to the Variable Factor, Returns to Scale, Cobb- Douglas Production Function.

3.3 Producer's Equilibrium with one and two inputs.

3.4 Cost Curves, Total, Average and Marginal Cost, Short Run and Long Run Costs, Economist concept of cost.

3.5 Concept of Total Revenue, Average Revenue and Marginal Revenue

3.6 Derivation of Supply curve, Firm and Industry, Short Run and Long Run.

3.7 Concept of Producers' Surplus

4. Equilibrium

(6 Lectures)

4.1 Partial and General Equilibrium.

4.2 Edgeworth Box Depiction of Competitive Market Equilibrium involving only Exchange.

4.3 Externality, Concept of Social Welfare

Recommended Books:

1. Hirschleifer J and A. Glazer (1997): Price Theory and Applications, Prentice Hall of India, New Delhi.
2. Stigler, G (1996): Theory of Price, Prentice Hall of India, New Delhi.
3. Arthur O Sullivan Micro Economics principles Applications and tools Pearson Publication. Delhi
4. D.N.Dwivedi (3011) Micro Economics - Pearson Publication new Delhi.
5. Sen, A.(1999): Micro Economics: Theory and Applications, Oxford University Press, New Delhi.
6. Misra S.K. and V.K. Puri (2001): Advanced Microeconomic Theory, Himalay Publishing House, New Delhi.
7. Kreps, David, M (1990): A Course in Microeconomic Theory, Princeton University Press.
8. Rubinfeld Pindyck: Microeconomic Theory and application, 7th edition, Pearson Education New Delhi.

M.A. ECONOMICS (PART – I) –Semester – I
Core Course
EC-1002 Public Economics I
(This course will have *FOUR* credits.)

PREAMBLE

Role and functions of the Government in an economy have been changing with the passage of time. The term 'Public Finance' has traditionally been applied to the package of those policies and operations which involve the use of tax and expenditure measures while budgetary policy is an important part to understand the basic problems of use of resources, distribution of income, etc. There are vast areas of fiscal institutions — tax systems, expenditure programmes, budgetary procedures, stabilization instruments, debt issues, levels of government, etc., which raise a spectrum of issues arising from the operation of these institutions.

1: Introduction **(10 Lectures)**

1.1 Role of Government in Organized Society

1.2 Changing Perspective — Government in a Mixed Economy: Public and Private Sector

1.3 Government as an agent for Economic Planning and Development

1.4 Private Goods, Public Goods, and Merit Goods

2: Rationale for Public Policy **(10 Lectures)**

2.1 . Allocation of Resources — Provision of Public Goods.

2.2 Voluntary Exchange Models

2.3 Impossibility of decentralized provision of Public Goods

2.4 contributions of Samuelson and Musgrave Demand Revealing Schemes for public goods Contributions of Clarks, Groves

2.5 Leyard, Tiebout model, Theory of Club Goods; Stabilization Policy

3: Public Expenditure **(10 Lectures)**

3.1 Wagner's Law of Increasing State Activities

3.2 Wiesman- Peacock Hypothesis; Pure Theory of Public Expenditure

3.3 Structure and Growth of Public Expenditure

3.4 Criteria for Public Investment; Social Cost-Benefit Analysis, Project Evaluation, Estimation of Costs, Discount Rate.

3.5 Reforms in Expenditure Budgeting; Programme Budgeting and Zero Base Budgeting. Outcome of Budget and performances.

4. Taxation

(10 Lectures)

4.1 Theory of Incidence; Alternative concepts of Incidence

4.2 Allocative and equity aspects of Individual Taxes;

4.3 Benefit and Ability to Pay Approaches

4.4 Theory of Optimal Taxation; Excess Burden of Taxes;

4.5 The problem of Double Taxation.

4.6 Shifting of Tax Burden

BASIC READING LIST

- Goode, R. (1986), Government Finance in Developing Countries, Tata McGraw Hill, New Delhi.
- Houghton, J.M. (1970), The Public Finance: Selected Readings, Penguin, Harmondsworth.
- Rajesh K.Jha (2012) Public Finance. Pearson Publication New Delhi

ADDITIONAL READING LIST

- Cornes, R. and T. Sandler (1986), The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press, Cambridge.
- Duff, L. (1997), Government and Market, Orient Longman, New Delhi.
- Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.
- Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
- Buchanan, J.M. (1968), The Demand and Supply of Public Goods, Rand McNally, Chicago.
- Mueller, D.C. (1979), Public Choice, Cambridge University Press, Cambridge.
- Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
- Stiglitz, J.E. (1986), Economics of Public Sector, Norton, New York.
- Dorfman, R. (Ed.) (1970), Measuring the Benefits of Government Investment, Brookings Institution, Washington.

M.A. Economics Part I Semester I
Core course

EC 1003- International Trade
(This course will have *FOUR* credits.)

1 – Overview of Classical and Modern Trade Theories (18 lectures)

- 1.1 Ricardo and the concept of Comparative Cost Theory
- 1.2 Opportunity Cost –Heckscher Ohlin Theorem,
- 1.3 Verification of Physical Criterion and Price Criterion,
- 1.4 Leontief Paradox – Factor Price Equalization and explanation with Edgeworth Box Diagram
- 1.5 New theories of Trade, Product Life Cycle and Technology Gap Models,
- 1.6 Preference similarity and Intra-Industry Trade,
- 1.7 Economies of Scale and Monopolistic Competition –
- 1.8 Krugman- Theory of Economic Geography
- 1.9 Neo-Heckscher Ohlin theorem

2 – Terms of Trade (4 lectures)

- 2.1 Concepts of Net Barter Terms of Trade,
- 2.2 Gross Barter Terms of Trade, Factors affecting Terms of Trade
- 2.3 Terms of Trade and Economic Development

3 – Trade Policy (8 lectures)

- 3.1 Free Trade vs. Controlled Trade,
- 3.2 Tariffs and Non-Tariff Barriers on Trade,
- 3.3 Effects of Tariffs under Partial Equilibrium. (Price Effect, Terms of Trade Effect, Competitive Effect, Income Effect, Revenue Effect)
- 3.4 Effects under General Equilibrium, Stolper – Samuelson Theorem

4 GATT, WTO and world Trade (10 lectures)

- 4.1 International Trade Agreements.
- 4.3 Dunkel Proposal.
- 4.3 WTO- Important Agreements under, Major developments since 1995, Expected effects on the Indian Economy.

4.4 Features of Global Trade Growth,

4.5 Composition of the Global Trade Growth,

4.6 Growth of trade in Services, Developing Countries and participation in
Global Trade

Recommended books

- Paul R. Krugman & Maurice Obstfeld (2009) International Economics Theory and Policy. Pearson Education Publication New Delhi
- James Gerber (2012) International Economics Pearson Publication. New Delhi
- Chacholiades, M. (1990), International Trade : Theory and Policy, McGraw Hill, Kogakusha, Japan.
- Kindleberger, C.P. International Economics, R.D. Irwin, Homewood.
- Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle River, N.J., New York.
- Soderston, Bo (2005), International Economics, The Macmillan Press Ltd., London.

M.A. Economics Part I Semester I
[Non-core course]

EC-1004 Indian Economic Policy

(This course will have *FOUR* credits.)

Preamble- The candidates at the post-graduate level are expected to analyze various issues pertaining to India's economic development. The performance of the economy is to be assessed on the backdrop of various Five Year Plans implemented in the economy. Wherever possible, critical appraisal is expected by taking cognizance of the contemporary developments in the economy.

1. Framework of Indian Economy **8 lectures**

- 1.1. National Income: Trends and Structure of National Income
- 1.2. Demographic Features and Indicators of Economic Growth and
Development Rural-Urban Migration and issues related to Urbanization
- 1.3. Poverty debate and Inequality, Nature, Policy and Implications
- 1.4. Unemployment-Nature, Central and State Government's policies, policy
implications, Employment trends in Organized and Unorganized Sector

2. Development Strategies in India **12 lectures**

- 2.1. Agricultural- Pricing, Marketing and Financing of Primary Sector
- 2.2. Economic Reforms- Rationale of Economic Reforms, Liberalization,
Privatization and Globalization of the Economy,
- 2.3 Changing structure of India's Foreign Trade
- 2.4. Role of Public Sector- Redefining the role of Public Sector, Government
Policy towards Public Sector, problems associated with Privatization, issues
regarding Deregulation-Disinvestment and future of Economic Reforms

3. The Economic Policy and Infrastructure Development **15 lectures**

- 3.1. Energy and Transport
- 3.2. Social Infrastructure- Education, Health and Gender related issues, Social
Inclusion
- 3.3. Issues and policies in Financing Infrastructure Development

3.4. Indian Financial System- issues of Financial Inclusion, Financial Sector Reforms-review of Monetary Policy of R.B.I. Capital Market in India.

4. The Economic Policy and Industrial Sector

5 lectures

4.1. Industrial Sector in Pre-reforms period, Growth and Pattern of Industrialization

4.2. Industrial Sector in Post-reform period- growth and pattern of Micro, Small, Medium Enterprises s, problems of India's Industrial Exports

4.3. Labour Market- issues in Labour Market Reforms and approaches to Employment Generation

Basic Reading List

- Brahmananda, P.R. and V.A. Panchmukhi.[2001], Ed. '*Development Experience in Indian Economy, Inter-state Perspective,*' Bookwell, New Delhi.
- Gupta,S.P.[1989], '*Planning and Development in India: A Critique,*' Allied Publishers Private Limited, New Delhi.
- Bhagwati, Jagdish.[2004], '*In Defense of Globalization,*' Oxford University Press, U.K.
- Dhingra, Ishwar //C.[2006], '*Indian Economy,*' Sultan Chand and Sons, New Delhi.
- Datt, Ruddar and Sundaram, K.P.M.[Latest edition] , '*Indian Economy,*' S. Chand and Co, New Delhi.

M.A. Economics Part- I Semester I
[Non-core course]

EC- 1005 Labour Economics

(This course will have *FOUR* credits.)

Lectures.

1 Introduction. (8)

1.1 Meaning- Concept, Significance and Peculiarities of Labour.

1.2 Nature, Scope and Importance of Labour Economics.

1.3 Characteristics of Indian Labour Market.

2 Wage Determination (8)

2.1 Marginal Productivity Theory, Theory of Collective Bargaining, Modern Theory of Wages.

2.2 Minimum Wage and Fair Wage.

2.3 Wage Determination in – Organised- Unorganised Sector.

2.4 Evolution and Features of Wage Policy in India.

3 Migration and Absenteeism (8)

3.1 Approaches to Labour Migration trends & effects of Migration.

3.2 Absenteeism to Industrial Labour in India, causes, effects and remedies.

3.3 Labour turnover - Trends in Labour Turnover in India.

4 Industrial Relations. (8)

4.1 Labour Unions in India- Growth, Pattern, Structure and Achievements of Labour Union in India.

4.2 Causes of Industrial Disputes and their settlement and preventive mechanism.

4.3 Current trends in Collective Bargaining

4.4 Social Security Measures.

5 Labour Market reforms.

(8)

5.1 Exit Policy

5.2 Child Labour Policy in India

5.3 Problems and Policy of Female Workers in India.

5.4 Labour Relations in India.

5.5 Contract Labour

Reference Books :

- Datt, G (1996), Bargaining Power, Wages and Employment : An Analysis of Agricultural, Labour : Markets in India : Sage Publications, New Delhi
- Hajela, P.D.(1998), Labour Restructuring in India : A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.
- Jhabvala, R.and R.K. Subrahmanya (Eds) (2000), The Unorganised Sector : Work Security and Social Protection : Sage Publications, New Delhi.
- Lester, R.A.(1964), Economics of Labour (2nd Edition), Macmillan, New York.
- McConnell, C.R. And S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.
- Papola, T.S.P.P. Ghosh and A.N.Sharma (Eds)(1993). Labour, Employment and Industrial Relations in India, B.R.Publishing Corporation, New Delhi.
- Rosenberg M.R. (1988), Labour Markets in Low Income Countries in Chenery
- T.N.Srinivasan (Eds) The Handbook of Development Economics North Holland, New York.
- Venkata Ratnam, C.S.(2001), Globalization and Labour- Management Relations : Dynamics of Changes, Sage Publications/Response Books, New Delhi.

M.A. Economics Part I Semester I
[Non-core course]

EC 1006- Mathematical Economics
(This course will have *FOUR* credits.)

1 : Review of concepts **(6 lectures)**

- 1.1 The concept of Sets, Real and Number System.
- 1.2 Use of Graphs; Identities, Equations and Inequalities.
- 1.3 Power of Number; Logarithms and their Properties.
- 1.4 Binomial Theorem; Sequences and their Formulas.

2.: Functions of a Single Dependent Variable: **(8 lectures)**

- 2.1 Algebraic, Exponential and Logarithmic.
- 2.2 Explicit, Implicit, and Inverse Functions.
- 2.3 Polynomial functional Diagrammatic Representation of Higher Order Function of a Single Variable.
- 2.4 Market Demand, Supply Curves, Total Revenue, Cost Functions.

3.: Extensions to function of more than two independent variables (4)

- 3.1 Indifference Curves, General Production Function, Isoquants.
- 3.2 Production Possibility Frontiers and its use in Economics.

4. Matrix algebra **(6 lectures)**

- 4.1 Elementary operations of Addition, Multiplication etc.
- 4.2 Transpose and Inverse of Matrices. Rank of a Matrix.
- 4.3 Solution of Simultaneous Equation using Matrices.

5.: Differential Calculus **(8 lectures)**

- 5.1 Limits of functions, Continuity at a point, Over and Interval,
- 5.2 Rules of Differentiation Including Product, Quotient, and Chain Rule.
- 5.3 Derivatives of Implicit Functions, Partial Derivatives, Constrained Optimization.

5.4 Profit Maximization in the different types of Markets.

5.5 Price Discrimination by Monopolist to Maximize Profits.

6.Integration

(8 lectures)

6.1 Indefinite integral of Algebraic, Exponential and Logarithmic Functions.

6.2 Define Integrals.

6.3 The relation between Average and Marginal concepts.

6.4 Capital values under Continuous Interest.

Books

Allen R.G.D.: Mathematical Analysis for Economics

Chaing A: Fundamental Methods of Mathematical Economics

UNIVERSITY OF PUNE
REVISED SYLLABUS FOR M.A. ECONOMICS
CREDIT & SEMESTER SYSTEM
From June 2013

M.A. Economics Part- I Semester II
Core Course

EC-2001 Micro Economic Analysis – II
(This course will have *FOUR* credits.)

- 1. Classification of Markets** (4 Lectures)
 - 1.1 Classification of Markets.
 - 1.2 Perfect Competition - Short Run and Long Run Equilibrium

- 2 Monopoly** (10 Lectures)
 - 2.1 Short Run and Long Run Equilibrium of a Single Firm an Industry under competitive conditions
 - 2.2 Equilibrium of a Firm under Monopoly (Short Run and Long Run)
 - 2.3 Price Discrimination under Monopoly, different types.
 - 2.4 Comparison of Monopoly and Perfectly Competitive Market outcomes.
 - 2.5 Regulation of Monopoly Power.

- 3. Imperfect Competition** (10 Lectures)
 - 3.1 Monopolistic Competition, Price and Non-price competition, Equilibrium.
 - 3.2 Product Differentiation, Selling Costs and Excess Capacity.
 - 3.3 Oligopoly, Basic market structure, Non-collusive oligopoly, Cournot- Bertrand Solution.
 - 3.4 Collusive Oligopoly, Cartels, Price and Output Determination
 - 3.5 Game Theory, Basic Concepts, Dominant Strategy Equilibrium, Nash Equilibrium, Repeated and Sequential Games.

- 4. Alternative Theories of the Firm** (6 Lectures)
 - 4.1 Goal of Profit Maximization and Alternative Theories of the Firm.
 - 4.2 Baumol's Sales Revenue Maximization Model.

- 5. Theory of Distribution and Welfare Economics** (10 Lectures)
 - 5.1 Marginal Productivity Theory.
 - 5.2 Product Exhaustion Theorem. (Euler's Theorem)
 - 5.3 Pigou's Welfare Theorem
 - 5.4 Pareto Optimality
 - 5.5 Social Welfare Function, Compensation Criteria.
 - 5.6 Arrow's Impossibility Theorem.

Recommended Books:

1. Varian, Hal (1996): Intermediate Microeconomics, W.W. Norton and Company, New York.
2. Hirschleifer J and A. Glazer (1997): Price Theory and Applications, Prentice Hall of India, New Delhi.
3. Stigler, G (1996): Theory of Price, Prentice Hall of India, New Delhi.
4. H.Gravelle and R.Rees (2007) Microeconomics Pearson Publication New Delhi
5. James Gerber (2012) Microeconomics, Pearson Publication New Delhi
6. Robert Pindyck, (2009) Microeconomics, Pearson Publication New Delhi
7. Sen, A.(1999): Micro Economics: Theory and Applications, Oxford University Press, New Delhi.
8. Misra S.K. and V.K. Puri (2001): Advanced Microeconomic Theory, Himalay Publishing House, New Delhi.
9. Kreps, David, M (1990): A Course in Microeconomic Theory, Princeton University Press.
10. Dominick Salvatore: Principles of Microeconomics, Oxoford University Press 5th edition.
11. William J. Baumol and Alan H. Blindr: Microeconomics-Principle and Policy, 9th edition.
12. Thomson Waldman Jenhen: Industrial Organization, 3rd edtion perarson education New Delhi.

M.A. Economics Part- I Semester II
Core Course

EC-2002 Public Economics II

(This course will have *FOUR* credits.)

1. Public Debt

(10 Lectures)

- 1.1 Classical view of Public Debt;
- 1.2 Compensatory aspect of Debt Policy
- 1.3 Sources of Public Debt; Debt through created Money
- 1.4 Public Borrowings and Price Level
- 1.5 Crowding Out of Private Investment and Activity
- 1.6 Principles of Debt Management and Repayment
- 1.7 Burden of Public Debt on Indian Economy.

2. Fiscal Policy

(10 Lectures)

- 2.1 Objectives of Fiscal Policy, Interdependence of Fiscal and Monetary Policies
- 2.2 Fiscal Policy for Stabilization - Automatic vs. Discretionary Stabilization.
- 2.3 Budget – Meaning and Components. Preparation, Presentation and Execution of Budget.
- 2.4 Economic Classification of Budget.
- 2.5 Budget Deficits and Their Implications.
- 2.6 Trends in Expenditure of Union, State and Local Bodies since 1991.
- 2.7 Balanced Budget Multiplier.

3 Indian Fiscal Federalism

(10 Lectures)

- 3.1 Fiscal Federalism in India;
- 3.2 Vertical and Horizontal Imbalance
- 3.3 Assignment of Function and Sources of Revenue
- 3.4 Constitutional provisions; Finance Commission and Planning Commission
- 3.5 Devolution of Resources and Grants
- 3.6 Theory of Grants; Resource transfer from Union to States — Criteria for Transfer of Resources
- 3.7 Centre-State Financial Relations in India
- 3.8 Problems of States' Resources and Indebtedness
- 3.9 Transfer of resources from Union and States to Local Bodies.

4 Indian Public Finances

(10 Lectures)

4.1 Indian Tax System

4.2 Revenue of the Union, States and Local Bodies

4.3 Major Taxes in India - Direct and Indirect Taxes, Taxation of Agriculture, Expenditure Tax,

4.4 Reforms in Direct and Indirect Taxes, Taxes on Services;

4.5 Non-tax Revenue of Centre, State and Local Bodies

4.6 Analysis of Central and State Government Budgets

4.7 Fiscal Sector Reforms in India

4.8 Budget Management & Kelkar Committee Recommendations

Reading List :-

- Shome, P. (Ed.) (1995), Tax Policy : Handbook, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D.C.
- .Tripathy R.N. Public Finance in Underdeveloped Countries.
- Rajesh K.Jha (2012) Public Finance. Pearson Publication New Delhi
- Dr. Joshi P.L. Zero Base Budgeting Technology in Government, Dhruv and Deep Books, Bombay.
- .Dr.Tyagi B.P., Public Finance, Jai Prakash Nath Pub.Meerat (UP).
- Mithani D.M. Principles of Public Finance and Fiscal Policy Himalaya Publishing House, New Delhi.
- Ruddar Datt and K.P.M. Sundharam (2006), Indian Economy, S.C.Chand and Company Ltd, New Delhi.
- Ashutosh Raravikar, Fiscal Deficit and Inflation in India, Macmillan India Ltd. New Delhi

M.A. Economics Part- I Semester II
Core Course

EC - 2003- International Finance
(This course will have *FOUR* credits.)

1. Balance of Payments

(8 Lectures)

- 1.1 Balance of Trade and Balance of Payments- Meaning, Structure and Components
- 1.2 Balance of Payments Disequilibrium- Causes of Disequilibrium;
- 1.3 Correction of Disequilibrium-Automatic Correction, Deliberate Correction,
- 1.4 Foreign Trade Multiplier- Meaning and Working- Implications of Foreign Trade Multiplier- Limitations of Foreign Trade Multiplier.
- 1.5 **Policies for Internal and External Balance-Fiscal and Monetary Policy Under Fixed and Floating Exchange Rates**
- 1.6 Devaluation of Indian Rupee- Devaluation of 1966 and 1991.

2. Foreign Exchange

(10 lectures)

- 2.1 Functions of Foreign Exchange Market- Transfer of Purchasing Power, Provision of Credit, Provision of Hedging Facilities
- 2.2 Transactions in the Foreign Exchange Market- Spot and Forward and Exchanges, Futures, Swap Operation, Arbitrage
- 2.3 Determination of Rate of Exchange- Purchasing Power Parity Theory, Balance of Payments Theory, Monetary Models.
- 2.4 Exchange Control-Scope of Exchange Control, Objectives and Methods of Exchange Control.
- 2.5 Exchange Rate Systems- Fixed and Flexible Exchange Rates-Case for and against Fixed and Flexible Exchange Rates
- 2.6 Current and Capital Account Convertibility –Meaning, Benefits, Prerequisites and Problems
- 2.7 Currency Exchange Risk and their Management
- 2.8 Foreign Exchange Management Act- Objectives and Features

3. International Capital Flows

(8 lectures)

3.1 Classification of International Capital Flows-Direct and Portfolio Investment, Government, Institutional and Private Capital, Short term and Long term Capital, Home and Foreign Capital, Foreign Aid

3.2 Importance and Role of Foreign Capital-Trade and Investment, Theories of International Investment.

3.3 Factors Affecting International Capital Movements

3.4 Growth and Dispersion of FDI

4 International Banking and Eurocurrency Market

(8 lectures)

4.1 International Banking-Factors Leading to Growth of International Banks, Types of International Banking Offices, Offshore Financial Centres, Non-Banking Financial Companies

4.2 Eurocurrency Market- Meaning and Scope, Feature, Origin and Growth, The Participants, Supply and Demand

5. International Economic Organizations

(6 lectures)

5.1 International Monetary Fund

5.2 World Bank

5.3 International Development Association

5.4 International Finance Corporation

5.5 Asian Development Bank

Suggested Readings:

1. Heller, Robert H., NJ: International Monetary Economics Prentice Hall, Englewood Cliffs
2. Kindleberger, Charls P., D.B. International Economics, Taraporewala and Sons, Mumbai
3. Rugel, Thomas A. International Economics, McGraw Hill, New Delhi.
4. Ellsworth P.T. and Clark J. Leith, The International Economy New York Macmillan Publishing Co.
5. RBI, Report ON Currency and Finance (annul).
6. Gowda, Venkatagiri K., Eurodollar Flows and International Monetary Stability, Geetha Book House, Mysore.
7. Verghese, S.K., Foreign Exchange and Financing of Foreign Trade, Vikas Publishing House, New Delhi.
8. Heller, Robert, H., International Monetary Economics Prentice Hall, Cliffs.
9. Salvatore, Dominick, International Economics Macmillan, New York Publishing Co. New York

10. Economic Survey, Government of India (annual).
11. Jalan Bimal, India's Economic Crisis, Oxford University Press, Oxford
12. M.L.Zingan, International Economics Vrinda Publications, Delhi.
13. K.R.Gupta,; International Economics; Atma Ram and Sons, Delhi

M.A. Economics Part- I Semester II
Non-Core course

EC.2004- Agricultural Economics
(This course will have *FOUR* credits.)

- 1 – Introduction. (8)
- 1.1 Place of Agriculture in Indian economy.
 - 1.2 Trends .Agriculture Productivity
 - 1.3 Agricultural Development under Five Year Plans.
 - 1.4 S.E.Z Policy. – Agriculture
- 2 Agriculture Labour (8)
- 2.1 Problems of Agriculture Labour.
 - 2.2 Efficiency of Agriculture Labour
 - 2.3 Impact of Mechanization on Agriculture Labour.
 - 2.4 National Employment Guarantee Scheme.
- 3 Agricultural credit. (8)
- 3.1 Co-operative Credit Structure.
 - 3.2 Role of NABARD
 - 3.3 Role of Commercial Banks.
 - 3.4 Micro Finance --Meaning, Role, and Trends.
 - 3.5 Issues of Agriculture Subsidies.
- 4 Agriculture Marketing. (8)
- 4.1 Problems of Agriculture Marketing in India.
 - 4.2 Agriculture -Marketing and Price System in India
 - 4.3 Problems of Agriculture – Export- Imports.
 - 4.4 Processing of Farm Products.
 - 4.5 Agreements of WTO in Agriculture
- 5 Sustainable Agriculture. (8)
- 5.1 Bio Technology – Meaning and Trends
 - 5.2 Organic Farming – Present status and Future.
 - 5.3 Contract Farming - Present Status and Future.

5.4 Diversification of Agriculture in India (High Technology in Agriculture.)

5.5 Agricultural Management – Concept , Recent trends and Problems.

5.6 Food Securities in India.

Reference Books. :

- Datt R. & K.P.M Sundharm (2007) Indian Economy, S.Chand & Co.Ltd.Delhi.
- Misra S.K. & V.K.Puri (2007) Indian Economy – Himalaya Publication house Mumbai.
- Gopal Ji & SumanBhakari ‘Indian Economy (2012) Performance and Policies Pearson Publication Delhi
- Agrawal A.N. Indian Economy Problem of Development and Planning 06.
- Johnson P.A Development Issues of Indian Economy (2003) Manan Prakashan.
- Kapila Uma (ed) Indian Economy Since Independence, Academic Foundation (2003)
- Dewett Kewal : Indian Economy C.Chand & Co.Ltd, New Delhi 2005.
- B.N.P singh : Indian Economy Today Changing Contours. Deep and Deep pub. 05.
- Mamoria C.B.Agricultural Problems of India Kitab Mahal Pub. 2005.
- M.P.Singh- Indian Economy Today- Problems Planning and Development. (2004) Deep and Deep Publication.
- Singh Acharya, Sagar – Sustainable Agricultural Poverty and Food Securities (2002) Rawat Publication Jaypur Vol- I & II
- Ajit Singh and Tabatabai – Economic crisis and Third world Agriculture, Combries University Press.
- Gulati & Kelley – Trade Liberalization of Indian Agriculture, (1999), Oxerpert University press.
- C.S. Prasad – Sixty years of Indian Agriculture – New Delhi 2006.
- Hansra Parumal and Chandrakarn – Modernization of Indian Agriculture in 21st century challenges, opportunity and strategies, Concept Publication Co. New Delhi.
- Norten and Allwinding – The Introduction to Economic and Agricultural Development Mac Graw Hill Co. Publication, New Delhi.
- Wakatash – Development Agricultural Technology, Rawat Publications.

M.A. Economics Part- I Semester II
[Non-core course]

EC 2005- Industrial Economics
(This course will have *FOUR* credits.)

Preamble- The candidates are expected to understand the process of industrialization as a part of rapid economic development. Excepting a few references to the theoretical background the study aims at the analysis of the performance of the industrial economy of India on the backdrop of the contemporary development.

1. Introduction

6 lectures

- 1.1 industrial economics - Meaning, scope, need and significance of the study
- 1.2 Industrial Structure - private sector, large, medium and small scale industries, cottage industries,
- 1.3 role, problems and future of public sector industries
- 1.4 Industrial Combinations- causes, mergers and amalgamations, industrial monopoly-control of monopolies

2. Theories of Industrial Location

06 lectures

- 2.1 Factors influencing location of industries
- 2.2 Theories of Industrial location, Weber, Sargent Florence
- 2.3 Need for balanced regional development of industries.- role of SIDC's

3. Industrial Productivity and efficiency

10 lectures

- 3.1 Industrial Productivity- norms and measurement
- 3.2. Factors affecting productivity and capacity utilization
- 3.3. Importance of productivity in the competitive environment
3. 4.Measures required for improving productivity and efficiency
- 3.5. Trends in India's industrial employment- Measures of generating industrial employment.

4. Industrial Finance

08 lectures

- 4.1. Meaning, scope, importance of industrial finance
- 4.2.Sources of industrial finance- private, public and cooperative sector, shares, debentures, bonds, deposits, loans etc.
- 4.3. Foreign capital- need, government's policy, direct investment, foreign institutional investment,
- 4.4 form of foreign Capital : Euro issues, GDR, ADR, External commercial borrowings

5. Indian Industrial Growth

10 lectures

5. 1. Industrial policy : Trends in industrial growth since 1991
- 5.2. Performance and problems of Micro, Small, Medium Enterprises
- 5.3. Role of MNC's in India
- 5.4. Problems of regional imbalance and industrial growth in India

Basic Reading List

- Ahluwalia I.J. [1985], '*Industrial Growth in India*,' Oxford University Press, New Delhi.
- P.R.N.Sinha Indu Bala Sinha (2010) *Industrial Relation Trade Unions and Labour Legislation* Pearson Publication. New Delhi
- Barthwal R.R. [1985], '*Industrial Economics*,' Wiley Eastern Ltd., New Delhi.
- Cherunilam, F.[1994], '*Industrial Economics: Indian Perspective*,' Himalaya Publishing House, Mumbai.
- Desai, B. [1999], '*Industrial Economics in India*,' Himalaya Publishing House, Mumbai.
- Divine, P.J. and R.M. Jones et.al.[1976], '*An Introduction to Industrial Economics*,' George, Allen and Unwin Ltd., London.
- Government of India, *Annual Economic Survey*.
- Hay, D. and D.J. Morris[1979], '*Industrial Economics, Theory and Evidence*.' Oxford University Press, New Delhi.
- Kuchhal, S.C. [1980], '*Industrial Economy of India*,' Chaitanya Publishing House, Allahabad.
- Reserve Bank of India, *Annual Report on Currency and Finance*.
- Singh, A. A.N. Sandhu.[1988], '*Industrial Economics*,' Himalaya Publishing, House, Mumbai.

M.A. Economics Part- I Semester II
[Non-core course]

EC-2006 Statistical Technique

(This course will have *FOUR* credits.)

- | | |
|---|-------------------|
| 1: Descriptive Statistics | 8 lectures |
| 1.1 Collection, Organization and Presentation of Data. | |
| 1.2 Measures of Central Tendency and Dispersion- Mean, Median, Mode, Standard Deviation, Variance, Covariance and Correlation Coefficients. | |
| 1.3 Correlation and regression Analysis. | |
| 1.4 Measures of Skewness and Peaked Ness. | |
| 2. : Sampling and sampling methods | 8 lectures |
| 2.1 Sample and Population, Parameters and Statistics. | |
| 2.2 Variables and Attributes; Sampling and Non-sampling Errors; | |
| 2.3 Types of Sampling | |
| 3: Theory of Probability | 8 lectures |
| 3.1 Probability, Distribution, Events Spaces. | |
| 3.2 Joint, Marginal and Conditional Probability under conditions of Certainty and uncertainty. | |
| 3.3 Random Variable: Expectation and Distribution. | |
| 3.4 Addition and Multiplication Theorems. | |
| 3.5 Probability Distribution, Discrete and Continuous and Expected Values. | |
| 4 : Probability Distribution Function | 4 lectures |
| 4.1 Binomial, Poisson, | |
| 4.2 Normal T-test, Chi-square, | |
| 5 : Statistical Estimation and Testing of Hypothesis | 6 lectures |
| 5.1 Types of Estimators and their Properties. | |
| 5.2 Sampling distribution for sample Mean and Proportion. | |
| 5.3 Point and Interval Estimation. | |
| 5.4 Null and Alternate Hypothesis. | |
| 5.5 Level of Significance and Level of Confidence, Confidence Limits and Critical Region; | |
| 5.6 Tests of Significance- Type I and II errors. | |

6 : Time series

6 lectures

6.1 Nature and Decomposition of a Time Series-Trend.

6.2 Cyclical, Seasonal and Random Components.

6.3 Fitting Trend Curves.

Books

Croxtan and Dudley: Applied General Statistics

Gupta S. P.: Applied Statistics



SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

M. A. Economics Syllabus

(CREDIT & SEMESTER SYSTEM)

**Revised syllabus will be implemented with effect from the academic year 2019-2020
at College Centers**

SYLLABUS: M.A. ECONOMICS - PART I (CREDIT & SEMESTER SYSTEM)
SYLLABUS: FROM JUNE 2019

M.A. Part I Semester I		M.A. Part I Semester II	
Core Papers Compulsory Paper		Core Papers Compulsory Paper	
EC-1001	Micro Economic Analysis I	EC-2001	Micro Economic Analysis II
EC-1002	Public Economics I	EC-2002	Public Economics II
EC-1003	International Trade	EC-2003	International Finance

(Any ONE to be selected)

Elective Papers		Elective Papers	
EC-1004	Agricultural Economics	EC-2004	Labour Economics
EC-1004	Rural Economics	EC-2004	Urban Economics
EC-1004	Statistical Techniques	EC-2004	Mathematical Economics
EC-1004	Indian Financial System	EC-2004	Money Markets

CORE PAPERS
MICRO ECONOMIC ANALYSIS
PUBLIC ECONOMICS
INTERNATIONAL TRADE AND FINANCE

SEMESTER I AND II

CORE COURSE-SEMESTER I
EC-1001 MICRO-ECONOMIC ANALYSIS-I
(This course will have *FOUR* credits)

PREAMBLE

The course makes an attempt to provide an introduction to the advanced theories in Microeconomics and at the same time provide an understanding of the analytical rigour of the subject. Micro Economics is a core course that covers Consumer Choice, Concept of Revenue and Elasticity, Cost, Production Function, Concept of Surplus, Social Welfare. Microeconomics brings to the fore the practical significance of microeconomic theories.

Course Objectives:

- To provide a thorough understanding of the principles of economics
- To enable students to apply micro economic concepts in various contexts.
- To enable understanding the basic theories in microeconomics such as demand theory, production theory, market structures.
- To discuss the modern developments in micro economics such as Modern Demand theories.

Programme Outcome:

- Ability to apply the concepts of micro economics such as demand, supply, revenue, cost, elasticity, etc.
- Ability to analyze and demonstrate knowledge of the basic theories/laws in economics- law of demand, law of supply, production function, etc.
- At the end of the course, the student should be able to evaluate microeconomic concepts, models and its use in real life situations.

1. Introduction (8 Lectures)

1.1 The Basic Principles of Microeconomics.

2. Consumer Theory (14 Lectures)

2.1 The Market forces of Demand and Supply

2.2 The Theory of Consumer Choice: Preference Ordering, Marginal Utility Theory, Indifference Curve Approach, Income and Price Expansion Paths, Income and Substitution Effects: Slutsky and Hicksian Approach.

2.3 Theory of Revealed Preference

2.4 Concept of Total Revenue, Average Revenue and Marginal Revenue- Mathematical Applications; Concept of Elasticity: Price, Income and Cross Elasticity-Mathematical Applications

2.5 The Concept of Consumers' Surplus.

2.6 Modern Demand Theory – Introduction to Choice under Uncertainty (Von Newman-Morgenstern Expected Utility Theory); Pragmatic Approach to Demand Analysis

3. Production Theory (14 Lectures)

- 3.1 Production Function – One Input, Two Inputs: Isoquants.
- 3.2 Law of Variable Proportions, Returns to the Variable Factor, Returns to Scale, Cobb- Douglas Production Function.
- 3.3 Producer's Equilibrium with one and two inputs.
- 3.4 Cost Curves, Total, Average and Marginal Cost, Short Run and Long Run Costs, Concept of Economic Cost, Mathematical Applications
- 3.5 Derivation of Supply curve, Firm and Industry, Short and Long Run.
- 3.6 Concept of Producers' Surplus

4. Introduction to Welfare Economics (12 Lectures)

4.1 Concept of Social Welfare

- 4.2 Pigou's Contribution to Welfare Economics
- 4.3 Pareto Optimality; Product Exhaustion Theorem (Euler's Theorem)
- 4.4 Social Welfare Function, Compensation Criteria
- 4.5 Amartya Sen- Social Choice and Welfare

Basic Reading List:

1. D.N.Dwivedi (2011) Micro Economics – Pearson Publication, New Delhi.
2. Misra S.K. and V.K. Puri (2001): Advanced Microeconomic Theory, Himalaya Publishing House, New Delhi.
3. Mansfield, E. (1997), Micro Economics, W. W. Norton and Company, New York.
4. Mankiw, N.G. (2002), Principles of Economics, Thomson Asia Pvt. Ltd., Singapore.
5. Salvatore, D. (2003), Micro Economics, Oxford University Press.
6. Sen Amartya (2017) 'Collective Choice and Social Welfare' Penguin [Original Edition (1970)
7. Kenneth Arrow, Amartya Sen and Kotaro Suzumura (2001) 'Handbook of Social Choice and Welfare' Edited
<https://pdfs.semanticscholar.org/b209/37931e40a25527934c58ab8f72b8ee5df963.pdf>

Unit 1. Mankiw Gregory N. (Latest Edition) 'Principles of Economics' Cengage Learning

Recommended Readings:

1. Arthur O'Sullivan (2013) Micro Economics: Principles, Applications and Tools, Pearson Publication
2. Dominick Salvatore (2003) Principles of Microeconomics, OUP, 5th Edition
3. Hirschleifer J and A. Glazer (1997): Price Theory and Applications, Prentice Hall of India, New Delhi.
4. James Gerber (2012) Microeconomics, Pearson Publication New Delhi
5. Kreps, David, M (1990): A Course in Microeconomic Theory, Princeton University Press.

6. Pindyck, Robert S Rubinfeld, Daniel L, Mehta, Prem (2009) Microeconomics, Pearson India
7. Sen, A. (1999): Micro Economics: Theory and Applications, Oxford University Press, New Delhi.
8. Stigler, G (1996): Theory of Price, Prentice Hall of India, New Delhi.
9. Varian, Hal (1996): Intermediate Microeconomics, W.W. Norton and Company, New York.
10. William J. Baumol and Alan H. Blinder (2005) Microeconomics-Principles and Policy

Recommended Journals:

Studies in Micro Economics- Sage Journal

The Indian Economic Journal- Sage Journal

Journal of Applied Economics- ScienceDirect

CORE COURSE-SEMESTER II
EC-1001 MICRO-ECONOMIC ANALYSIS–II
(This course will have *FOUR* credits)

PREAMBLE

The course makes an attempt to provide an introduction to the advanced theories in Microeconomics and at the same time provide an understanding of the analytical rigour of the subject. Micro Economics is a core course that covers Market Structure, Equilibrium, Competition, Price Determination, Price Discrimination, Price Leadership as well as Game Theory. Microeconomics brings to the fore the practical significance of microeconomic theories

Course Objectives:

- To provide a thorough understanding of the principles of economics
- To enable students to apply micro economic concepts in various contexts.
- To enable understanding the basic theories in microeconomics such as demand theory, production theory, market structures.
- To discuss the modern developments in micro economics such as Game Theory.

Programme Outcome:

- Ability to apply the concepts of micro economics such as demand, supply, revenue, cost, elasticity, etc.
- Ability to compare and contrast various market structures and understand concept of equilibrium, price determination
- At the end of the course, the student should be able to evaluate microeconomic concepts, models and its use in real life situations.

1. Market Structures (6 Lectures)

1.1 Perfect Competition - Short Run and Long Run Equilibrium

1.2 Equilibrium of a Firm and Industry

2. Monopoly (12 Lectures)

2.1 Short Run & Long Run Equilibrium of a Firm under Monopoly

2.2 Price Discrimination under Monopoly, Degrees of Price Discrimination.

2.3 Comparison of Monopoly and Perfectly Competitive Market outcomes.

2.4 Regulation of Monopoly Power.

3. Monopolistic Competition (10 Lectures)

3.1 Monopolistic Competition, Price and Non-price competition, Equilibrium.

3.2 Product Differentiation, Selling Costs and Excess Capacity.

4. Oligopoly (10 Lectures)

4.1 Oligopoly, Basic market structure, Kinky Demand Curve, Price and Output

Determination

4.2 Non-collusive oligopoly, Cournot- Bertrand Solution

4.3 Collusive Oligopoly, Price Leadership, Cartels,

5. Introduction to Game Theory

(10 Lectures)

5.1 Game Theory, Basic Concepts, Dominant Strategy Equilibrium,

5.2 Nash Equilibrium, Repeated and Sequential Games

Basic Reading List:

1. Misra S.K. and V.K. Puri (2001): Advanced Microeconomic Theory, Himalaya Publishing House, New Delhi.
2. Mansfield, E. (1997), Micro Economics, W. W. Norton and Company, New York.
3. Mankiw, N.G. (2002), Principles of Economics, Thomson Asia Pvt. Ltd., Singapore.
4. Salvatore, D. (2003), Micro Economics, Oxford University Press.

Recommended Readings:

1. Arthur O'Sullivan (2013) Micro Economics: Principles, Applications and Tools, Pearson Publication
2. Dominick Salvatore (2003) Principles of Microeconomics, OUP, 5th Edition
3. Hirschleifer J and A. Glazer (1997): Price Theory and Applications, Prentice Hall of India, New Delhi.
4. James Gerber (2012) Microeconomics, Pearson Publication New Delhi
5. Kreps, David, M (1990): A Course in Microeconomic Theory, Princeton University Press.
6. Pindyck, Robert S Rubinfeld, Daniel L, Mehta, Prem (2009) Microeconomics, Pearson India
7. Sen, A. (1999): Micro Economics: Theory and Applications, Oxford University Press, New Delhi.
8. Stigler, G (1996): Theory of Price, Prentice Hall of India, New Delhi.
9. Varian, Hal (1996): Intermediate Microeconomics, W.W. Norton and Company, New York.
10. William J. Baumol and Alan H. Blinder (2005) Microeconomics-Principles and Policy

Recommended Journals:

Studies in Micro Economics- Sage Journal

The Indian Economic Journal- Sage Journal

Applied Economics- Taylor & Francis Online

CORE COURSE-SEMESTER I
EC-1002 PUBLIC ECONOMICS I
(This course will have *FOUR* credits)

PREAMBLE

There has been a considerable change in the role of the government in modern times. Traditionally, Public Finance was applied to the policies and operation of revenue, expenditure and debt, while the applications have extended to resource utilization, distribution, equality, stabilization, etc. An understanding is provided on how political processes are instrumental in the fiscal policy processes and decision-making, supported by theoretical concepts and practical applications.

Course Objectives:

- To develop an understanding of the changing role of the government and the fiscal functions of the modern governments.
- To discuss and deliberate on the concepts and theories in public economies like public policy, principles of taxation, theories of public expenditure, etc.
- To develop an understanding of various policies in public economics like fiscal policy, taxation policy, public debt policy, public expenditure policy etc.

Programme Outcome:

- Ability to recognize, apply and analyze concepts and theories in public economics.
- Ability to appraise and assess the theory of public economics in real life situations.

1. Introduction

(10 Lectures)

- 1.1 Changing Role of Government – Fiscal Functions of Modern Governments - The Allocation Function, The Distribution Function, The Stabilization Function, (Case Study: The Great Depression- From Police to Welfare State)
- 1.2 Private Goods, Public Goods, Social Goods, Merit Goods, Club Goods

2. Rationale for Public Policy

(14 Lectures)

- 2.1 Allocation of Resources- Provision of Public Goods.
- 2.2 Voluntary Exchange Models- Lindahl, Johansen and Samuelson
- 2.3 Impossibility of Decentralized Provision of Public Goods
- 2.4 Contributions of Paul Samuelson, Robert Musgrave, Hugh Dalton- Demand Revealing Schemes for Public goods
- 2.5 The Clarke Tax, The Tiebout Hypothesis

3. Taxation

(12 Lectures)

- 3.1 Principles of Taxation- Benefit and Ability to Pay Approaches
- 3.2 Theory of Incidence; Alternative concepts of Incidence
- 3.3 Allocative and equity aspects of Individual Taxes;
- 3.4 Theory of Optimal Taxation; Excess Burden of Taxes;

- 3.5 The problem of Double Taxation.
- 3.6 Shifting of Tax Burden
- 3.7 Incidence under Market Structures

4. Public Expenditure

(12 Lectures)

- 4.1 Wagner's Law of Increasing State Activities
- 4.2 Pattern of Public Expenditure- Wiseman-Peacock Hypothesis; Pure Theory of Public Expenditure- Samuelson (Collective Consumption Goods); Crowding-out Hypothesis
- 4.3 Structure and Growth of Public Expenditure
- 4.4 Criteria for Public Investment; Social Cost-Benefit Analysis, Project Evaluation, Estimation of Costs, Discount Rate,

Basic Reading List:

1. Goode, R. (1986), Government Finance in Developing Countries, Tata McGraw Hill, New Delhi.
2. Houghton, J.M. (1970), The Public Finance: Selected Readings, Penguin, Harmondsworth.
3. Rajesh K.Jha (2012) Public Finance. Pearson Publication New Delhi
4. Musgrave, Richard A and Musgrave, Peggy B (1989), Public Finance in Theory and Practice, Tata McGraw Hill
5. Stiglitz, Joseph E (1999), Economics of the Public Sector, W. W. Norton and Company

Recommended Readings:

1. Buchanan, J.M. (1968), The Demand and Supply of Public Goods, Rand McNally, Chicago
2. Cornes, R. and T. Sandler (1986), The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press, Cambridge.
3. Duff, L. (1997), Government and Market, Orient Longman, New Delhi. Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood. Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
4. Dorfman, R. (Ed.) (1970), Measuring the Benefits of Government Investment, Brookings Institution, Washington.
5. Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood
6. Mueller, D.C. (1979), Public Choice, Cambridge University Press, Cambridge.
7. Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge. Stiglitz, J.E. (1986), Economics of Public Sector, Norton, New York.

Recommended Journals:

Journal of Public Economics- Science Direct
 South Asian Journal of Macroeconomics and Public Economics- Sage Journals
 Journal of Public Economics-Elsevier

CORE COURSE SEMESTER II
EC-2002 PUBLIC ECONOMICS II
(This course will have *FOUR* credits)

PREAMBLE

There is considerable change in the public economics in modern economies. Public Finance was applied to the policies and operation of public debt, budgets, deficits as well as fiscal federalism, with understanding of the fiscal policy in the management and responsibility context. An understanding is provided on the reforms and change in government finances, supported by theoretical concepts and practical applications.

Course Objectives:

- To develop an understanding of various policies in public economics like fiscal policy, public debt policy, fiscal finances, etc.
- To help the students to understand the normative policies and compare it with the policies framed and followed by Indian economy.
- To impart information to the students about the reforms like taxation reforms in India.

Programme Outcome:

- Ability to understand, apply and analyze concepts-public debt, budget, fiscal policy in public economics.
- Ability to interpret the theories relating to public economics in real life situations.
- Ability to discuss and debate on the public finance and policies w.r.t. India

1. Public Finance in India

(12 Lectures)

1.1 Indian Tax System- Tax and Non-tax Revenue

1.2 Taxes in India - Direct and Indirect Taxes

1.3 Reforms in Direct and Indirect Taxes, Introduction of GST

1.4 Budget- Meaning and Components, Economic Classification of Budget, Balanced Budget Multiplier, Gender Budget- Concept, Objectives & Purpose

1.5 Budget Deficits and Their Implications.

2. Public Debt

(12 Lectures)

2.1 Sources of Public Debt w.r.t India;

2.2 Burden of Public Debt on Indian Economy

2.3 Deficit financing, Public Borrowings and Level of Prices

2.4 Principles of Debt Management and Repayment

3. Fiscal Policy

(10 Lectures)

3.1 Objectives of Fiscal Policy in Countries like India, Interdependence between Fiscal and Monetary Policies

- 3.2 Fiscal Policy for Stabilization - Automatic v/s. Discretionary Stabilization
- 3.3 Fiscal Sector Reforms in India-Budget Management, Objectives of Fiscal Responsibility and Budget Management Act

4 Indian Fiscal Federalism

(14 Lectures)

- 4.1 Fiscal Federalism in India- Meaning and Relevance;
- 4.2 Vertical and Horizontal Imbalance
- 4.3 Assignment of Function and Sources of Revenue
- 4.4 Constitutional provisions; Finance Commission and Planning Commission
- 4.5 Devolution of Resources and Grants
- 4.6 Theory of Grants; Resource transfer from Union to States — Criteria for Transfer of Resources
- 4.7 Centre-State Financial Relations in India

Basic Reading List:-

1. Bhatia H.L “Public Finance “ Vikas Publishing House, 18th edition
2. Jha Rajesh K. (2012) Public Finance. Pearson Publication New Delhi
3. Mankar & Sharma (2001) “Public Finance Theory & Practice, Himalaya Publishing
4. Stiglitz, Joseph E (1999), Economics of the Public Sector, W. W. Norton & Co
5. Tyagi B.P., Public Finance, Jai Prakash Nath Publisher, Meerat (UP).

Recommended Readings:

1. Shome, P. (Ed.) (1995), Tax Policy : Handbook, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D.C.
2. Tripathy R.N. (2002) Public Finance in Underdeveloped Countries, Indus Publishing Company
3. Rajesh K.Jha (2012) Public Finance. Pearson Publication New Delhi
4. Gopalan Swapna (2008) Gender Budgeting: Concepts and Experiences, ICFAI University Press
5. Gopalan Swapna (2008) Gender Budgeting in India: Towards achieving Gender Equity, ICFAI University Press
6. Mundle Sudipto (2005) “ Public Finance: Policy Issues for India” Oxford University Press
7. Rangarajan C, D. K. Srivastava (2011) Federalism and Fiscal Transfers in India’ OUP, India
8. Y. V. Reddy, G. R. Reddy (2019) ‘Indian Fiscal Federalism’ Oxford University Press
9. Latest Budget Papers- Government of India
10. Economic Survey (Annual)

Recommended Journals:

Journal of Public Economics- Science Direct
South Asian Journal of Macroeconomics and Public Economics- Sage Journals
Indian Journal of Finance
The Indian Economic Journal- Sage Journals

CORE COURSE-SEMESTER I
EC 1003- INTERNATIONAL TRADE
(This course will have *FOUR* credits)

PREAMBLE

International Economics is subject that is ever dynamic and relevant in the current context. International Economics provides a framework on international trade and finance in the theoretical context, along with economic analysis as well as practical applications. The subject discusses Free Trade, Barriers to Trade, Trade Agreements and Trade Organizations. Various issues are discussed and analyzed arising out of international trade and finance.

Course Objectives:

- To develop an understanding of the theoretical concept in international trade.
- To analyze international economics with reference to terms of trade, trade policy, trade agreements etc.
- To provide knowledge to students regarding recent developments and changes in international banking, international banking agreements etc.
- To make the students understand role of international economic organization and global crisis development.

Programme Outcome:

- Ability to understand the concepts of international economics such as comparative cost, terms of trade, trade policies and trade agreements
- Ability to interpret and apply theory relating to understand international trade
- Ability to discuss and debate the effects of trade policy, trade agreements, exchange rate policies on the world economy/trade

1. Overview of Classical and Modern Trade Theories (20 lectures)

1.1 The Theory of Comparative Cost- David Ricardo

1.2 The Heckscher-Ohlin Theorem- The Opportunity Cost Approach

1.3 Verification of Physical Criterion and Price Criterion,

1.4 Leontief Paradox – Factor Price Equalization [Edgeworth Box Diagram]

1.5 New Theories of Trade, Product Life Cycle and Technology Gap Models,

1.6 Preference Similarity and Intra-Industry Trade,

1.7 Economies of Scale and Monopolistic Competition

1.8 Krugman- Theory of Economic Geography

1.9 Neo-Heckscher Ohlin Theorem

2. Terms of Trade (4 lectures)

2.1 Concepts of Terms of Trade, Factors affecting Terms of Trade

2.2 Gross & Net Barter Terms of Trade

2.3 Terms of Trade and Economic Development

3. Trade Policy

(12 lectures)

- 3.1 Free Trade vs. Controlled Trade,
- 3.2 Tariffs and Non-Tariff Barriers on Trade,
- 3.3 Effects of Tariffs under Partial Equilibrium. (Price Effect, Terms of Trade Effect, Competitive Effect, Income Effect, Revenue Effect)
- 3.4 Effects under General Equilibrium, Stolper-Samuelson Theorem

4. Trade Agreements and Organization

(12 lectures)

- 4.1 Introduction to International Trade Agreements- Dunkel Proposal and WTO, Important Agreements,
- 4.2 Major developments since 1995, Effects on the Indian Economy.
- 4.3 Composition of the Global Trade Growth, Developing Countries and participation in Global Trade, Growth of Trade in Services,

Basic Reading List:

1. Gupta, K.R.(latest edition): "International Economics", AtmaRam & Sons, Delhi
2. Kindleberger, C.P. International Economics, R.D. Irwin, Homewood
3. Salvatore, D. (1997), International Economics, Prentice Hall, New York
4. Salvatore, D. (Latest edition.) "International Economics", Prentice Hall, NY
5. Soderston, Bo (2005), International Economics, The Macmillan Press Ltd., London
6. Srivastava, O.S.(latest edition), "International Economics", Kalyani Publishers

Recommended Readings:

1. Chacholiades, M. (1990), International Trade: Theory and Policy, McGraw Hill.
2. Paul R. Krugman & Maurice Obstfeld (2009) International Economics Theory and Policy. Pearson Education Publication New Delhi
3. James Gerber (2012) International Economics Pearson Publication. ND
4. Paul, Justin (2004) ed., "International Business", Prentice-Hall India Pvt. Ltd
5. Pugel T.A (2008) "International Economics", Tata McGraw-Hill
6. Salvatore, D (2004) "Theory and Problems of International Economics" Schaum's Outline Series, Tata McGraw Hill Publishing Co. Ltd., New Delhi.
7. Sawyer, W.C and Sprinkle, R.L (2003) "International Economics", Pearson Education
8. Williamson, J & Milner, C (1991): "The World Economy-A Textbook International Economics", New York University Press, N. York.

Recommended Journals:

Journal of International Economics- Elsevier
The Journal of International Trade and Economic Development- Taylor and Francis Online
Foreign Trade Review- Sage Journals

CORE COURSE SEMESTER II
EC - 2003- INTERNATIONAL FINANCE
(This course will have *FOUR* credits)

PREAMBLE

International Economics is subject that is relevant in the current context. International Finance provides an understanding of the various aspects of International Finance in the analytical context along with a theoretical background. The subject discusses Balance of Payments, Foreign Exchange, Risk, Currency Management as well as International capital flows. Various topics are discussed and analyzed that relate to international finance, banking and markets.

Course Objectives:

- To develop an understanding of the theoretical concept in international finance- Balance of Payments, exchange rate policies, capital flows, etc.
- To compare and contrast the scenarios on international trade in India vis-à-vis the world economy.
- To provide knowledge to students regarding recent developments and changes in international banking, international banking agreements etc.
- To make the students understand role of international economic organization and global crisis development.

Programme Outcome:

- Ability to understand and interpret the concepts such as Balance of Payments, Exchange Rates, Foreign Exchange transactions, International capital flows, etc.
- Ability to critically analyze the effects of deficits, exchange risk, role of foreign capital on the world economy/trade
- Ability to discuss and debate on subjects related to international trade and finance w.r.t the Indian Economy

1. Balance of Payment (10 Lectures)

- 1.1 Balance of Trade- Concept, Structure & Components
- 1.2 Balance of Payments- Concept, Disequilibrium, Causes of Disequilibrium;
- 1.3 Correction of Disequilibrium-Automatic Correction, Deliberate Correction,
- 1.4 Foreign Trade Multiplier- Meaning, Working, Implications & Limitations
- 1.5 Policies for Internal and External Balance-Fiscal and Monetary Policy
Under Fixed and Floating Exchange Rates
- 1.6 Devaluation of Indian Rupee- Effect on Balance of Payment in 1991.

2. Foreign Exchange (12 lectures)

- 2.1 Components of Foreign Exchange Market- Transfer of Purchasing Power,
Provision of Credit, Provision of Hedging Facilities

- 2.2 Transactions in the Foreign Exchange Market- Options, Forwards, Futures, and Swap, Concept of Arbitrage, Hedging and Speculation; Types of Risk in International Markets
- 2.3 Determination of Rate of Exchange- Purchasing Power Parity Theory, Balance of Payments Theory, Monetary Models.
- 2.4 Exchange Control-Scope of Exchange Control, Objectives and Methods of Exchange Control.
- 2.5 Exchange Rate Systems- Fixed and Flexible Exchange Rates-Case for and against Fixed and Flexible Exchange Rates

3. International Capital Flows (10 lectures)

- 3.1 Classification of International Capital Flows-Direct and Portfolio Investment, Government, Institutional and Private Capital, Short term and Long term Capital, Home and Foreign Capital, Foreign Aid
- 3.3 Importance and Role of Foreign Capital-Trade and Investment, Theories of International Investment, Factors Affecting International Capital Movements
- 3.4 Current and Capital Account Convertibility- Concept and Prerequisites, Developments on Convertibility in the Indian Context
- 3.5 Foreign Exchange Management Act- Objectives and Features

4. International Banking (16 lectures)

- 4.1 International Banking- Concept, Classification - Offshore Banking Unit, Foreign Banks, Foreign Subsidiaries/ Affiliates, Correspondent Banks
- 4.2 International Banking Laws- Choice of Law, Proper Law, Use of Language and Nature of Legal Disputes;
- 4.3 International Banking Agreements-Basel Norms; Introduction to LIBOR
- 4.4 **Changing Role of International Economic Organizations- IMF and IBRD (World Bank)- Global Crisis and Development, Introduction to BRICS Bank**

Basic Reading List:

1. Gupta, K.R.(latest edition): "International Economics", Atma Ram & Sons, Delhi
2. Indian Institute of Banking & Finance (2011) 'International Banking'
3. Kindleberger, C.P. International Economics, R.D. Irwin, Homewood.
4. Salvatore, D. (1997), International Economics, Prentice Hall, Upper Saddle River, N.J., New York.
5. Srivastava, O.S. (latest edition), "International Economics", Kalyani Publishers

Recommended Readings:

1. Ellsworth P.T., (1969) 'The International Economy' New York Macmillan Publishing Co.
2. Frederic Mishkin and Stanley Eakins (2006) "Financial Markets and Institutions", Pearson 5th Ed.

3. Heller, Robert H., (1968) 'International Trade' Prentice Hall, Englewood Cliffs
4. Indian Institute of Banking & Finance (2017) 'International Banking Legal & Regulatory Aspects'
5. Joyce Joseph (2013) 'IMF and the Global Economic Crisis' Cambridge University Press
6. O'Neill Jim (2013) 'The Growth Map: Economic Opportunity in BRICS and Beyond' Penguin, UK
7. Sharma Ruchir (2013) 'Breakout Nations: In pursuit of Next Economic Miracles' Penguin UK
8. Sharma Ruchir (2017) 'The Rise and Fall of Nations' Penguin UK
9. Verghese, S.K., (1986) 'Foreign Exchange and Financing of Foreign Trade', Vikas Publishing House, New Delhi.
- 10.** Williamson, J & Milner, C (1991): 'The World Economy-A Textbook in International Economics', New York University Press, N. York.

Recommended Journals:

Journal of International Economics- Elsevier

Journal of Finance- Wiley Online

Journal of Emerging Market Finance- Sage Journals

Journal of Financial Economics-Elsevier /Science Direct

ELECTIVE PAPERS
(Choose any ONE paper)

AGRICULTURAL ECONOMICS
RURAL ECONOMICS
STATISTICAL TECHNIQUES
INDIAN FINANCIAL SYSTEM

SEMESTER I

ELECTIVE COURSE-SEMESTER I
EC.1004-AGRICULTURAL ECONOMICS
(This course will have *FOUR* credits)

PREAMBLE

Agricultural Economics is an applied field in economics; the subject provides an understanding of the production and distribution of food. Agricultural Economics provides an understanding of the various aspects of agriculture- productivity, labour, credit, markets for farm products, with appropriate economic analysis. The subject discusses agrarian structures w.r.t. growth, employment, efficiency and prices as well as incomes. It is important to analyze the challenges to agriculture in the context of emerging economies.

Course Objectives:

- To develop an understanding of agricultural economics in the theoretical as well as practical context.
- To discuss and debate the various issues and challenges faced by agrarian economies w.r.t. production, productivity, efficiency, employment, etc.

Programme Outcome:

- Ability to analyze and evaluate the subject with reference to various aspects of agrarian economies.
- Ability to develop an understanding of agriculture with its intricacies and imperfections and to be able to construct intellectual dialogue on the challenges of agriculture.

1. Introduction

(8 Lectures)

1.1 Role of Agriculture in Indian Economy

1.2 Agrarian Structure in India in a Liberalizing and Globalizing Economy,

1.3 Barriers to Agricultural Growth in India

1.4 Need for Policy Intervention – Productivity, Equity and Sustainability

2. Agriculture Productivity and Agricultural Labour

(10 Lectures)

2.1 Trends in Agricultural Productivity in India since 1991

2.2 Challenges to Agricultural Productivity– Crop Insurance, Irrigation, Exports

2.3 Agricultural Labour- Trends in Agricultural Employment and Efficiency

2.3 Technology Inputs in Agriculture and Impact on Agriculture Labour

2.4 Review of the National Employment Guarantee Scheme

3. Agriculture and Credit

(10 Lectures)

3.1 Financial Sector Reforms and Rural Credit

3.2 Role of NABARD, Commercial Banks and Cooperative Institutions

3.4 Micro Finance in Rural Finance – Emergence, Role and Challenges

3.5 Challenges to Rural and Agricultural Credit in India

4. Agriculture and Markets

(10 Lectures)

- 4.1 Characteristics of Agricultural Markets in India
- 4.2 Agriculture and Price System in India
- 4.3 Role of Farmers' Marketing Cooperatives
- 4.4 Agro Processing- Need and Challenges
- 4.5 Agriculture in India and WTO Agreements

5. Agricultural Growth and Rural Development

(10 Lectures)

- 5.1 Food Security in India
- 5.2 Gender and Rural Poverty.
- 5.3 Agriculture and Industry- Interrelations and Management
- 5.4 Sustainable Agriculture- Concept, Need and Issues

Basic Reading List:

1. Subha Reddy (2008) 'Agricultural Economics' OUP
2. Agrawal A.N.(Latest Edition) Indian Economy Problem of Development and Planning
3. Datt R.& K.P.M Sundharm (Latest Edition) Indian Economy, S. Chand & Co.
4. Misra S.K.& V.K.Puri (Latest Edition) Indian Economy, Himalaya Publication House Mumbai.

Recommended Readings:

1. Ajit Singh and Hamid Tabatabai (1993) 'Economic Crisis and Third World Agriculture', Cambridge University Press
2. B.N.P Singh (2004) 'Indian Economy Today Changing Contours' .Deep and Deep Publications
3. C.S.Prasad (2006) 'Sixty years of Indian Agriculture'–New Delhi
4. Dewett Kewal (2005) Indian Economy C. Chand &Co. Ltd, New Delhi
5. Gopalji & Suman Bhakari (2012) 'Indian Economy Performance and Policies, Pearson Publication Delhi
6. Gulati & Kelley(1999), 'Trade Liberalization of Indian Agriculture' OUP
7. Hansra Parumal and Chandrakarn–'Modernization of Indian Agriculture in the 21st Century- Challenges, Opportunity and Strategies' Concept Publication Co. New Delhi.
8. Johnson P.A Development Issues of Indian Economy (2003) Manan Prakashan
9. Kapila Uma (ed.) Indian Economy Since Independence, Academic Foundation (2003)
10. Mamoria C.B.(2005) 'Agricultural Problems of India' Kitab Mahal Pub.
11. M.P.Singh (2004) 'Indian Economy Today-Problems Planning and Development' Deep and Deep Publication.
12. Singh Acharya, Sagar (2002) 'Sustainable Agricultural Poverty and Food Securities' Rawat Publications Jaipur Vol-I&II
13. S. Mahendra Dev (2010) Inclusive Growth in India: Agriculture, Poverty and

Human Development, OUP

14. Norton George W. And Jeffery Alwang (1993) 'The Introduction to Economic and Agricultural Development' McGraw Hill Co. Publication

Recommended Journals:

Journal of Agricultural Economics- Wiley Online

The Indian Economic Journal- Sage Journals

International Journal of Agricultural Economics- Science Publishing

American Journal of Agricultural Economics-Oxford Academic

Journal of Agricultural and Applied Economics- Cambridge University Press

Economic & Political Weekly

ELECTIVE COURSE-SEMESTER I

EC.1004-RURAL ECONOMICS

(This course will have *FOUR* credits)

PREAMBLE

Rural Economics is a specialized area in economics studying rural economies, both farm as well as non-farm. Rural Economics provides an understanding of the various aspects of rural economies on production, growth, development and livelihood with a relevant theoretical background. The subject discusses rural economic structure, rural infrastructure as well as rural employment. Various topics are discussed and analyzed that concern sustainable development of rural economies.

Course Objectives:

- To develop an understanding of rural economics in the theoretical as well as practical context.
- To discuss and debate the various issues and challenges faced by rural economies with reference to the farm and non-farm sector, the growth and development of rural economies, etc.

Programme Outcome:

- Ability to analyze and evaluate the subject with reference to various aspects of rural economies.
- Ability to develop an understanding of the rural sector with its intricacies and imperfections and to be able to construct intellectual dialogue on the challenges of agriculture w.r.t. the Indian Economy.

1. Rural Development

(12 Lectures)

1.1 Rural Development- Need and Issues

1.2 Approaches to Rural Development-Gandhian & Neo-Approach (PURA)

1.3 Structure of Rural Economy of India

1.4 Rural Economy and Globalization – Impact and Challenges

1.5 Contract Farming, Corporate Farming, SEZs and Agriculture

1.6 Rural Development and Sustainable Livelihoods- Technology, Environment and Community

2. Rural Infrastructure

(12 Lectures)

2.1 Status of Rural Infrastructure in India-

2.2.1 Transport and Communication, Electricity, Irrigation,

2.2.2 Housing, Education, Sanitation, Health

2.2.3 HDI in Rural India

2.2 Agriculture and Rural Development in India- Land Use, Cropping pattern, Farm Labour

2.3 Farm Sector vs. Non-Farm Sector – Issues and Challenges

- 2.4 Rural Industrialization- Agri-Business, Agro-based & Cottage Industries
- 2.8 Development of Rural Entrepreneurship –Approach and Policy Direction

3. Rural Credit (12 Lectures)

- 3.1 Role and Relevance of Source of Rural Credit- Non-Institutional and Institutional Sector- (NABARD, Commercial Bank and Cooperative Banks)
- 3.2 Indebtedness in Rural Sector in India- Magnitude, Causes and Measures
- 3.3 Rural Credit and Role of Microfinance in India
- 3.4 Imperfections and Challenges of Rural Credit

4. Rural Employment (12 Lectures)

- 4.1 Rural Employment and Unemployment
- 4.2 Agriculture and Unemployment-Magnitude, Causes and Measures
- 4.3 Labour Market Segmentation, Gender Differences
- 4.2 Unemployment and Migration- Causes and Policy Intervention
- 4.4 Rural Poverty and Inequality- Measurements, Causes and Policy Measures
- 4.5 Need for Inclusive Growth in Rural Sector

Basic Reading List:

1. Jodhka Surinder S (2018) 'Handbook of Rural India (Reading on Economy, Polity and Society) EPW, Orient Blackswan Publication
2. Katar Singh, Anil Shidhodia (2016) Rural Development: Principles, Policies and Management, Sage Publications
3. Parthasarathy G (2003) Economic Reforms and Rural Development in India: Analysis of Pros and Cons of Structural Adjustment and Liberalization Policies and its Effect on Rural Development' Academic Foundation
4. Datt & Sundharam (Latest)'Indian Economy' S Chand & Co., New Delhi,
5. Dhingra, Ishwar (2006), 'Indian Economy' Sultan Chand and Sons, New Delhi
6. Misra S.K. and V.K. Puri 'Indian Economy' HPH, New Delhi (Latest Edition)

Recommended Readings:

1. Bhagwati, Jagdish (2004) 'In Defense of Globalization' OUP, UK
2. Desai Vasant (2013) 'Rural Development in India – Past, Present & Future' Himalaya Publishing House,
3. Desai, Vasant (1991) "Fundamentals of Rural Development" Rawat Publications, New Delhi
4. Satya Sundaram (2013) 'Rural Development', Himalaya Publishing House
5. Prasad, B.K. (2003) "Rural Development: Concept, Approach and Strategy" Sarup & Sons, New Delhi:
6. Meier, Gerald (ed.) (1987) "Leading Issues in Economic Development" OUP,
7. Rau, S.K. (2001) "Global Search for Rural Development" NIRD, Hyderabad
8. Satya Sundaram, I. (2002) "Rural Development": HPH, Mumbai
9. Samanta R.K. (2000) "New Vista in Rural Development Strategies and Approaches" B.R. Publishing Corporation New Delhi

Reports

Annual Reports: Ministry of Rural Development, Govt. of India

India Rural Development Report (2013), Orient Blackswan Pvt. Ltd, New Delhi

Human Development Report, World Bank, Oxford University Press

Periodicals

Yojana (Marathi & English)

Kurukshetra (English) –Publications Division, Ministry-I& B, Gol, New Delhi.

Economic & Political Weekly, Mumbai.

Recommended Journals:

Journal of Land and Rural Studies- Sage Journals

Journal of Rural Studies-Elsevier

Journal of Agricultural Economics- Wiley Online

American Journal of Agricultural Economics- Oxford Academic

ELECTIVE COURSE-SEMESTER I
EC-1004 STATISTICAL TECHNIQUES
(This course will have *FOUR* credits)

PREAMBLE

The role of Statistics is important as well as relevant in Economics. The use of Statistics can provide a better understanding of various topics discussed and studied under economics. Statistical tools and techniques help understand, discuss and appreciate various topics under micro and macroeconomics better. Besides, applied subjects in economics make use of statistical tools and techniques to provide more elaborate and enhanced understanding of issues and challenges in the real world.

Course Objectives:

- To provide an understanding of Statistics and its application under various topics under economics.
- To demonstrate the practical and the applied aspects of economics with the help of Statistical techniques.

Programme Outcome:

- Ability to develop, demonstrate and examine various topics under economics with the help of statistical techniques.
- Ability to examine subject areas in economics with the use of statistical tools.

1. Descriptive Statistics (12 Lectures)

- 1.1 Collection, Organization and Presentation of Data
- 1.2 Measures of Central Tendency and Dispersion-Mean, Median, Mode, Standard Deviation, Variance, Covariance and Correlation Coefficients
- 1.3 Correlation and Regression Analysis.
- 1.4 Measures of Skewness and Peakedness

2. Sampling and Sampling Methods (8 Lectures)

- 2.1 Sample and Population, Parameters and Statistics
- 2.2 Variables and Attributes; Sampling and Non-sampling Errors
- 2.3 Types of Sampling

3. Theory of Probability (12 Lectures)

- 3.1 Probability, Distribution, Events Spaces
- 3.2 Joint, Marginal and Conditional Probability- Certainty & Uncertainty conditions
- 3.3 Random Variable: Expectation and Distribution
- 3.4 Addition and Multiplication Theorems
- 3.5 Probability Distribution, Discrete and Continuous and Expected Values
- 3.6 Probability Distribution Function-Binomial, Poisson
- 3.7 Normal T-test, Chi-square

4. Statistical Estimation and Testing of Hypothesis (10 Lectures)

4.1 Types of Estimators and their Properties

4.2 Sampling Distribution for Sample Mean and Proportion

4.3 Point and Interval Estimation

4.4 Null and Alternate Hypothesis

4.5 Level of Significance & Level of Confidence, Confidence Limits, Critical Region, Tests of Significance-Type I and II Errors.

5. Time Series (6 Lectures)

5.1 Nature and Decomposition of a Time Series-Trend.

5.2 Cyclical, Seasonal and Random Components.

5.3 Fitting Trend Curves.

Books

Anderson David & al (2015) 'Statistics for Business and Economics', 12th Edition, Cengage India

Gupta S.C. (Latest Edition) 'Fundamentals of Applied Statistics' Sultan Chand & Sons,

Gupta S.C. (2014) 'Fundamentals of Mathematical Statistics' Sultan Chand & Sons,

Nagar A.L. & Das R.K. (1997) 'Basic Statistics' 2nd Edition, OUP

Rohatgi Vijay K., A.K. Md. Ehsanes Saleh (2008) 'An Introduction to Probability and Statistics, Wiley, 2nd Edition

Vohra N.D. (2017) 'Business Statistics' McGraw Hill Education

Recommended Reading:

Croxton F. E and Cowden D. J. (1968) 'Applied General Statistics' Pitman Publishing

Croxton F. E and Cowden D. J. (2012) 'Practical Business Statistics' Literary Licensing, LLC

Keller Gerald (2015) 'Statistics for Management and Economics, South Western

Lind, Marchal and Wathen (2017) 'Basic Statistics for Business and Economics' McGraw Hill Education, 7th Edition

Richard I. L, M. H. Siddiqui, D S. Rubin, Sanjay Rastogi (2017) 'Statistics for Management and Economics' 5th Edition, Pearson Education

Recommended Journals:

Journal of International Economics- Elsevier

Journal of Finance- Wiley Online

Journal of Applied Statistics- Francis & Taylor

Journal of Statistics Education- Francis & Taylor

ELECTIVE COURSE-SEMESTER I
EC-1004 INDIAN FINANCIAL SYSTEM
(This course will have *FOUR* credits)

PREAMBLE

Finance and Economics are different disciplines, but are integrated and inter-related. Financial Systems discuss financial structures, financial institutions, financial markets, and financial services. The subject discusses the financial system in the Indian context with references to the changing structure, role of central bank, bank regulation, growth and development of banking and non-banking sector. Banking and financial systems are integral to the study of economics and backbone of all types of economies.

Course Objectives:

- To develop an understanding of the financial system with the help of theoretical contours.
- To interpret the developments in the financial and banking system in the backdrop of current developments in the Indian Economy.
- To examine the changing structures, growth and development in banking and financial systems.
- To understand the subject in the context of developments and changes in the Indian Financial system.

Programme Outcome:

- Ability to relate to the on-going changes in the banking and financial system in India.
- Ability to discuss and debate on the changing structures and developments in the banking and financial system in India.

1. Introduction

(12 Lectures)

- 1.1 Structure of Financial System, Role of Financial System in Economic Development
- 1.2 Functions of financial system - Aspects of Risk Sharing, Transaction Costs, Information Costs, Diversification and Conflict of Interests
- 1.3 Theories of financial development- The Credit Creation Theory, The Financial Regulation Theory, The Financial Liberalization Theory

2. Banking System in India

(14 Lectures)

- 2.1 Structure of Banking System in India
- 2.2 Changing Structure of Banking System- New Private Banks, Small Banks, Payment Banks
- 2.2 Role of Central Bank- Banking Supervision (Basel Norms), Liquidity Management, Central Bank Independence
- 2.3 Developments in Banking Sector in India- NPA Management, E-Banking,

Banking Ombudsman

2.4 Challenges and Changes in Banking Sector in India- Mergers, Consolidations and Amalgamations

3. Non-banking Financial Institutions in India (12 Lectures)

- 3.1 Meaning and Features of NBFIs, Difference between Banks and Non-Banks, RBI Classification of NBFIs in India
- 3.2 RBI Guidelines for NBFIs in India
- 3.3 Reforms in the Non-Banking Sector in India- Insurance, Mutual Funds, Pension Funds
- 3.4 Performance of the NBFIs since 1991; Need for Supervision and Regulation; Case Studies

4. Developments in Indian Financial System (10 Lectures)

- 4.1 Financial Services in India- Meaning, Features and Type-Fund-Non-Fund
- 4.2 Financial Instruments- Bonds- floating rate, deep-discount, zero coupon, Masala bonds; Convertible-Non-convertible debentures, Equity Warrants
- 4.4 Financial Institutions- Venture Capital, Credit Rating, Angel Finance, Crowd Funding
- 4.4 Financial Regulation- RBI, SEBI, IRDA, PFRDA- Need and Objectives

Basic Reading List:

- 1 Bhole, L. M., Jitendra Mahakud (2017) 'Financial Institutions and Markets' Tata McGraw Hill, ND
- 2 Das S. C. (2015) 'The Indian Financial System: Markets, Instruments, Institutions, Services and Regulations' PHI Learning
- 3 Pathak, Bharati (2009) 'The Indian Financial System, Pearson Education
- 4 Frederic Mishkin and Stanley Eakins (2006) 'Financial Markets and Institutions', Pearson 5th Ed
- 5 Gurusamy S. (2004) "Financial Markets and Institutions", Vijay Nicole Imprints
- 6 Machiraju H.R. (2006) 'Indian Financial System, Vikas Publications, ND
- 7 Khan M.Y. "Indian Financial System", New Delhi: Tata McGraw-Hill Pub. Co

Recommended Readings:

- 1 Bhasin, Niti (2014) "Indian Financial System: Evolution and Present Structure" New Century Publications.
- 2 Chandavarkar Anand (1996) "Central Banking in Developing Countries" St. Martin's Press, USA
3. D. Muralidharan (2009) 'Modern Banking Theory and Practice,' PHI Learning Pvt. Ltd. New Delhi
4. Harker, P.T. ,S. A. Zenios (2000) 'Performance of Financial Institutions', CUP, UK
5. Indian Institute of Banking and Finance (2018) 'Central Banking', Macmillan Publishers, India

6. Indian Institute of Banking and Finance (2017) 'Information Systems for Banks', Taxmann Publishers, India
7. Prasad, K.N.(2001) 'Development of India's Financial System,' Sarup and Sons, New Delhi
8. Saha Siddhartha (2017) 'Indian Financial Systems and Markets, McGraw Hill Education
9. Sharma, K.C. (2007) 'Modern Banking in India,' Deep and Deep Publications New Delhi
10. Vasudevan A. (2003) "Central Banking in Emerging Economies" Academic Foundation

Reports:

RBI Annual Reports, Monthly Reviews, Occasional Papers (www.rbi.org.in)
Reports on Currency and Finance
Economic and Political Weekly

Recommended Journals:

Prajnan [NIBM],
Journal of Banking and Finance- Elsevier
Journal of Money, Credit and Banking- Wiley Online
Journal of Banking and Financial Technology-Springer

ELECTIVE PAPERS
(Choose any ONE paper)

LABOUR ECONOMICS
URBAN ECONOMICS
MATHEMATICAL ECONOMICS
MONEY MARKETS

SEMESTER II

ELECTIVE COURSE-SEMESTER II
EC- 2004 LABOUR ECONOMICS
(This course will have *FOUR* credits)

PREAMBLE

Labour Economics is a specialized area in economics; the subject covers the study of labour, the industrial structure and industrial relations. Labour Economics provides an understanding of the various aspects of labour markets on structure, division of labour, employment and wage determination with a relevant theoretical background. The subject discusses labour markets, wages and wage determination, labour dynamics and industrial relations. Various contemporary topics are discussed and analyzed such as migration, absenteeism, wage differentials and social security under labour economies.

Course Objectives:

- To develop an understanding of labour economics in the theoretical as well as practical context.
- To discuss and debate the various issues and challenges faced by labour with reference to division of labour, employment, wage determination, etc.
- To demonstrate on the various aspects of labour dynamics and labour relations w.r.t. India

Programme Outcome:

- Ability to analyze and evaluate the subject with reference to various aspects of Labour economics.
- Ability to develop an understanding of the labour with its intricacies and imperfections and to be able to construct intellectual dialogue on the challenges of labour w.r.t. the Indian Economy.

1 Introduction

(8 Lectures)

- 1.1 Concept of Labour Force, Determinants of Labour Force Participation
- 1.2 Historical Emergence and Relevance of Labour Economics
- 1.3 Indian Labour Market- Changing Structure and Impact of Globalization
- 1.4 Unemployment in India and Policies for Employment Generation

2 Labour Markets and Wage Determination

(12 Lectures)

- 2.1 Labour Markets- Rural & Urban, Formal and Informal, Organized and Unorganized, Contract Labour
- 2.2 Growth and Trends in Labour Market,- New Legislation, Unionization, Labour Dynamics, Labour Market Flexibility
- 2.3 Theories of Wages- Marginal Productivity Theory, Theory of Collective Bargaining, Modern Theory of Wages- Demand and Supply Theory
- 2.4 Wage Structure, Minimum Wage, Fair Wage, Wage Differentials- Inequality, Inter-sectoral Differences, Gender Differences

2.5 Evolution and Features of Wage Policy in India

3 Migration and Absenteeism (8 Lectures)

- 3.1 Approaches to Labour Migration, Inter-sectoral and International Migration, Trends, Causes and Effects of Migration
- 3.2 Labour Turnover and Absenteeism in Labour Markets in India- Causes, Effects and Policy Measures

4 Industrial Relations (10 Lectures)

- 4.1 Labour Unions in India- Growth, Structure and Development;
- 4.2 Employers' Organization in India- History, Emergence and Role
- 4.2 Globalization and Labour Markets- International Division of Labour, Impact on Developing Economies
- 4.3 Current trends in Collective Bargaining
- 4.4 Social Security Measures.

5 Labour Market reforms (10 Lectures)

- 5.1 Exit Policy since 1991, Need for an Effective Policy
- 5.2 Child Labour in India- Cause for Concern and Policy Measures
- 5.3 Women Workforce- Need for equal Opportunity, Skill and Earnings
- 5.4 Contract Labour- Increasing Use and Need for Regulation

Basic Reading List:

- 1 Pierre C (2015) 'Labour Economics' Prentice Hall India
- 2 Alan Mountjoy (2007) 'Industrialization and Underdeveloped Countries' Adline Transaction
- 3 Joshi M. V. (1999) 'Labour Economics and Labour Problems' Atlantic
- 4 McConnell, C.R. And S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York

Reference Books:

- 1 Datt, G (1996), Bargaining Power, Wages and Employment: An Analysis of Agricultural, Labour: Markets in India: Sage Publications, New Delhi
- 2 Dasgupta Sukti, Sher Singh Verick (2016) 'Transformation of Women at Work in Asia-An Unfinished Development Agenda' (Ed.) Sage Publication
- 3 Flanagan Robert J. (2006) 'Globalization and Labor Conditions: Working Conditions and Worker Rights in a Global, OUP
- 4 Hajela, P.D. (1998), Labour Restructuring in India: A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.
- 5 Jhabvala, R.and R.K. Subrahmanya (Eds) (2000), The Unorganized Sector: Work Security and Social Protection: Sage Publications, New Delhi
- 6 Lester R. A. (1964) 'Economics of Labour, Macmillan, NY, 2nd Edition
- 7 Papola, T.S.P.P. Ghosh, A.N.Sharma (Ed.) (1993). Labour, Employment and Industrial Relations in India, B. R. Publishing Corporation, New Delhi

- 8 Rosenberg M.R. (1988), 'Labour Markets in Low Income Countries' in Edited Book by Chenery H. B. and T.N. Srinivasan "The Handbook of Development Economics" North Holland, New York
- 9 Venkataratnam, C.S. (2001), Globalization and Labour- Management Relations: Dynamics of Changes, Sage Publications/Response Books, New Delhi.

Recommended Journals:

Indian Journal of Labour Economics- Springer

The Indian Journal of Industrial Relations- JSTOR

Management and Labour Studies- Sage

Economic and Political Weekly

ELECTIVE COURSE-SEMESTER II
EC- 2004 URBAN ECONOMICS
(This course will have *FOUR* credits)

PREAMBLE

Urban Economics is a specialized area in economics studying urban economies. Urban Economics provides an understanding of the various aspects- conceptual and theoretical of urban economies. The subject discusses urban structure, urban infrastructure, urban development as well as labour and employment in urban spaces. Various contemporary topics are discussed and analyzed that concern sustainable development and livelihood creation in urban economies. It is also important to discuss the role of urban local bodies in the challenges of urbanization.

Course Objectives:

- To develop an understanding of urban economics in the theoretical as well as practical context.
- To elaborate and discuss on the various concepts and terminologies used in urban economies.
- To discuss and debate the various issues and challenges faced by urban economies.

Programme Outcome:

- Ability to analyze and evaluate the subject with reference to various aspects of urban economies.
- Ability to develop an understanding of the urban spaces with its intricacies and imperfections and to be able to construct intellectual dialogue on the challenges of urbanization w.r.t. the Indian Economy.

1. Urbanization (10 Lectures)

- 1.1 Urbanization-Meaning & Significance, Reasons for Urbanization
- 1.2 Classification of Urban Spaces/Areas, Identification of Urban Spaces
- 1.3 Classification of Urban Settlements- Historical, Socio-Economic, Political, Technological and Geographical
- 1.4 World Bank Indicators on Urbanization and Urban Development
- 1.5 Urbanization Trends- Comparative in Developed and Developing Countries
- 1.6 Rural Urban Linkages with special reference to India

2: Models of Urban Development (14 Lectures)

- 2.2 Locational Equilibrium with Urban Economic Growth- Employment, Technology Change and Environment
- 2.3 Macro-spatial Patterns in Urban Development

2.4 Urban Agglomerations, Urban Clusters, Urban Shadows, Urban Dispersals, Urban Corridors and Axes

3. Urban Infrastructure and Labour Markets (14 Lectures)

- 3.1 Urban Infrastructure- Housing, Water Supply, Sanitation, Electricity, Public Transport, Education, Health Services, Sewerage Drainage System,
- 3.2 Financing of Urban Infrastructure- Urban Value Creation, Role of Urban Local Bodies
- 3.3 Urban Labour Markets- Migration, Hierarchy, Segmentation, Impact of Globalization
- 3.4 Economies of Agglomeration and Economies of Localization

4. Challenges of Urbanization (10 Lectures)

- 4.1 Urban Congestion, Urban Sprawls
- 4.2 Urban Labour Force, Urban Informal Sector
- 4.3 Urban Poverty, Housing and Slums
- 4.4 Urbanization and Environmental Issues
- 4.5 Urban Planning, Governance & Policy

Basic Reading List:

- 1 O'Sullivan, A (2009) Urban Economics, McGraw Hill Publication
- 2 Mohanty Prasanna (2014) 'Cities and Public Policy' Sage Publications
- 3 Mohanty Prasanna (2014) 'Financing Cities in India' Sage Publications
- 4 Ramchandran R. (1989) 'Urbanization and Urban System in India', OUP
- 5 Ray Chaudhari J (2001) "An Introduction to Development & Regional Planning with special reference to India." Orient Longman, Kolkata.
- 6 Shukla, V (1996) "Urbanization and Economic Growth" HPH

Reference Books:

1. Asian Development Bank (2009) 'Urban Poverty in India' BS Books
2. Beall Jo, Basudeb Guha-Khasnobis, Ravi Kanbur (2012) 'Urbanization and Development in Asia-Multidimensional Perspective', OUP
3. Das, R.B. (latest ed) 'Urban Planning and Local Authorities', OUP
4. Edwin S. Mills (1980) 'Urban Economics', Scott, Foresman and Co. London.
5. Gillis, M, Perkins, D, Roemer. P, D.R. Snodgrass (1983) 'Economics of Development'. W.W. Norton & Co. Inc.
6. Isher Judge Ahluwalia, Ravi Kanbur, P. K. Mohanty (2014) 'Urbanization in India: Challenges, Opportunities and the Way Forward', Sage Publications
7. McGranahan Gordon, George Martine (2014) 'Urban Growth in Emerging Economics: Lessons from the BRICS' Routledge
8. Mills, Edwin.S (2004) 'Handbook of Regional & Urban Economics', Volume 2- Urban Economics, (Ed.) Elsevier North Holland, The Netherlands.

9. Ray, Debraj (2011) 'Development Economics' Oxford University Press.
10. Shukla Vibooti (1988) 'Urban Development and Regional Policy in India: An Econometric Analysis', Himalaya Publishing House, Mumbai.
11. Sobhan Rehman (2010) 'Challenging the Injustice of Poverty: Agendas for Inclusive Development in South Asia' Sage Publications
12. Sivaramakrishnan K.C., Kundu A. & Singh B.N. (2010), 'Handbook of Urbanization in India', OUP

Reports & Periodicals:

India Infrastructure Reports

State of World Population 2007- Unleashing the Potential of Urban Growth, United Nations Population Fund.

Urban Development Reports, Ministry of Urban Development, GoI

World Development Reports, World Bank

World Urbanization Prospects, UNO

Recommended Journals:

Urban Studies, Urbanization, Urbanization and Environment- Sage

The Indian Economic Journal-Sage

Journal of Urban Management- Elsevier

Journal of Urban Economics- Science Direct

ELECTIVE COURSE-SEMESTER II
EC 2004- MATHEMATICAL ECONOMICS
(This course will have *FOUR* credits)

PREAMBLE

The role of Mathematics is equally important in Economics. The use of Mathematics can provide a better understanding of various areas under Economics with mathematical applications to economic theories and with the help of modelling techniques. Mathematical applications help understand, discuss and appreciate micro and macroeconomics concepts and theories better. Besides, applied economics make use of mathematical applications to provide more elaborate and enhanced understanding of challenges in the real world.

Course Objectives:

- To provide an understanding of Mathematics and its application under various topics under economics.
- To demonstrate the practical and the applied aspects of economics with the help of Mathematics.

Programme Outcome:

- Ability to develop, demonstrate and examine various topics under economics with the help of Mathematics.
- Ability to evaluate and examine subject areas in economics with the mathematical economics.

1. Review & Basic Applications in Economics (6 lectures)

- 1.1 The concept of Sets, Real and Number System
- 1.2 Identities, Equations and Inequalities
- 1.3 Power of Number; Logarithms and their Properties
- 1.4 Binomial Theorem; Sequences and their Formulas

2. Functions of a Single & Multiple Dependent Variable: (14 lectures)

- 2.1 Algebraic, Exponential and Logarithmic
- 2.2 Explicit, Implicit, and Inverse Functions
- 2.3 Polynomial Functional Diagrammatic Representation of Higher Order Function of a Single Variable
- 2.4 Market Demand, Supply Curves, Total Revenue, Cost Functions
- 2.5 Extensions of function - More than two independent variables
- 2.6 Indifference Curves, General Production Function, Isoquants
- 2.7 Production Possibility Frontiers and its use in Economics

3. Matrix Algebra (6 lectures)

- 3.1 Elementary operations of Addition, Multiplication etc.
- 3.2 Transpose and Inverse of Matrices. Rank of a Matrix

3.3 Solution of Simultaneous Equation using Matrices

4. Differential Calculus (12 lectures)

- 4.1 Limits of functions, Continuity at a point, Over and Interval
- 4.2 Rules of Differentiation Including Product, Quotient, and Chain Rule
- 4.3 Derivatives of Implicit Functions, Partial Derivatives, Constrained Optimization
- 4.4 Profit Maximization in the different types of Markets
- 4.5 Price Discrimination by Monopolist to Maximize Profits

5. Integration (10 lectures)

- 5.1 Indefinite integral of Algebraic, Exponential and Logarithmic Functions
- 5.2 Define Integrals
- 5.3 The relation between Average and Marginal concepts
- 5.4 Capital values under Continuous Interest

Basic Reading List:

1. Chaing A. C (2017) 'Fundamental Methods of Mathematical Economics' McGraw Hill Education
2. Edward Dowling (2011) 'Schaum's Outline of Introduction to Mathematical Economics' 3rd Edition (Schaum's Outlines), McGraw Hill Education
3. Simon Carl P. and Blume Lawrence (1994) 'Mathematics for Economists' W. W. Norton & Co.

Recommended Books:

1. Simpson Carl P. (2010) 'Mathematics for Economics' Viva Books
2. Hoy (2012) Mathematics for Economics, Prentice Hall India
3. Pemberton Malcolm, Nicholas Ray (2016) 'Mathematics for Economists' Manchester University Press
4. Rosser M. J. (1993) 'Basic Mathematics for Economists' Routledge
5. Sydsaeder Knut, Hammond p., Strom A. (2013) 'Essential Mathematics for Economics' Pearson Education
6. Yamane Taro (1981) 'Mathematics for Economists: An Elementary Survey' Prentice Hall India Learning Private Ltd.

Recommended Journals:

Indian Journal of Pure and Applied Mathematics-Springer
Journal of Mathematical Economics- Elsevier

ELECTIVE COURSE-SEMESTER II
EC 2005- MONEY MARKETS
(This course will have *FOUR* credits)

PREAMBLE

Finance Systems and Markets are specialized areas in Economics and Finance. Financial Markets discuss market structures, financial institutions, financial markets, financial instruments and services. The subject discusses the money markets in the Indian as well as the international context with reference to the changing structure, role of central bank, bank regulation, development of institutions and agreements.

Course Objectives:

- To develop an understanding of the financial system in the theoretical context.
- To interpret the developments in the money markets w.r.t. institutions and instruments.
- To compare and contrast the developments in the Indian Money Market vis-à-vis International Money Markets.
- To understand the changing backdrop of financial markets with focus on international flows and international regulation.

Programme Outcome:

- Ability to relate to the on-going changes in the financial markets in Indian Money Markets as well as global markets.
- Ability to discuss and debate on the changing scenario in global market.

1. Introduction (8 Lectures)

- 1.1 Structure of Financial Markets- Money and Capital Markets, Primary and Secondary Markets, Exchanges and Over-the-Counter Markets
- 1.2 Structure and Features of Money Market
- 1.3 Money Market in India- Characteristics

2. Constituents and Instruments in Money Markets (16 lectures)

- 2.1 Call Money Market
- 2.2 Treasury Bills Market
- 2.3 Repo and Reverse Repo Market
- 2.4 Commercial Bill Market
- 2.5 Certificate of Deposit Market (CD)
- 2.6 Commercial Paper (CP) Market
- 2.7 Money Market Mutual Funds (MMMFs)

3. Institutions in Money Markets (12 Lectures)

- 3.1 Discount and Finance House of India (DFHI) - Role and Functions

- 3.2 Securities Trading Corporation of India (STCI) – Role and Functions
- 3.3 Primary Dealers (PDs)
- 3.4 Satellite Dealers (SDs)

4. Global Money Markets Lectures)

(12

- 4.1 Money Market Comparisons- Cost of Funding, Liquidity and Interest Rate Risk
- 4.2 International Inter-bank Market, London Interbank Market, Euro Dollar Market-
Emergence & Features
- 4.3 Instruments in Global Markets- Short-term Securities- Asset Based & Mortgage-Backed, Floating-Rate Notes, Market Derivatives- Features
- 4.4 Bank Regulatory Capital Requirements and Capital Adequacy Requirements

Basic Reading:

1. Bhole, L. M. (2000) 'Indian Financial System' Chugh Publications, Allahabad
2. Bhole, L. M., Jitendra Mahakud (2017) 'Financial Institutions and Markets' Tata McGraw Hill, ND
3. Fabozzi Frank J., Steven V. Mann, Moorad Choudhry (2002) 'The Global Money Markets' John Wiley & Sons
4. Madura Jeff (2014) 'Financial Institutions and Markets' Cengage
5. Pathak, Bharati (2009) 'The Indian Financial System, Pearson Education

Recommended Readings:

1. Batra G.S. "Financial Services and Markets", New Delhi: Deep and Deep Publications Pvt. Ltd., Latest Ed.
2. Das S. C. (2015) 'The Indian Financial System: Markets, Instruments, Institutions, Services and Regulations' PHI Learning
3. Khan M.Y. "Indian Financial System", New Delhi: Tata McGraw-Hill Pub. Co
4. Kothari Rajesh. "Financial Services in India Concept and Application", New Delhi, Sage Publications. 2010.
5. Frederic Mishkin and Stanley Eakins (2006) 'Financial Markets and Institutions', Pearson 5th Edition
6. Gurusamy S (2004) "Financial Services and Markets", Vijay Nicole Imprints
7. Indian Institute of Banking & Finance (2017) 'International Banking Legal & Regulatory Aspects'
8. Machiraju H.R. (2006) 'Indian Financial System, Vikas Publications, New Delhi
9. Saunders Anthony and Cornett Marica Millon (2017) "Financial Markets and Institutions - An Introduction to the Risk Management Approach" McGraw Hill Education 3rd Edition

Recommended Journals:

Journal of Banking and Finance- Elsevier
Journal of Money, Credit and Banking- Wiley Online
Journal of East West Business – Francis & Taylor Online
Prajnan- Journal of Social and Management Sciences (NIBM)
The Journal of Business Perspective- Sage



Savitribai Phule Pune University

(Formerly University of Pune)

M.A. ECONOMICS SYLLABUS

(CREDIT & SEMESTER SYSTEM)

**Revised syllabus will be implemented with effect from the
academic year 2020-2021 at College & P.G. Centers**

M.A. ECONOMICS - PART II
(CREDIT & SEMESTER SYSTEM)

SYLLABUS: FROM JUNE 2020

Information:

The M.A. degree will be awarded to students who complete a total of 64 credits in a minimum of two years taking four courses per Semester (4X4=16 credits). Each course will be of 4 credits.

- A Student may take three courses (twelve credits) per semester from the parent department and therefore one course of four credits from any other department per semester. In case a student wishes to take all courses from the parent department he/she may also do so.
- All courses are open to all students from outside the department. Eligibility for registering for each course will be decided by the departmental committee.
- For the students doing M.A. degree in Economics the courses are divided into compulsory and Elective. Every student has to take three core courses and one elective course each semester.

Evaluation

- Each course will have 50% marks as End of Semester Examination and 50% marks for Continuous Assessment.
- The student has to pass in the combined total of Continuous Assessment and End of Semester Examination.
- In order to pass a student shall have to get minimum 40% marks (E and above on grade point scale) in each course. Any student getting less than 16 marks in each component will be declared as failed, even if the combined total is over 40%.
- If a student misses a Continuous Assessment examination, he/she will have a second chance with the permission of the teacher concerned. Students who have failed for the entire course may reappear at the semester-end exam. Their internal marks will not change. They can also repeat during the 5th /the 6th semester whichever is applicable

**Revised Syllabus To Be Implemented From Academic Year JUNE 2020-2021
at College & P.G. Centers**

M.A. Part- II, Semester- III		M.A. Part- II, Semester- IV	
Core Papers Compulsory Paper		Core Papers Compulsory Paper	
EC-3001	Macro Economics Analysis-I	EC-4001	Macro I Economics Analysis II
EC-3002	Growth & Development -I	EC-4002	Growth & Development II
EC-3003	Research Methodology- I	EC-4003	Research Project(Only Regular Students) Research Methodology - II (Only External Students)

(Any ONE to be selected)

Elective Papers		Elective Papers	
EC-3004	Economics of Finance	EC-4004	Econometrics
EC-3004	Demography	EC-4004	Public Policy
EC-3004	Capital Market	EC-4004	Economics of Environment
EC-3004	Industrial Economics	EC-4004	Foreign Exchange Market

M.A. ECONOMICS PART- II

SEMESTER III

CORE PAPERS (COMPULSORY PAPER)

01 - MACRO ECONOMICS ANALYSIS - I

02 - GROWTH AND DEVELOPMENT- I

03 - RESEARCH METHODOLOGY- I

**CORE COURSE
SEMESTER III
EC-3001
MACRO ECONOMICS ANALYSIS - I**
(This course will have *FOUR* credits)

PREAMBLE

Macroeconomics or aggregative economics analysis establishes the functional relationship between various aggregates of the economy. Aggregative analysis assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for proper comprehension of different issues and policies. Macroeconomics now is not only a scientific method of analysis but also a body of empirical economic knowledge. The course equips the students at the postgraduate level to understand systematic facts and theoretical developments for empirical analysis,

Course Objectives:

- To provide a thorough understanding of the principles of macroeconomics and the application of macroeconomic concepts in real-life situations.
- To discuss the modern developments in macroeconomics.

Programme Outcome:

- Ability to analyze and demonstrate knowledge of the basic theories/laws in macroeconomics.
- At the end of the course, the student should be able to evaluate macroeconomic concepts, models and its use in real life situations.

1. Traditional Approaches to Macroeconomics 12

- 1.1 Classical Approach-Introduction and main features
- 1.2 Keynesian Approach-Introduction and main features
- 1.3 Neoclassical Approach-Introduction and main features

2. National Income and Social Accounting 12

- 2.1 Circular Flow Income in two-three and four sector economy
- 2.2 Different forms of national income accounting-
 - 2.2.1 Social accounting
 - 2.2.2 Input-output accounting
 - 2.2.3 Flow of funds Accounting
 - 2.2.4 Balance of payments Accounting
 - 2.2.5 Matrix presentation of Social Accounting

3. Demand and Supply of Money 12

- 3.1 Definition of Money, Debates relating to definition of Money
- 3.2 The Liquidity Theory, Gurley and Shaw Hypothesis, Demand for Money-Classical and Keynesian
- 3.4 Cash Balance Approach- Post Keynesian Theories of Demand for Money, Tobins Approach, Baumol's Inventory Theoretic Approach, Friedman's Theory of Demand for Money.

4. Supply of Money

12

- 4.1 Financial Intermediation
- 4.2 A Mechanistic Model of Bank Deposit Determination.
- 4.3 A Behavior Model of Money Supply Determination,
- 4.4 A Demand-determined Money Supply process,
- 4.5 RBI approach to Money Supply-High Powered Money and Money Multiplier; Budget Deficit and Money Supply, Money Supply and Open Economy.
- 4.7 Control of Money Supply.

BASIC READING LIST:

1. August Swanenberg (2005) 'Macroeconomics Demystified' A Self Teaching Guide, McGraw Hill Education
2. Ackley,G.(1978), Macro Economics : Theory and Policy, Macmillan, New York.
3. Agrawal Vanita, Macroeconomics: Theory and Policy, Pearson Publication, New Delhi.
4. Ahuja H.L., Macroeconomics: Theory and Practice, S.Chand & Co. New Delhi.
5. Blackhouse, R. and A. Salansi (Eds.) (2000) Macroeconomics and the Real World (2 Vols.), Oxford University Press, London. Dornbusch,
6. Campbell R. McConnell, Stanley L. Brue, (2001) Macroeconomics: Principles, Problems and Policies', McGraw Hill, Inc, New York.
7. Froyen Richard T (2006) 'Macroeconomics– Theories and Policies' Pearson Education; 8th edition
8. Gupta S.B. (1997) 'Monetary planning for India' OUP
9. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
10. Mankiw Gregory (2007) 'Macroeconomics' Worth, New York
11. Rao, V.K.R.V. (1983) India's National Income : 1950 to 1980, Sage Publications, New Delhi
12. Gupta, S.B. (1995), Monetary Planning in India, OUP, New Delhi.
13. Sampat Mukherjee (2013), 'A Global Text-Macroeconomics', New Central Book Agency
14. Soumyen Sikdar (2006) 'Principles of Macroeconomics' Oxford University Press

Recommended Readings:

1. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
2. Culbertson, J.M. (1968), Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogenkosh, Tokyo.
3. Duesenberry, J.S. (1949), Income Saving and the Theory of Consumer Behaviour. Harvard University Press, Harvard.
4. Edey, M. and A.T. Peacock (1967), National Income and Social Accounts, Hutchinson University Library, London
5. Fisher, Dornbusch, Schamalensee (1988) 'Economics' McGraw Hill International Edition ; 2nd edition
6. Friedman, M. (1957), The Theory of Consumption Function, Princeton University Press Princeton.
7. Friedman, M. (1956), Studies in the Quantity Theory of Money, The University of Chicago Press, Chicago
8. Glahe, Fred, R.(1973), Macroeconomics: Theory and Policy, Harcourt Brace Javanovich, Inc, New York.
9. Harris Lawrence (1980) 'Monetary Theory' McGraw Hill Inc.
10. Keynes, J.M. (1936), 'The General Theory of Employment Interest and Money',

Macmillan, London.

11. Ruggles, R. and N. Ruggles (1956), National Income Accounts and Income Analysis, McGraw Hill New York.
12. Shapiro, E.(1996) Macroeconomic Analysis, Galgotia Publications, New Delhi.
13. D.Wrightsman 'An Introduction to Monetary Theory and Policy' The Free Press New York 1983
14. Bhise V.B , Khandare V.B & Babar , (2014) Macro Economics ,Chinmay Publication Aurangabad.
15. Kute S & Rithe M ,Macro Economics , Prashant Publication Jalgaon, MS ,India.

Recommended Journals:

Applied Economics- Taylor & Francis Online

Journal of Macroeconomics-Elsevier

Macroeconomics and Finance in Emerging Market Economies- Taylor & Francis Online

The Indian Economic Journal- Sage Journal

CORE COURSE
SEMESTER III
EC- 3002
GROWTH AND DEVELOPMENT- I
(This course will have *FOUR* credits)

PREAMBLE

The course makes an attempt to provide an introduction to the economics of Growth and Development and at the same time provide an understanding of the analytical rigour of the subject. Growth and Development-I is a core course that covers meaning and concept of Economic Growth and Development, measuring the economic growth and development, theories of economic growth and development, poverty, inequality and unemployment and role human capital in economic development . Growth and development-I will try to clear the concepts regarding the economic growth and development and provides basic knowledge to the students to get engaged in the activities.

Course Objectives:

- To enable learning and understanding of the basic concepts and process to measure the growth and economic development etc.
- To analyze and evaluate the obstacles in the process of economic growth and development

Programme Outcome:

- Ability to apply the concepts of economic growth and compare international comparison of economic development, etc.
- Ability to analyze and demonstrate knowledge of the economic growth and development theories of economic growth and development

1 Principles and Concepts of Growth and Development **12**

1.1 Concepts of growth and Development

1.2 Measuring Economic Development: Income and Alternative Measures

1.3 International Comparison of Incomes: PPP and Exchange Rate Approaches

1.4 Developing / Emerging Economies – Concept

1.5 Barriers to Economic Development

2 Theories of Economic Development and Growth **12**

2.1 Classical Theory of Economic Development: Adam Smith

2.2 The Harrod-Domar Model

2.3 Solow model of economic growth

2.4 The Cobb-Douglas Production Function

2.5 The Big push theory

2.6 The New (Endogenous) Growth Theory

3 Poverty, Inequality and Unemployment **12**

3.1 Measurement of Poverty- Uni-dimensional & Multi-dimensional, Amartya Sen's Approach to Poverty measurement, Rural and Urban Poverty, Participatory Approach to Poverty, Women and Poverty

3.2 Measuring Inequality, Lorenz Curve, Gini Coefficient, Functional Distribution,

3.3 Challenge of Unemployment, Disguised Unemployment and Economic Development, Concept of Jobless Growth

3.4 Employment and Migration

4 Human Capital and Economic Development

12

- 4.1 Theory of Demographic Transition
- 4.2 Human Capital Approach of Development
- 4.3 Demographic Dividends
- 4.3 Education, Skill and Wages, Health and Efficiency to Work
- 4.5 Optimum Population

Basic Reading List:

1. Basu Kaushik (1998) Analytic Development Economics: The Less Developed Economy Revisited', OUP
2. Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
3. Felix Raj, Sampat Mukherjee, Mallinath Mukherjee, Amitava Ghose, Ranjanendra N. Nag (2007) "Contemporary Development Economics From Adam Smith to Amartya Sen", New Central Book Agency Private Limited
4. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development,(3rd Edition), W.W. Norton, New York.
5. Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York
6. Meier Gerald M. and James E. Rauch, "Leading Issues in Economic Development" Oxford University Press, 2006
7. Ray Debraj (1998) "Development Economics", Oxford University Press
8. Solow Robert M. (2000) "Growth Theory An Exposition" Oxford University Press
9. Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
10. Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.

Recommended Readings:

1. Banerjee Abhijit V, Esther Duflo (2013) 'Poor Economics: Rethinking Poverty & the Ways to End it' Penguin
2. Barro Robert J. and Xavier Sala-i-Martin (2004) "Economic Growth " Prentice Hall of India Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
3. Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols.1 & 2, Elsevier, Amsterdam
4. Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
5. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development,(3rd Edition), W.W. Norton, New York.
6. Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), Oxford University Press, New Delhi.
7. Nayyar Deepak (2019) 'Resurgent Asia' OUP
8. Todaro Michael (1981) "Economics for A Developing World", Longman, London.
- 9 Wavre Anilkumar & Londhe M , Economics of Development and Planning , (2019) Educational Publishers , Jalgaon , MS, India.

Reports:

- Human Development Report, 1995-2009, UNDP, OUP Latest Reports
- RBI Bulletin (latest issues)
- World Development Report, Latest Reports
- World Development Indicators, World Bank, OUP, Latest Reports

Recommended Journals:

Economic Development and Cultural Change- Chicago Press

Journal of Development Economics-Elsevier

IMF Economic Review- Palgrave Macmillan

Oxford development Studies- Routledge

Review of Development Economics-Wiley

Review of World Economics-Springer

Review of Economic Dynamics- Elsevier

CORE COURSE
SEMESTER III
EC- 3003
RESEARCH METHODOLOGY I
(This course will have *FOUR* credits)

PREAMBLE

The main objective of this paper is to make the students aware of the importance of Research Methodology. Today research is of importance in every field of life. Hence students need sound initiation in the world of research. Thus this syllabus is prepared to equip students with basics of research methodology and also provide them acquaintance with the main ingredients of major sources secondary data on Economics, some hands-on experience in conduct so survey including designing questionnaire and interview schedules, collection of data, analysis of data and preparation of report.

Course Objectives:

- To enable an understanding of Research and its methods under various areas of economics.
- To demonstrate the practical and the applied aspects of research in relation to Economics.

Programme Outcome:

- Ability to develop, demonstrate and examine topics under Economics to pursue research.
- Ability to evaluate and examine subject areas in economics and explore possibilities of research.

1 Introduction

08

- 1.1 Research : Meaning ,Nature , Scoup. And Importance
- 1.2 Scientific Research : Methods - Stages /Steps
- 1.3 Social Science Research - Meaning ,Nature , Scoup. And Importance
- 1.4 Review of Literature- Need, Scope, Use and Precautions

2 Research Problem And Design

10

- 2.1 Research Problem- Meaning, Identification and Selection of Research Problems
- 2.2 Research design ; Meaning , Objective ,
- 2.3 Need , Characteristics of Research design
- 2.4 Types of research Design – Descriptive, Diagnostic ,Exploratory, Experimental

3 Data Collection And Data Analysis

12

- 3.1 Collection of Data – Meaning ,Importance
- 3.2 Sources of data – Primary Data And secondary data
- 3.3 Methods of Primary Data Collection- Questionnaire and Interview method, Schedule , Observation Method;
- 3.4 Secondary Data Sources
- 3.5 Sampling Method –Meaning and Types—(Probability and Non-probability)
- 3.6 Analysis of Data- Classification and Tabulation of Data
- 3.7 Computer Use Of Data Analysis

4 Testing of Hypothesis

12

- 4.1 Hypothesis: Definitions, Characteristics and Importance
- 4.2 Types Of Hypothesis
- 4.3 Procedure of Hypothesis Testing

- 4.4 Basic Concepts: Level of Significance, Statistical Errors (Type --I and Type II Error)
 4.3 Procedure of Testing of Hypothesis- Parametric and Non-Parametric tests

5 Report Writing

10

- 5.1 Objective of Report Writing
 5.2 Importance of Research Report,
 5.3 Features of Research Report
 5.4 Steps/ Element of Research Report
 5.5 Report Writing: Considerations and Precautions,
 Ordering References , Bibliography and Appendix in Research

Basic Reading List:

1. Banamati Mohanty (2015) 'Statistics for Behavioral and Social Sciences' Sage Texts
2. Bryman Alan (2018) 'Social research methods' OUP
3. Cooper Donald R. & Pamela S. Schindler (1999), "Business Research Methods", Tata McGraw-Hill Edition, New Delhi
4. Flick Uwe (2011) 'Introducing Research Methodology' Sage Publications
5. Kothari C. R, Gaurau Garg (2019) 'Research Methodology, Methods and Techniques', New Age International Publications, 4th Edition
6. Kumar Ranjit, (2012), "Research Methodology" 2nd Ed, Pearson Education
7. Wilkinson and Bhandarkar (2016) 'Methodology and Techniques of Social Science Research; HPH
8. Willson Jonathan (2017) 'Essentials of Business Research: A Guide to Doing Your Research Project' Sage Publications

Recommended Readings:

1. Basotia G.R. Sharma K.K. (1999) 'Research Methodology' Mangal Deeop Publications
2. Don E. Ehridge (2004) 'Research Methodology in Applied Economics: Organizing Planning and Conducting Economics Research', John Wiley and Sons
3. Gopal M.H. (1971) 'An Introduction to Research Procedure in Social Sciences', Asia Publishing House
4. Kothari S. R (2012) 'Research Methodology, Methods and Techniques', Pragnun Publications.
5. Khandhare V.B., Yadav Y.,2016, Chinmay Publication ,Aurangabad.
6. Krishnaswamy, O.R. (1993) 'Methodology of Research In Social Sciences, HPH
7. Kurein C. T. (1973) A Guide to Research in Economics' Sangam Publishers for Madras Institute of Development Studies
8. Les Oakshott (2012) 'Essential Quantitative Methods for Business, Management and Finance', Palgrave Macmilan, 5th edition
9. Moser C.A., G. Kalton (1985) 'Survey Methods in Social Investigations' Routedledge
10. BAV Sharma D Ravindra Prasad and P. Satyanarayana (1983) Research Methods in Social Sciences' Sterling publishers, New Delhi
11. Sadhu AN, Amarjit Singh (2007) 'Research Methodology in Social Sciences' HPH
12. Thakur Devendra (2009) 'Research Methodology in Social Sciences' Deep and Deep Publications
13. Young P.V. (1984) 'Scientific Social Survey and Research', Prentice Hall -India

Recommended Journals:

Journal of Mixed Methods Research- Sage

Journal of Applied Social Sciences- Sage

Research in Economics- Elsevier

Social Science Research- Elsevier

The Social Science Journal – Elsevier/ ScienceDirect

M.A. ECONOMICS PART- II

SEMESTER III

ELECTIVE PAPERS

EC-3004

(Choose Any ONE Paper)

- 01- ECONOMICS OF FINANCE**
- 02- DEMOGRAPHY**
- 03- CAPITAL MARKETS**
- 04- INDUSTRIAL ECONOMICS**

ELECTIVE COURSE
SEMESTER III
EC-3004
ECONOMICS OF FINANCE
(This course will have *FOUR* credits)

PREAMBLE

The positive and significant role of financial institutions in the process of growth and development has been very well recognized in the literature and indeed has become more important during the last two decades as the financial systems of different countries have become integrated in the process of globalization. It is, therefore, essential that the student of economics should be well conversant with the theory and practice of different financial institutions and markets; to understand and analyze the interconnection between the monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.

Course Objectives:

- To provide an understanding of Finance and its application under various topics under economics.
- To demonstrate the practical and the applied aspects of Finance in relation to Economics.

Programme Outcome:

- Ability to develop, demonstrate and examine various topics under Finance with the help of Economics.
- Ability to evaluate and examine subject areas in economics bringing out the relation to finance.

1. Introduction	10
1.1 Role of Finance in economic development.	
1.2 Structure and functioning of the Financial system – Financial Intermediaries, Financial Markets and Financial Instruments	
1.3 Markets and Aspects of Risk Sharing, The Problem of Agency	
2. Basic Financial Calculations	10
2.1 Types of Financial securities- Fixed Income Securities, Bonds, Index-linked securities	
2.2 The time value of money, Future Value of Asset, Present Value of Asset; Future and present values of multiple cash flows.	
2.3 Relation Between Inflation and Interest Rates, Real and Nominal Cash Flows, Valuing Real Cash Payments, Effective Annual Interest Rates	
2.4 Bond valuation- Characteristics of Bonds.	
3. Portfolio Theory	10
3.1 Asset Return- random variables and random returns	
3.2 Capital Asset Pricing, Validity of CAPM (Capital Asset Pricing Model), the CAPM, Risk and Return	
3.3 Arbitrage Pricing Theory	
3.4 Measuring portfolio return and risks, effect of Diversification, Minimum Variance Portfolio, Perfectly Correlated Assets, Minimum Variance Opportunity Set, Optimal Portfolio Choice; Mean Variance Frontier Of Risky and Risk-Free Asset, Portfolio Weights	

- 4. Efficient Market Hypothesis** 10
- 4.1 Efficient Market Hypothesis
- 4.2 Valuing Stocks, Book Values, Liquidation Values and Market Values, Valuing Common Stocks, The Price-Earnings Ratio
- 4.3 The Dividend Discount Model -The Dividend Discount Model with No Growth, The Constant-Growth Dividend Discount Model

- 5. Risk, Return, and Capital Budgeting** 08
- 5.1 Measuring Market Risk, Using the CAPM to Estimate Expected Returns, Capital Budgeting and Project Risk, Determinants of Project Risk
- 5.2 Introduction to risk, return and opportunity cost of capital, Estimating Expected Rates of Return,
- 5.3 Measuring Risk Variance and Standard Deviation Measuring the Variation in Stock Returns Risk and Diversification Asset versus Portfolio Risk

BASIC READING LIST

1. Bhole L.M. (2004) 'Financial Institutions and Markets', Tata McGraw Hill
2. Chandra P. (2017), 'Investment Analysis and Portfolio Management', McGraw Hill Education, Fifth Edition
3. Frederic Mishkin (2019) 'The Economics of Money, Banking and Financial Markets' Pearson Education India, 11th edition
4. Frederic Mishkin and Stanley Eakins (2006) "Financial Markets and Institutions", Pearson 5th Ed
5. Fabozzi Frank J. (2016) Bond Market Analysis and Strategies' Pearson, 8th edition
6. Hull John C (2018) "Fundamentals of Futures and Options Market", Pearson Education, 9th Edition
7. Hull John C, Sankarshan Basu (2018) "Options, Futures and Other Derivatives", Pearson Education, 10th Edition
8. Richard A Brealey, Stewart C Myers, and Alan J. Marcus (2003) 'Fundamentals of Corporate Finance', Third Edition; McGraw-Hill, Inc

Recommended Books

1. Ajay Shah Susan Thomas Michael Gorham (2008) "Indian Financial Markets: AN Insider's Guide to How the Market Works" Elsevier Science
2. Baye Micheal R, Dennis W Jansen (1996) " Money, Banking & Financial Markets An Economic Approach", A.I.T.B.S. Publishers & Distributors. Delhi
3. Chandra P. (1997), "Financial Markets", Tata McGraw Hill, 4th Edition
4. David G. Lueberger (2012) "Investment Science", OUP, 1st edition
5. Elton Edwin J, Martin J Gruber, Stephen J Brown & William Goetzmann (2002) "Modern Portfolio Theory and Investment Analysis" John Wiley & Sons
6. Fama E.F. (1997) "Foundations of Finance", Basil Blackwell, Oxford, Ch.5
7. Hauthkhar H.S., Williamson P.J., (1996) "The Economics of Financial Market", OUP
8. Hearth Douglas & Zaima J K (1998) "Contemporary Investment: Security and Portfolio Analysis" The Dryden Press
9. Hull John C (2018) "Risk Management and Financial Institutions", John Wiley & Co
10. LeRoy Stephen F, Jan Werner (2014) "Principles of Financial Economics" Cambridge University Press
11. Ross Stephen and Rudolph W.W., (1998) "Fundamentals of Corporate Finance", McGraw Hill

12. Smith, P.F., (1978), “Money and Financial Intermediation: The Theory and Structures of Financial System”, Prentice Hall
13. Susan Thomas, (ed) (2003) “Derivatives Market in India”, Invest India
14. Wavre A. & Dhonde S , Finance of Village Panchayat , Shubhan publication , Kanpur. UP, India
15. Zvi Bodie, Robert C. Merton, Devid L. Cleeton (2008) “ Financial Economics” Pearson

Recommended Journals:

Journal of Finance- Wiley Online
Journal of Applied Statistics- Francis & Taylor
Journal of Banking and Finance – Elsevier
Global Finance Journal – Elsevier

ELECTIVE COURSE
SEMESTER III
EC-3004
DEMOGRAPHY
(This course will have *FOUR* credits)

PREAMBLE

The main objective of this paper is to make the students aware of the importance of population in economic development and the various theories that explain the growth of population in a country. The paper also enlightens the students on the quantitative and the qualitative aspects and characteristics of the population through various demographic techniques. In recent times, the gender aspect of the population has acquired importance and these have also been included in the framework of study. Fertility and Aging are also vital characteristics of the undergoing structural change. Their study is essential to understand the dynamics of this change. The paper exposes the students to sources of population and related characteristics and also to the rationale, need and evolution of population policy.

Course Objectives:

- To provide an understanding of Demography and its application under various topics under economics.
- To demonstrate the practical and the applied aspects of Demography and the study of Population and its relation to Economics.

Programme Outcome:

- Ability to develop, demonstrate and examine various topics under Demography.
- Ability to evaluate and examine subject areas in economics bringing out the relation to population studies and demography.

1. Demography	10
1.1 Demography: Evolution, Nature and Scope	
1.2 Development of Population Studies - relationship with other disciplines	
1.3 History of Population Growth – Primitive, Pre-Industrial, Developed and Developing	
1.4 Population Growth- Components, Interdependence, World Population Growth and Distribution, Growth in Developed and Developing Countries	
1.5 Measures of Population Growth- Sources of Demographic Data	
2. Population theories	14
2.1 The Malthusian theory	
2.2 Post-Malthusian Theories	
2.3 The Optimum Population Theory	
2.4 The Theory of Demographic Transition	
2.5 Population and Development (Meadows, Enke and Simon)	
3. Population structure and characteristics	10
3.1 Structure of Population, Growth Rate and	
3.2 Mortality- Meaning, Measurement of Mortality, Measures - causes of death.	
3.3 Fertility- Meaning, Measurement of Fertility, Extent and Trends of Fertility, Factors affecting Fertility, Fertility Differentials in India	
3.4 Pattern of Age and Sex Structure- Determinants, Impact and Implications; Age and Population	

4. Population and Development 14

- 4.1 Relation between Population and Development; Effects of Development on Population Growth and vice versa
- 4.2 Population and Natural Resources- Demographic and Socio-economic factors influencing Saving, Investment, Capital Formation and Technology
- 4.3 Population and Labour force- Population and Employment, Economically Active Population, Work Participation
- 4.4 Women and Development- Indicators of Status of Women, Inter-relation between Status of Women and Demographic Change
- 4.5 Population Policy in India- Shift from Population Control from Welfare and Empowerment; Strategies for Population Control and Human Development, Challenges to National Population Commission

Basic Reading List

1. Bogue, D.J. (1971), Principles of Demography, John Wiley, New York
2. Bhende, Asha A., Tara Kanitkar (2013) *Principles of Population Studies*, Himalaya Publishing House, Mumbai
3. Mujumdar P. K (2013) "Indian's Demography: Changing Demographic Scenario in India", Rawat Publications
4. Sinha V.C., Easo Zacharia (1986) 'Principles of Demography' Allied Publishers, 2nd Edition
5. Srinivasan Krishnamurthy (2017) "Population Concerns in India: Shifting Trends, Policies and Programs" Sage Publications
6. Srinivasan, K. and A. Shariff (1998), India: Towards Population and Demographic Goals, Oxford University Press, New Delhi

Reports

1. Census of India, Census Commissioner and Registrar General of India, Government of India, New Delhi, Latest Census
2. Family Welfare Programme in India, Year Book 2012, Government of India
3. National Family Health Survey, Government of India & IIPS, Mumbai, Recent Reports
4. National Population Policy 2000, Government of India
5. United Nations (1973) "Determinants and Consequences of Population Trends"

Recommended Books

1. Agarwala S.N. (1972), "India's Population Problem", Tata McGraw-Hill Co
2. Bose, A. (1996), "India's Basic Demographic Statistics", B.R. Publishing, New Delhi
3. Chakraborti Rajagopal D (2004) "The Greying of India: Population Ageing in the Context of Asia" Sage Publications
4. Chenery H., T.N. Srinivasan (Eds.) (1989), "HandBook of Development" Economics, Vol.1 & 2 Elsevier, Amsterdam
5. Choubey, P.K. (2000), "Population Policy in India", Kanishka Publications, New Delhi
6. Dasgupta Sukti, Sher Singh Verick (2016) "Transformation of Women at Work in Asia: An Unfinished Development Agenda" Sage Publications
7. Easterlin Richard A (1987) "Population and Economic change in Developing Countries", National Bureau of Economic Research, University of Chicago Press
8. G Giridar (Ed) (2014) "Population Aging In India" Cambridge University Press
9. Gulati, S.C. (1988), "Fertility in India: An Econometric Study of a Metropolis", Sage, New Delhi. Economics
10. Seth Mira (2001) "Women and Development: The Indian Experience", Sage

11. Simon, J.L. (1992), "Population and Development in Poor Countries", Princeton University Press.
12. Srinivasan, K. (1998), "Basic Demographic Techniques and Applications", Sage, New Delhi
13. Kute S & Rithe M, Demography, (2017), Prashant Publication, Jalgaon MS, India.

Recommended Journals:

Antyajaa – Indian Journal of Women and Social Change - Sage
Demography – Springer
Economic and Political Weekly
Journal of Population Research - Springer
Journal of Demographic Economics - Cambridge
Management and Labour Studies- Sage
Population and Development Review – Wiley Online
Population Studies – Taylor and Francis Online

ELECTIVE COURSE
SEMESTER III
EC-3004
CAPITAL MARKETS
(This course will have *FOUR* credits)

PREAMBLE

Finance Systems and Markets are specialized areas in Economics and Finance. Financial Markets discuss market structures, financial institutions, financial markets, financial instruments and services. The subject discusses the capital markets in the Indian as well as the international context with reference to the changing structure, role of regulatory bodies, self-regulation, development of various new instruments and institutions.

Course Objectives:

- To develop an understanding of the financial system in the theoretical context.
- To interpret the developments in the capital markets w.r.t. institutions and instruments and compare and contrast with International Capital Markets

Programme Outcome:

- Ability to interpret and analyze the scenario in Indian and Global markets.
- Ability to discuss and debate on the changing scenario in global market.

1 Introduction

12

1.1 Structure of Capital Market-

- 1.1.1 Government Securities Market and Industrial Securities Market;
- 1.1.2 Primary and Secondary Markets,
- 1.1.3 Equity, Debt & Derivatives Market

1.2 Developed and Underdeveloped Capital Markets

1.3 Regulation of Capital Markets-Securities & Exchange Board of India (SEBI)-Objective & Role

2 Constituents & Instruments of Capital Market

12

2.1 Government

2.2 Stock Exchanges- Meaning & Types

2.3 Financial Institutions

2.4 Commercial banks

2.5 Credit Rating Agencies- Purpose & Role

2.6 Other Institutions – Mutual Funds, Merchant Bankers, Underwriters, etc.

2.7 Portfolio Investors (Foreign Institutional Investors)

2.8 Instruments in the Capital Market- Equity, Debt & Derivatives- Types; Hybrid Instruments

3 Stock Exchanges

12

3.1 Stock Exchanges- Meaning and Types

3.2 Stock Exchanges-Operations and Trading, Settlement

3.3 Stock Market Indices- Meaning & Calculation of Stock Indices (BSE/NSE)

3.4 Demutualization of Stock Exchanges

3.4 Dematerialization of Stocks/Shares

4 Indian Capital Market Changing Scenario

12

- 4.1 Changes in the Indian Capital Market Pre and Post Liberalization
- 4.2 Emergence of Financial Services- Venture Capital, Lease Finance, Angel Finance, Crowd Funding, Pension Funds
- 4.3 Globalization of Capital Markets – Instruments, Intermediaries and Risk Management
- 4.4 Risk Management and Financial Crisis in Emerging Market Economies

Basic Reading:

1. Brandl Micheal (2019) ‘Money, Banking, Financial Markets and Institutions’ Cengage Learning
2. Bhole, L. M., Jitendra Mahakud (2017) ‘Financial Institutions and Markets’ Tata McGraw Hill, ND
3. Fabozzi Frank J., Steven V. Mann, Moorad Choudhry (2002) ‘The Global Money Markets’ John Wiley & Sons
4. Frederic Mishkin and Stanley Eakins (2006) ‘Financial Markets and Institutions’, Pearson 5th Edition
5. Madura Jeff (2014) ‘Financial Institutions and Markets’ Cengage
6. Saunders Anthony and Cornett Marica Millon (2017) “Financial Markets and Institutions - An Introduction to the Risk Management Approach” McGraw Hill Education 3rd Edition

Recommended Readings:

1. Bhole, L. M. (2000) ‘Indian Financial System’ Chugh Publications, Allahabad
2. Batra G.S. “Financial Services and Markets”, New Delhi: Deep and Deep Publications Pvt. Ltd., Latest Ed.
3. Das S. C. (2015) ‘The Indian Financial System: Markets, Instruments, Institutions, Services and Regulations’ PHI Learning
4. Kothari Rajesh. “Financial Services in India Concept and Application”, New Delhi, Sage Publications. 2010.
5. Gurusamy S (2004) “Financial Services and Markets”, Vijay Nicole Imprints
6. Meir Kohn (2013) ‘Financial Institutions & Markets; OUP
7. Machiraju H.R. (2006) ‘Indian Financial System, Vikas Publications, New Delhi
8. Pathak, Bharati (2009) ‘The Indian Financial System, Pearson Education

Recommended Journals:

Indian Journal of Research in Capital Markets-
Journal of Capital Markets- Elsevier
Journal of Capital Market Studies- Emerald Insights

ELECTIVE COURSE
SEMESTER III
EC-3004
INDUSTRIAL ECONOMICS
(This course will have *FOUR* credits)

PREAMBLE

The main objective of this paper is to make the students aware of the importance of industrial sector in economic development. The paper explores the emergence of Industrial economics as a separate area of study; the theories of location are discussed and debated in the present context and analyzed with reference to the development of the industrial sector. The study is essential to understand the dynamics of the changes in the Industrial sector in India as well as around the world. The paper exposes the students to the current challenges to the industrial sector – growth, productivity, changing policy and performance.

Course Objectives:

- To provide an understanding of Industry, Industrial sector and growth and its relation to various economic issues and challenges.
- To demonstrate the practical and the applied aspects of Industrial economics and the study of Industry and its relation to Economics.

Programme Outcome:

- Ability to develop, demonstrate and examine various topics under Industrial Economics.
- Ability to evaluate and examine subject areas in economics bringing out the relation to industry and industrial development.

1 Introduction

10

- 1.1 Industrial Economics – Emergence, Meaning and Definition
- 1.2 Scope and Importance of Industrial Economics
- 1.3 Classification of Industries
- 1.4 New Empirical Industrial Organization Approach

2 Theories of Industrial Location

14

- 2.1 General Determinants of Industrial Location
- 2.2 Theories of Industrial Location
 - 2.2.1 Alfred Weber’s Theory of Industrial Location
 - 2.2.2 Sergeant Florence’s Theory of Industrial Location
- 2.3 Policy of Industrial Location in India
- 2.4 Need for Balanced Regional Development

3 Industrial Productivity and Growth

10

- 3.1 Industrial Productivity - Norms and Measurement
- 3.2 Factors affecting Productivity and measures to improve Productivity,
- 3.3 Public Enterprises- Efficiency, Productivity and Performance
(Case for/against India)
- 3.4 Skill Development and Industrial Productivity
- 3.5 Industrial Growth in India: Cause for Concern, Challenges to Private Sector
- 3.6 Policy Measures to enhance Industrial Growth

4 Industrial Policies in India

14

- 4.1 Industrial Policy in India – Progress since 1991
- 4.2 Developments in Industrial Policy – Special Economic Zones, ‘Make in India’, Public Private Partnership
- 4.3 Changing Role and Performance of Public and Private Sector in India
- 4.4 Developments in Policy for MSMEs since 1991
- 4.5 Development in FDI Policy, Emergence of Indian Multinational Companies
- 4.6 Globalization of Labour Markets and Impact of Emerging Economies

Basic Reading List:

1. Barthwal R.R. (2019), ‘Industrial Economics,’ New Age Publications
2. Das Keshab (2011) ‘Micro and Small Enterprises in India: The Era of Reforms’ Routledge India
3. Flanagan Robert J. (2006) ‘Globalization and Labor Conditions: Working Conditions and Worker Rights in a Global Economy, OUP
4. Hajela, P.D. (1998), Labour Restructuring in India: A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi
5. Jaya Prakash Pradhan (2008) ‘Indian Multinational in the World Economy: Implications for Development’, Bookwell Publications
6. Khanna Tarun (2008) ‘Billions of Entrepreneurs: How India and China are Reshaping their Future and Yours’ Penguin India
7. Gupta Parul (2019) ‘Industrial Relations and Labour Laws for Managers’ Sage Pub.
8. Sharma RC (2016) ‘Industrial Relations and Labour Laws’ PHI Learning
9. Sinha P.R.N., Indu Bala Sinha (2017) Industrial Relation Trade Unions and Labour Legislation Pearson Publication. New Delhi
10. Saumitra Mohan (2018) “Indian Policy and Development: A Manual for National Schemes and International Policies” McGraw Hill Education

Recommended Readings:

1. Agarwal Aradhana (2012) ‘Social and Economic Impact of SEZs in India’ Oxford University Press
2. Amit Kumar (2013) ‘SMEs in India in post-1990s Era: Challenges and Opportunities, LAP Lambert Academic Publishing
3. Barthwal R.R. (1985), ‘Industrial Economics,’ Wiley Eastern Ltd., New Delhi.
4. Desai, B. [1999], ‘Industrial Economics in India,’ HPH
5. Divine, P.J. and R.M. Jones et.al. (1976), ‘An Introduction to Industrial Economics,’ George, Allen and Unwin Ltd., London.
6. Kumar V Pratap, rajesh Chakrabarti (2018) Public-Private Partnerships in Infrastructure: Managing the Challenges (India Studies in Business and Economics) Springer
7. Kuchhal, S.C. (1980), Industrial Economy of India, Chaitanya Publishing House, Allahabad.
8. Singh, A. A.N. Sandhu. [1988], ‘Industrial Economics,’ HPH
9. Vepa R. K, (1988) Modern Small Industry in India, Sage Publication
10. Venkataratnam, C.S. (2001), Globalization and Labour- Management Relations: Dynamics of Changes, Sage Publications/Response Books, New Delhi.

Recommended Journals:

Applied Economics- taylor & Francis Online
International Journal of Economics and Business research- Inderscience
International Journal of Industrial Organization- Elsevier
The Journal of Industrial Economics- Wiley
The Journal of Industrial Economics- Scimago

M.A. ECONOMICS PART- II

SEMESTER IV

CORE PAPERS(COMPULSORY PAPER)

EC- 4001 - MACRO ECONOMIC ANALYSIS II

EC- 4002 - GROWTH & DEVELOPMENT II

EC- 4003 - RESEARCH PROJECT

(ONLY RGULAR STUDENTS)

EC- 4003 - RESEARCH METHODOLOGY

(ONLY EXTERNAL STUDENTS)

CORE COURSE
SEMESTER IV
EC- 4001
MACRO ECONOMIC ANALYSIS II
(This course will have *FOUR* credits)

PREAMBLE

Macroeconomics or aggregative economics analysis establishes the functional relationship between various aggregates of the economy. Aggregative analysis assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for proper comprehension of different issues and policies. Macroeconomics now is not only a scientific method of analysis but also a body of empirical economic knowledge. The course equips the students at the postgraduate level to understand systematic facts and theoretical developments for empirical analysis,

Course Objectives:

- To provide a thorough understanding of the principles of macroeconomics and the application of macroeconomic concepts in various contexts.
- To discuss the modern developments in macroeconomics.

Programme Outcome:

- Ability to analyze and demonstrate knowledge of the basic theories/laws in economics- general equilibrium psychological law of consumption, etc.
- At the end of the course, the student should be able to evaluate macroeconomic concepts, models and its use in real life situations.

1. Aggregate Demand and Aggregate Supply Analysis 12

- 1.1 Aggregate Demand Curve (with price flexibility)-Derivation of aggregate demand curve-shift in aggregate demand curve and multiplier effect
- 1.2 Aggregate Supply curve (with variable prices)-shift in aggregate supply curve-long-run aggregate supply curve –Derivation of Aggregate supply curve-
- 1.3 Macroeconomic equilibrium: AS-AD Model-Friedman’s Natural Rate Hypothesis-Economic Fluctuations
- 1.4 Three Models of the Upward Sloping SRAS (short-run aggregate supply curve) –The Sticky Wage Theory, The Sticky Price Theory and The Misperceptions (Fooling) Theory

2. The IS-LM Curves Model 12

- 2.1 Introduction-The Structure of the Model
- 2.2 Derivation of IS Curve and LM Curve –Shifts in IS Curve and LM curve, causes in shifts in IS and LM Curve.
- 2.3 Simultaneous Equilibrium in Goods Market and Money Market-Extension IS-LM model with government sector Fiscal policies.
- 2.4 Extension of IS-LM model with Labor Market and flexible prices.

3. Inflation-Unemployment Trade-Off: Phillips Curve and Rational Expectations Theory 12

- 3.1 Inflation and Unemployment-Phillips curve-Explanation of Phillips curve.
- 3.2 Causes of shifts in Phillips Curve- Long-run Phillips curve and adaptive expectations – Long-run Phillips curve: Rational expectations.
- 3.3 Relation between short-run Phillips curve and long-run Phillips curve.

- 3.4 Stagflation and Supply-side Economics-stagflation in India-1991-04, causes of stagflation
- 3.5 Supply-side economics-basic propositions of supply-side economics-Taxation and labour supply, Incentive to save and investment, the tax wedge-tax revenue and Laffer curve, a critical appraisal of supply side economics.

4. The New Classical Macro Economics & the Open Economy Issues 12

- 4.1 Introduction -Meaning of Rational Expectations- Barrow's view
- 4.2 The New Classical Model
- 4.3 The Role of the Monetary and Fiscal policy
- 4.4 Rational Expectations and the Real Business Cycles
- 4.5 Criticism of the Rational Expectations Hypothesis.
- 4.6 Open Economy-Balance of Trade-Balance of Payments-Mundel-Fleming Model, Exchange Rate Regimes.

BASIC READING LIST:

15. August Swanenberg (2005) 'Macroeconomics Demystified' A Self Teaching Guide, McGraw Hill Education
16. Ackley, G. (1978), Macro Economics: Theory and Policy, Macmillan, New York.
17. Agrawal Vanita, (2010) Macroeconomics: Theory and Policy, Pearson Publication, New Delhi.
18. Ahuja H.L., Macroeconomics: Theory and Practice, S.Chand & Co. New Delhi.
19. Blackhouse, R. and A. Salansi (Eds.) (2000) Macroeconomics and the Real World (2 Vols.), Oxford University Press, London. Dornbusch,
20. Campbell R. McConnell, Stanley L. Brue, (2001) Macroeconomics: Principles, Problems and Policies', McGraw Hill, Inc., New York.
21. Froyen Richard T (2006) 'Macroeconomics– Theories and Policies' Pearson Education; 8th edition
22. Gupta S.B. (1997) 'Monetary planning for India' OUP
23. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
24. Mankiw Gregory (2007) 'Macroeconomics' Worth, New York
25. Rao, V.K.R.V. (1983) India's National Income : 1950 to 1980, Sage Publications, New Delhi
26. Gupta, S.B. (1995), Monetary Planning in India, OUP, New Delhi.
27. Sampat Mukherjee (2013), 'A Global Text-Macroeconomics', New Central Book Agency
28. Soumyen Sikdar (2006) 'Principles of Macroeconomics' Oxford University Press
- 29 Bhise V.B , Khandare V.B & Babar , (2014) Macro Economics , Chinmay Publication Aurangabad.

Recommended Readings:

16. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
17. Culbertson, J.M. (1968), Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogonkosh, Tokyo.
18. Duesenberry, J.S. (1949), Income Saving and the Theory of Consumer Behaviour. Harvard University Press, Harvard.
19. Edey, M. and A.T. Peacock (1967), National Income and Social Accounts, Hutchinson University Library, London
20. Fisher, Dornbusch, Schamalensee (1988) 'Economics' McGraw Hill International Edition ; 2nd edition

21. Friedman, M. (1957), The Theory of Consumption Function, Princeton University Press Princeton.
22. Friedman, M. (1956), Studies in the Quantity Theory of Money, The University of Chicago Press, Chicago
23. Glahe, Fred, R. (1973), Macroeconomics: Theory and Policy, Harcourt Brace Javanovich, Inc., New York.
24. Harris Lawrence (1980) 'Monetary Theory' McGraw Hill Inc.
25. Keynes, J.M. (1936), 'The General Theory of Employment Interest and Money', Macmillan, London.
26. Ruggles, R. and N. Ruggles (1956), National Income Accounts and Income Analysis, McGraw Hill New York.
27. Shapiro, E. (1996) Macroeconomic Analysis, Galgotia Publications, New Delhi.
28. D.Wrightsmen 'An Introduction to Monetary Theory and Policy' The Free Press New York 1983

Recommended Journals:

Applied Economics- Taylor & Francis Online

Journal of Macroeconomics-Elsevier

Macroeconomics and Finance in Emerging Market Economies- Taylor & Francis Online

The Indian Economic Journal- Sage Journal

CORE COURSE
SEMESTER IV
EC- 4002
GROWTH & DEVELOPMENT II
(This course will have *FOUR* credits)

PREAMBLE

The course makes an attempt to provide an introduction to the economics of Growth and Development and at the same time provide an understanding of the analytical rigour of the subject. Growth and Development-I is a core course that covers meaning and concept of Economic Growth and Development, measuring the economic growth and development, theories of economic growth and development, poverty, inequality and unemployment and role human capital in economic development . Growth and development-I will try to clear the concepts regarding the economic growth and development and provides basic knowledge to the students to get engaged in the activities.

Course Objectives:

- To enable learning and understanding of the basic concepts and process to measure the growth and economic development etc.
- To analyze and evaluate the obstacles in the process of economic growth and development

Programme Outcome:

- Ability to analyze and demonstrate knowledge of the economic growth and development theories of economic growth and development
- Ability analyze, evaluate and apply the growth and development concepts, role of human capital, etc. in real life situations

1. Sectoral Development: An Overview	12
1.1 International agreements and Agriculture in India	
1.2 Agriculture Productivity, Agriculture Price Policy, Land Holding and Cropping Pattern	
1.3 Industrial Production Trends at National and International Level, Role Of MSMEs, Government Policies for Industrial Development	
1.4 Growth of Services Sector in India, ICT and Services sector, International Comparison.	
2. Technology and Development	12
2.1 Role of Technology and Development	
2.2 Capital Formation and Technical Progress as Sources of Growth	
2.3 Technological Strategy of Development	
2.5 Economics of R&D, Invention and Innovation, Relation to Development	
2.6 Technology Centered Development	
3. Environment and Development	12
3.1 Sustainable Development, Sustainability Performance and Reporting	
3.3 Environment and Rural-Urban Development	
3.4 Industrialization and Environment Protection	
3.5 Climate change and Agriculture	

4. Development Strategies

12

4.1 The Role of the Government in the Developmental process

4.2 The Market versus Detailed Centralized Planning

4.3 Approaches to Poverty Alleviation and Employment Generation

4.4 Policy of Export Promotion & Import Substitution

4.5 Policy of Infrastructure Development

Basic Reading List:

1. Basu Kaushik (1998) Analytic Development Economics: The Less Developed Economy Revisited', OUP
2. Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
3. Felix Raj, Sampat Mukherjee, Mallinath Mukherjee, Amitava Ghose, Ranjanendra N. Nag (2007) "Contemporary Development Economics From Adam Smith to Amartya Sen", New Central Book Agency Private Limited
4. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
5. Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York. Economics
6. Meier Gerald M. and James E. Rauch, "Leading Issues in Economic Development" Oxford University Press, 2006
7. Ray Debraj (1998) "Development Economics", Oxford University Press
8. Solow Robert M. (2000) "Growth Theory An Exposition" Oxford University Press
9. Thirwall, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
10. Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.

Recommended Readings:

1. Barro Robert J. and Xavier Sala-i-Martin (2004) "Economic Growth" Prentice Hall of India Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
2. Dasgupta, P. (1993), 'An Enquiry into Well-being and Destitution', Clarendon Press, Oxford.
3. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
4. Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), OUP
5. Nayyar Deepak (2019) 'Resurgent Asia' OUP
6. Todaro Michael P. (1981) "Economics for A Developing World", Longman, London.

Recommended Journals:

Economic Development and Cultural Change- Chicago Press

Journal of Development Economics-Elsevier

IMF Economic Review- Palgrave Macmillan

Oxford development Studies- Rutledge

Review of Development Economics-Wiley

Review of World Economics-Springer

Review of Economic Dynamics- Elsevier

CORE COURSE
SEMESTER IV
EC-4003
RESEARCH PROJECT
(This course will have *FOUR* credits)
(Only for Internal Students)

PREAMBLE:

Students who complete their post-graduation in Economics are mentally equipped to pursue research in the same discipline. It is generally accepted that research is nothing but extension and application of knowledge in a certain specialized field. Therefore regular students who do their post-graduation, as internal students will be given an opportunity to get exposed to a few elements of social research and also they are expected to complete a small research project under the expert guidance and supervision, Elementary knowledge of research methodology shall consolidate and deepen their understanding of various branches of Economics. Preparing a small dissertation is intended to train them in scientific thinking and art of systematic presentation. It is essentially a job-oriented exercise to enable them to take up the exciting field of social and economic research.

Part I: Internal IV Semester students shall submit a dissertation of minimum 8000 words & maximum 10,000 words in three copies to the Head of the Department on or before 30th April. The dissertation shall be prepared under the guidance of an internal postgraduate recognized teacher.

Part II: An internal supervisor shall assess each dissertation for out of 50 marks, based on the methodology, analysis, contents and quality of the dissertation.

Part III: A viva voce examination of each candidate shall be held where he/she will have to make a presentation of the dissertation and defend the research. A panel of two referees shall be formed out of whom one shall be an internal examiner.

The viva voce shall carry 50 marks. Internal & external examiners shall give out of 25 marks each. The copies of dissertation and the record of the viva voce examination shall be maintained by the centre for two more academic years for inspection. The Marks obtained for project work shall be included in the statement of marks of all the regular internal students.

Scale of Remuneration will be as per the University Guidelines.

External examiner will be appointed by the University.

CORE COURSE
SEMESTER IV
EC-4003
RESEARCH METHODOLOGY
(ONLY EXTERNAL STUDENTS)
(This course will have *FOUR* credits)

PREAMBLE

The main objective of this paper is to make the students aware of the importance of Research Methodology. Today research is of importance in every field of life. Hence students need sound initiation in the world of research. Thus this syllabus is prepared to equip students with basics of research methodology and also provide them acquaintance with the main ingredients of major sources secondary data on Economics, some hands-on experience in conduct so survey including designing questionnaire and interview schedules, collection of data, analysis of data and preparation of report.

Course Objectives:

- To enable an understanding of Research and its methods under various areas of economics.
- To demonstrate the practical and the applied aspects of research in relation to Economics.

Programme Outcome:

- Ability to develop, demonstrate and examine topics under Economics to pursue research.
- Ability to evaluate and examine subject areas in economics and explore possibilities of research.

1 Data Collection **12**

1.1 Sources of Data- Primary, Secondary.

1.2 Surveys and Interviews Methods

1.3 Observation Method

1.4 Secondary Sources of Data

2 Sampling And Data Analysis **12**

2.1 Basic Concepts: Population, Sample, Sample Size

2.2 Sampling Methods: Probability and Non-probability Sampling Methods

2.3 Analysis of Data: Classification, Tabulation, Graph, Diagram and

2.4 Overview of Statistics in Data Analysis

3 Testing Hypothesis **12**

3.1 Hypothesis: Meaning, Types, Formulation, Criteria for a Good Hypothesis

3.2 Basic Concepts: Level of Significance, Critical error, Type I and Type II Error

3.3 Procedure of Testing Hypothesis

3.4 Parametric and Non Parametric Tests

4 Report Writing **12**

4.1 Goals of Report Writing

4.2 Report writing for Quantitative Research and Qualitative Research

4.3 Layout of Research Project

4.4 Report Writing: Considerations and Precautions

4.5 Computer Use in Research -Internet Source of Data Collection- Use and Precautions

Basic Reading List:

1. Banamati Mohanty (2015) 'Statistics for Behavioral and Social Sciences' Sage Texts
2. Bryman Alan (2018) 'Social research methods' OUP
3. Cooper Donald R. & Pamela S. Schindler (1999), "Business Research Methods", Tata McGraw-Hill Edition, New Delhi
4. Flick Uwe (2011) 'Introducing Research Methodology' Sage Publications
5. Kothari C. R, Gaurau Garg (2019) 'Research Methodology, Methods and Techniques', New Age International Publications, 4th Edition
6. Kumar Ranjit, (2012), "Research Methodology" 2nd Ed, Pearson Education
7. Wilkinson and Bhandarkar (2016) 'Methodology and Techniques of Social Science Research; HPH
8. Willson Jonathan (2017) 'Essentials of Business Research: A Guide to Doing Your Research Project' Sage Publications

Recommended Readings:

1. Basotia G.R. Sharma K.K. (1999) 'Research Methodology' Mangal Deeop Publications
2. Don E. Ehridge (2004) 'Research Methodology in Applied Economics: Organizing Planning and Conducting Economics Research', John Wiley and Sons
3. Gopal M.H. (1971) 'An Introduction to Research Procedure in Social Sciences', Asia Publishing House
4. Kothari S. R (2012) 'Research Methodology, Methods and Techniques', Pragn Publications
5. Krishnaswamy, O.R. (1993) 'Methodology of Research In Social Sciences, HPH
6. Kurein C. T. (1973) A Guide to Research in Economics' Sangam Publishers for Madras Institute of Development Studies
7. Les Oakshott (2012) 'Essential Quantitative Methods for Business, Management and Finance', Palgrave Macmilan, 5th edition
8. Moser C.A., G. Kalton (1985) 'Survey Methods in Social Investigations' Routedledge
9. BAV Sharma D Ravindra Prasad and P. Satyanarayana (1983) Research Methods in Social Sciences' Sterling publishers, New Delhi
10. Sadhu AN, Amarjit Singh (2007) 'Research Methodology in Social Sciences' HPH
11. Thakur Devendra (2009) 'Research Methodology in Social Sciences' Deep and Deep Publications
12. Young P.V. (1984) 'Scientific Social Survey and Research', Prentice Hall -India
13. Khandhare V.B., Yadav Y., 2016, Chinmay Publication, Aurangabad.

Recommended Journals:

Journal of Mixed Methods Research- Sage
Journal of Applied Social Sciences- Sage
Research in Economics- Elsevier
Social Science Research- Elsevier
The Social Science Journal – Elsevier/ ScienceDirect

SEMESTER IV

ELECTIVE PAPERS

(Choose Any ONE Paper)

EC-4004

01 - ECONOMETRICS

02 - PUBLIC POLICY

03 - ECONOMICS OF ENVIRONMENT

04 - FOREIGN EXCHANGE MARKET

ELECTIVE COURSE
SEMESTER IV
EC- 4004
ECONOMETRICS
(This course will have *FOUR* credits)

PREAMBLE

Application of economic theory needs a reasonable understanding of economic relationships and relevant statistical methods. The syllabus of econometrics is to equip the students with an understanding of theoretical econometrics and the relevant applications of the econometric methods. This course covers various econometric methods applicable for testing empirical relationships in economics and those needed for applied economic research. An introductory module on time series methods has also been included in this course, which constitutes an important tool for analysis in economic studies.

Course Objectives:

- To apply econometric theory with the help of mathematical modeling and the use of statistical tools in order to solve economic problems.
- To demonstrate the practical and the applied aspects of econometrics involved in conducting empirical studies.

Programme Outcome:

- Ability to develop analytical and quantitative understanding, demonstrate and examine problem solving aptitude.
- Ability to evaluate and examine subject areas in economics with the help of econometric modeling.

1. Introduction:

04

- 1.1 What is Econometrics?
- 1.2 Statistical Background and Econometrics
- 1.3 The Methodology of Econometrics
- 1.4 Review of Statistical Inference – Statistical Estimation and Hypothesis Testing

2. Simple Regression Analysis:

14

- 2.1 The Two-Variable Linear Regression Model
- 2.2 The Ordinary Least-Squares Method and its Properties
- 2.3 Test of Significance of Parameter Estimates
- 2.4 Test of Goodness of Fit and Correlation
- 2.5 Analysis of Variance – One way and Two-way Analysis

3. Multiple Regression Analysis:

10

- 3.1 The Three-Variable Linear Regression Model
- 3.2 Tests of Significance of Parameter Estimates
- 3.3 The Coefficient of Multiple Determination
- 3.4 Test of the Overall Significance of the Regression
- 3.5 Partial-Correlation Coefficients

4. Violations of Classical Assumptions and Remedies:	06
4.1 Multicollinearity	
4.2 Heteroscedasticity	
4.3 Autocorrelation	
5. Further Techniques and Applications in Regression Analysis	10
5.1 Functional Forms	
5.2 Dummy Variables	
5.3 Simultaneous-Equations Models	
5.4 Identification using Rank and Order Condition	
6. Introduction to Time-Series Methods	04
6.1 Stationary Time Series – Strict Stationarity, Weak Stationarity	
6.2 Non-stationary Series	
6.3 Concept of Unit Root Process and Testing	
6.4 Introduction to Forecasting using Time Series Models	

Basic Reading List

1. Enders Walter (2018) ‘Applied Econometric Time Series’, (4th ed.) Wiley India
2. Gujarati, D. N., Porter, D. C. & Gunasekaran, S. (2009). Basic Econometrics. (5th ed.). Tata McGraw Hill
3. H. Stock James, W. Watson Mark (2017) ‘Introduction to Econometrics’ Pearson Education, Third Edition
4. Maddala G. S., Kajari Lahiri (2012) ‘Introduction to Econometrics’, John Wiley & Sons.

Recommended Books:

1. Dominick Salvatore and Derrick Reagle (2011) Schaum's Outline of Statistics and Econometrics, Second Edition (Schaum's Outlines).
2. Dougherty, C. (2011) Introduction to Econometrics (4th ed). Oxford University Press.
3. Gujarati Damodar (2017) ‘Econometrics by Example’, Palgrave Macmillan, 2nd edition
4. Jeffrey M. Wooldridge (2008) ‘Introductory Econometrics: A Modern Approach’ South Western, Second Edition
5. Koutsoyiannis A. (2001) ‘Theory of Econometrics’ Palgrave Macmillan, Second Edition
6. Nachane, Dilip M. (2008). Econometrics: Theoretical Foundations and Empirical Perspective (1st ed.). Oxford Textbooks

Recommended Journals

1. Journal of Quantitative Economics, The Indian Econometric Society
2. Quarterly Journal of Economics, Oxford Academic.
3. Econometrica, The Econometric Society
4. Journal of Econometrics - Elsevier
5. The Econometrics Journal, The Royal Economic Society

ELECTIVE COURSE
SEMESTER IV
EC- 4004
PUBLIC POLICY
(This course will have *FOUR* credits)

PREAMBLE

Public Policy is a specialized area in social sciences, with special reference to economics along with political science and sociology; the subject covers the study of public policy, the process and perspectives of policy making and the analysis and evaluation of Public Policy. The study of Public Policy provides an understanding of the various aspects of policy making on theories, concepts, process, methods, analysis and evaluation. The subject discusses public policy in historical perspective, the concepts of public policy, the methodologies for implementation as well as evaluation along with the impact of globalization on public policy.

Course Objectives:

- To develop an understanding of public policy in the theoretical as well as practical context.
- To discuss and debate the various aspects of public policy and policy making

Course Outcomes:

- Ability to analyze and evaluate the subject with reference to various aspects of Public Policy.
- Ability to develop an understanding of the public policy, its perspectives and processes and to be able to construct intellectual dialogue on the policy making and policy analysis and evaluation

1. Introduction to Public Policy

08

- 1.1 Concept, Meaning and Definitions of Public Policy
- 1.2 Historical Emergence and Relevance of Public Policy
- 1.3 Nature and Scope of Public Policy; Process of Policy Making
- 1.4 Perspectives of Policy Making, Impact of Globalization on Policy making

2. Concepts of Public Policy

08

- 2.1 Institutionalism
- 2.2 Process: Policy as a Political Activity
- 2.3 Public Choice
- 2.4 Strategic Planning

3. Policy Implementation and Evaluation

10

- 3.1 Concept of Policy Implementation and Methods/Techniques of Policy Implementation
- 3.2 Concept of Policy Evaluation and Methods/Techniques of Policy Evaluation

4. Economics of Public Policy

12

- 4.1 Types of Public Policy Analysis – -Empirical, Normative, Retrospective and Prospective; -Descriptive and Prescriptive
- 4.2 Actors in Public Policy Analysis --Government, Media, Civil Society -Multinational Agencies, Transnational Agencies, International Donor Agencies
- 4.3 Constraints in Public Policy Analysis- Economic Constraints, International

Constraints, Social and Cultural Constraints, Political Constraints/Feasibility
4.4 Emerging Trends – Ombudsman, Local Bodies, Whistle Blowers, Citizens Organizations

1 5. Globalization and Public Policy 10

- 2 5.1 Globalization of Economic Activity
- 3 5.2 Reforming Institutions – The State, The Market and Public Domain
- 4 5.3 Global Public Policy – Global Trade, Global Financial Markets and Global Crime
- 5 5.4 Globalization and Interdependence, Organizations and Accountability

Basic Reading List:

1. Anderson James. E., (2010) *Public Policy-Making: An Introduction*”, Cengage Learning, 7th Edition
2. Birkland Thomas A., (2005), *An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making*, Armonk;
3. Chandler. Dye Thomas (2008), *Understanding Public Policy*, Singapore, Pearson Education
4. Chakrabarti Rajesh, Kaushiki Sanyal (2016) “*Public Policy in India*” OUP India
5. Mathur Kuldeep (2015) *Public Policy and Politics in India: How Institutions Matter*” OUP India
6. McCool, Daniel C. (ed.), (1995), “*Public Policy Theories, Models, and Concepts: An Anthology*”, NJ: Prentice-Hall
7. Moran Michael, Martin Rein, Robert E. Goodin (2018) “*The Oxford Handbook of Public Policy*” OUP
8. Saumitra Mohan (2018) “*Indian Policy and Development: A Manual for National Schemes and International Policies*” McGraw Hill Education

Recommended Books:

1. Ashford, Doug (ed.), (1992), “*History and Context in Comparative Public Policy*”, Ithaca, NY: University of Pittsburgh Press.
2. Bergerson, Peter J. (ed.), (1991), “*Teaching Public Policy: Theory, Research and Practice*”, Westport, RI: Greenwood Press
3. Dahl, Robert and Charles Lindblom, (1976), “*Politics, Economics and Welfare*”, New York, Harper
4. Dror. Y., (1989), “*Public Policy making Re-examined*”, Routledge, 2nd Edition
5. Hill Michael, (2005), *The Public Policy Process*, Harlow, UK; Pearson Education, 5th Edition
6. Houghton Bardach, Eugene (1977), “*The Implementation Game: What Happens After a Bill Becomes a Law*”, Cambridge, MA: MIT
7. Howlett, Michael, and M. Ramesh, (1995), “*Studying Public Policy: Policy Cycles and Policy Subsystems*”, OUP, Toronto
8. Jones, C.O., (1970), “*An Introduction to the Study of Public Policy*”, Belmont, Prentice - Hall
9. Lerner, D. and H.D. Lasswell (eds.), (1951), “*The Policy Sciences*”, Stanford University Press
10. Lindblom, C.E., and E.J., Woodhouse, (1993), “*The Policy making Process*”, 3rd ed., Prentice - Hall
11. Nachmias, David, (1979), “*Public Policy Evaluation: Approaches and Methods*”, New York: St. Martin's Press
12. Jay M. Shafritz (ed) (1998), “*International Encyclopedia of Public Policy and Administration*”, Westview Press

13. John, Peter, (2012), “Analysing Public Policy”, Routledge, 2nd Edition
14. M.E. Sharpe Brewer, Gary D., and Peter de Leon (1983), “The Foundations of Policy Analysis”, Homewood, IL.: The Dorsey Press
15. Bellinger William K (2015) “The Economic Analysis of Public Policy” Routledge, 2nd Edition

Recommended Journals

Indian Journal of Public Policy and Administration - Sage
International Journal of Public Policy – Inderscience
Journal of Asian Public Policy –Taylor and Francis Online
Journal of Public Policy – Cambridge
Journal of Public Policy and Administration – Science Publishing Group
Science and Public Policy – Oxford Academic Journals

ELECTIVE COURSE
SEMESTER IV
EC-4004
ECONOMICS OF ENVIRONMENT
(This course will have *FOUR* credits)

PREAMBLE

Environmental economics has emerged as an important sub-discipline of economics in recent times as humanity struggles to respond to the environmental crisis that challenges the very existence of human beings. Environmental economics focuses on the relationship between human behavior, economic systems as well as mechanisms and environmental quality. It attempts to explore fundamental questions of how the economic system shapes economic incentives in ways that lead to environmental degradation as well as improvement. It focuses on the nature of environment as a social good and the relationship between environment and economic development. Environmental economics explores economic principles, economic theories and various analytical tools of economics for environmental protection, regulation and policy making. This curriculum introduces post graduate students of economics to the field of environmental economics and equips them with analytical tools to comprehend various environmental issues.

Course Objectives:

- To develop an understanding of the economics of environment in the theoretical as well as practical context.
- To discuss various analytical tools to comprehend various environmental issues.

Programme Outcome:

- Ability to analyze and evaluate the subject with reference to various aspects of the economics of environment.
- Ability to develop an understanding of the economics of environment and various analytical tools to comprehend environmental issues

1 Introduction

12

1.1 Economics of Environment – Meaning, Nature, Scope and Significance

1.2 Environment as an Economic and a Social Good – Exhaustive and Renewable Common Property Resources

1.3 Economic Development and Environment – Trade-off, Environmental Kuznets Curve & Limits to Growth

1.4 Sustainable Development

2 Environmental Challenges

12

2.1 Environment and Agricultural Development – Technological Change –Use of Water, Fertilizers, Pesticides – Groundwater and Forest Depletion

2.2 Environment and Industrial Development – Pollution, Urbanization

2.3 Global Environmental Issues – Depletion of Ozone Layer, Green House Effect, Global Warming, Climate Change, Loss of Bio-diversity

3 Environmental Regulation – Theories and Analytical Tools

12

3.1 The Economic Theory of Efficient Pollution Control – Marginal Abatement Cost (MAC) & Marginal Environmental Damage (MED)

3.2 Externalities and Market Failures – Coase Theorem

- 3.3 Environmental Regulation – Command and Control Regulation versus Market Based Instruments – Emission Taxes and Charges, Environmental Taxes and Subsidies, Resolutions through Direct Negotiations, Emissions Trading
- 3.4 Environmental Value Assessment – Environmental Value, Revealed Preference Method, Stated Preference Method, Cost-Benefit Analysis

4 Climate Change, Environmental Agreements and Policies 12

- 4.1 Climate Change – Greenhouse Gases, Accumulation of Emissions and Process of Global Warming,
- 4.2 Kyoto Protocol – Emission Reduction Targets, Kyoto Mechanisms, Limitations of Kyoto Protocol, Carbon Credits
- 4.3 Paris Agreement – Aims, Nationally Determined Contributions, Effects on Global Temperature, Mechanisms and Criticism
- 4.4 India's Environmental Policy, Environment Protection Laws, National Green Tribunal

Reading List:

- 1 Baumol, W.J. & Oates, W.E. (1997), The Theory of Environmental Policy, Prentice Hall, Englewood-cliffs
- 2 Bhattacharya, R. N. (2006), Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi
- 3 Field, Barry & Field, Martha (2016), Environmental Economics: An Introduction, McGraw-Hill Education, New York.
- 4 Managi, Shunsuke & Kuriyama, Koichi (2017), Environmental Economics, Routledge, London and New York
- 5 Singh, Katar & Shishodia, Anil (2010), Environmental Economics: Theory and Applications, Sage Publications, New Delhi
- 6 Smith, Stephen (2011), Environmental Economics: A Very Short Introduction, Oxford University Press, New York
- 7 Ulaganathan, Sankar (2006), Environmental Economics, OUP, New Delhi

Recommended Books:

- 1 Ali, S.A. (1979), Resources for Future Economic Growth, Vikas Publishing House, New Delhi.
- 2 Charles Peering (1987) Economy and Environment Cambridge University Press, New York.
- 3 Dorfman, R & N. Dorfman (Eds.) (1977), Economics of the Environment. W.W. Norton, New York.
- 4 Hanley, Nick; Shogren, Jason & White, Ben (2004), Environmental Economics in Theory and Practice, McMillan India Limited, Delhi

Recommended Journals:

- Journal of Environmental Economics and Management
- Review of Environmental Economics and Policy
- Environmental and Resource Economics
- Ecological Economics
- Annual Review of Resource Economics
- Land Economics

ELECTIVE COURSE
SEMESTER IV
EC-4004
FOREIGN EXCHANGE MARKET
(This course will have *FOUR* credits)

PREAMBLE:

The course makes an attempt to provide an introduction to the foreign exchange market and at the same time provide an understanding of the analytical rigour of the subject. Foreign exchange market is an elective course that covers meaning and concept of foreign exchange market, transactions in foreign exchange market, exchange rate mechanism and risk management of the foreign exchange market. Foreign exchange market will try to clear the concepts regarding the currency market and provides basic knowledge to the students to get engaged in the activities.

Course Objectives:

- To enable understanding of the concepts and transactions in the foreign exchange market such as spot and forward transactions, etc. and the risks associated.
- To enable understanding of the foreign exchange market activities at national and international level.

Programme Outcome:

- Ability to analyze and demonstrate knowledge of the foreign exchange market transactions, exchange rate mechanism and exchange risk in economics.
- At the end of the course, the student should be able to evaluate Foreign exchange market concepts, market structure, transactions and its use in real life.

1. Introduction

12

- 1.1 Foreign Exchange and Foreign Currency- meaning & Definitions
- 1.2 Structure of Foreign exchange Market: Market Segments, Market Players,
- 1.3 Features & Functions of Foreign Exchange Market
- 1.4 Constituents of Foreign Exchange Market- Central Bank, Commercial Banks, Non-Banks, Individuals & Firms, Speculators, Arbitrageurs, Forex Dealers, Forex Brokers

2. Foreign Exchange Transactions

12

- 2.1 Spot and Forward Transactions- Meaning & features
- 2.2 Financial Derivatives- Swaps, Options and Futures- Meaning
- 2.3 Hedging- Meaning
- 2.4 Arbitrage- Meaning

3. Exchange Rate Mechanism

12

- 3.1 Exchange Rate Determination: The PPP Theory, the BOP Theory
- 3.2 Fixed and Flexible Exchange Rates, Official and Free Market Rates
- 3.4 Relation between Rate of Interest and Foreign Exchange Rate

4. Risk Management

12

- 4.1 Nature of Risk in Foreign Exchange Market,
- 4.2 Foreign Exchange Settlement Exposure and Foreign Exchange Settlement Risk
- 4.3 Types of Risks in Foreign Exchange Market –
 - 4.3.1 Market Risk, Credit risk, Liquidity Risk, Replacement Risk, Interest Rate Risk
 - 4.3.2 Operational Risk, Systemic Risk, Legal Risk, Country Risk, Sovereign Currency Risk
- 4.5 Intervention in Foreign Exchange Market
- 4.6 Role of RBI in Foreign Exchange Market in India; Developments since 1991

Basic Reading:

- 7. Anthony Steve (2002) 'Foreign Exchange in Practice: the New Environment' Palgrave
- 8. Brandl Michael (2019) 'Money, Banking, Financial Markets and Institutions' Cengage Learning
- 9. Bhole, L. M., Jitendra Mahakud (2017) 'Financial Institutions and Markets' Tata McGraw Hill, ND
- 10. Fabozzi Frank J., Steven V. Mann, Moorad Choudhry (2002) 'The Global Money Markets' John Wiley & Sons
- 11. Frederic Mishkin and Stanley Eakins (2006) 'Financial Markets and Institutions', Pearson 5th Edition
- 12. Frederic Mishkin (2019) 'The Economics of Money, Banking and Financial Markets' Pearson Education India, 11th edition
- 13. Luca Cornelius (2007) 'Trading in Global Currency Markets' Penguin, USA
- 14. Madura Jeff (2014) 'Financial Institutions and Markets' Cengage
- 15. Gupta SL (2017) 'Financial Derivatives- Theory, Concept and Problems' PHI Learning
- 16. Srivastava Rajeev (2014) 'Derivatives and Risk Management' OUP

Recommended Readings:

- 9. Batra G.S. "Financial Services and Markets", New Delhi: Deep and Deep Publications Pvt. Ltd., Latest Ed.
- 10. Das S. C. (2015) 'The Indian Financial System: Markets, Instruments, Institutions, Services and Regulations' PHI Learning
- 11. Gurusamy S (2004) "Financial Services and Markets", Vijay Nicole Imprints
- 12. Hull John C, Sankarshan Basu (2018) "Options, Futures and Other Derivatives", Pearson Education, 10th Edition
- 13. Kothari Rajesh. "Financial Services in India Concept and Application", New Delhi, Sage Publications. 2010.
- 14. Meir Kohn (2013) 'Financial Institutions & Markets; OUP
- 15. Chandra P. (2017), 'Investment Analysis and Portfolio Management', McGraw Hill Education, Fifth Edition

Recommended Journals:

International finance- Wiley Online
Journal of International financial Markets, Institutions and Money- Elsevier
Journal of International Money and Finance



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०२० पासून

M. A. भाग -२

Choice Based Credit System [CBCS]

निवड आधारित श्रेयांक पद्धत

M. A. मराठी भाग - २ : अभ्यासपत्रिकांची नावे आणि संकेतांक :

सत्र	संकेतांक	Core Courses (CC) (मुख्य अभ्यासपत्रिका)	Credit (श्रेयांक)	संकेतांक	Choice Based Optional Paper (वैकल्पिक अभ्यासपत्रिका)	Credit (श्रेयांक)	Total Credit
3	CC -9	प्रसारमाध्यमांसाठी लेखनकौशल्ये : भाग १	4	CBOP - 12	लोकसाहित्याची मूलतत्त्वे आणि मराठी लोकसाहित्य : भाग १	4	16
	CC-10	साहित्य समीक्षा	4		सौंदर्यशास्त्र : भाग १		
	CC - 11	नेमलेल्या मध्ययुगीन साहित्यकृतींचा अभ्यास : भाग १	4		लेखनविद्या आणि निबंध लेखन : भाग १		
		किंवा			मराठीतील वैचारिक साहित्य		
	नेमलेल्या अर्वाचीन साहित्यकृतींचा अभ्यास : भाग १		साहित्य : सर्जन व उपयोजन : भाग १				
4	CC - 13	प्रसारमाध्यमांसाठी लेखनकौशल्ये : भाग २	4	CBOP -16	लोकसाहित्याची मूलतत्त्वे आणि मराठी लोकसाहित्य : भाग २	4	16
	CC - 14	साहित्य संशोधन	4		सौंदर्यशास्त्र : भाग २		
	CC- 15	नेमलेल्या मध्ययुगीन साहित्यकृतींचा अभ्यास : भाग २	4		लेखनविद्या आणि निबंध लेखन : भाग २		
		किंवा			साहित्याचा सामाजिक दृष्टीने अभ्यास		
	नेमलेल्या अर्वाचीन साहित्यकृतींचा अभ्यास : भाग २		साहित्य : सर्जन व उपयोजन : भाग २				
			24			08	32

M. A. मराठी भाग - २ : प्रश्नपत्रिकेचे स्वरूप

प्रश्नपत्रिका आराखडा		
वेळ : ३ तास	सत्रांत परीक्षा	गुण : ५०
१	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
२	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
३	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
४	दीर्घोत्तरी प्रश्न दोन पैकी एक	१०
५	टिपा लिहा चार पैकी दोन	१०
एकूण		५०
अंतर्गत मूल्यमापन		
१.	लेखी चाचणी / मध्यकालीन चाचणी (एक घ्यावी.)	१५
२.	शोध निबंध	५
३.	ग्रंथालयीन कार्य	५
४.	सादरीकरण	५
५.	लघू प्रश्नमंजुषा	५
६.	गृहपाठ	५
७.	विस्तार कार्य	१०
८.	संशोधन प्रकल्प / खुले पुस्तक परीक्षा	१०
अंतर्गत मूल्यमापनासाठी वरील पर्याय निवडावे. त्यांचे एकूण गुण पन्नास असावे.		५०

तिसरे सत्र

उद्दिष्टे :

- १ प्रसारमाध्यमांकरिता लेखन कौशल्ये आत्मसात करणे.
- २ प्रसारमाध्यमांचे समाजातील महत्त्व विशद करणे.
- ३ प्रसारमाध्यमांच्या स्वरूपाचे ज्ञान करून देणे.
- ४ दृकश्राव्य नवमाध्यमांसाठी लेखन करण्याची क्षमता विकसित करणे.

अभ्यासक्रम :

१. प्रसारमाध्यमे आणि भाषाव्यवहार

- १ प्रसारमाध्यमे : संकल्पना, स्वरूप आणि प्रकार
- २ प्रसारमाध्यमातील आशयनिर्मितीचे स्वरूप, वैशिष्ट्ये आणि भाषाव्यवहार
- ३ मुद्रित माध्यमातील लेखनबंध, आशयनिर्मितीचे स्वरूप आणि वैशिष्ट्ये
- ४ श्राव्य आणि दृकश्राव्य माध्यमातील लेखनबंध, आशयनिर्मितीचे स्वरूप आणि वैशिष्ट्ये

२. मुद्रितमाध्यमांसाठी लेखन

- १ मुद्रितमाध्यम : लेखनप्रकार (बातमी, अग्रलेख, संपादकीयलेख, स्तंभलेख, लेख, जाहिरात.)
- २ लेख : स्वरूप, भाषा आणि वैशिष्ट्ये
- ३ स्तंभलेख : स्वरूप, भाषा आणि वैशिष्ट्ये
- ४ जाहिरात : स्वरूप, भाषा आणि वैशिष्ट्ये

३. नभोवाणीमाध्यमांसाठी लेखन

- १ नभोवाणीवरील विविध कार्यक्रम, लेखनबंध आणि भाषाव्यवहार
- २ सूत्रसंचालन, उद्घोषणा, निवेदन, बातमीपत्र, विशेष कार्यक्रमांचे वृत्तांकन नभोनाट्य, श्रुतिका, रूपक, मुलाखत, चर्चात्मक कार्यक्रम, जाहिरात इ.
- ३ अवलोकनपरलेखन : निवडणूक, साहित्यसंमेलन, विशिष्ट समस्या, सामाजिक प्रश्न, विविध घडामोडी इ. बाबतचे लेखन
- ४ नभोवाणीसाठी जाहिरात लेखन

४. दूरचित्रवाणीमाध्यमांसाठी लेखन

- १ माहितीपर कार्यक्रमांसाठीचे लेखन
- २ संहितालेखन
- ३ उद्घोषक, निवेदन यासाठीचे लेखन
- ४ दूरचित्रवाणीसाठी जाहिरात लेखन

चौथे सत्र

प्रसारमाध्यमांसाठी लेखनकौशल्ये : भाग २ [CC – 13 (4)]

अभ्यासक्रम :

१ माहितीपटासाठी लेखन

- १ माहितीपट व लघुपट : संकल्पना, निर्मिती आणि हेतू
- २ माहितीपट व लघुपटाचे विषय, प्रकार व स्वरूप
- ३ माहितीपटासाठी संशोधन आणि प्रत्यक्ष संहितालेखन
- ४ माहितीपटाचे परीक्षण व आस्वादपरलेखन

२ चित्रपटासाठीचे लेखन

- १ पटकथा : संकल्पना, स्वरूप
- २ पटकथा : रचना व लेखन कौशल्य
- ३ साहित्य आणि पटकथा : परस्परसंबंध
- ४ संवादलेखन
- ५ चित्रपट परीक्षण व आस्वादपरलेखन

३ लिखित स्वरूपाच्या नवसमाजमाध्यमांसाठीचे लेखन

- १ नवसमाजमाध्यमांचे स्वरूप : प्रकार, लेखनबंध, लेखन व भाषा वैशिष्ट्ये (समाजमाध्यमांचे वेगळेपण, बलस्थाने आणि प्रभाव)
- २ फेसबुक, ब्लॉग आणि वेबसाईटसाठीचे लेखन
- ३ प्रतिक्रियात्मक व समीक्षात्मकलेखन : ट्विटर, व्हाटसअप, टेलीग्राम, वी-चाट
- ४ व्यावसायिक संकेतस्थळासाठी आशयलेखन

४ दृकश्राव्य स्वरूपाच्या नवसमाजमाध्यमांसाठीचे लेखन

- १ दृकश्राव्यनवमाध्यम : परिचय व स्वरूप आणि लेखनबंध (समाजमाध्यमांचे वेगळेपण, बलस्थाने आणि प्रभाव)
- २ युट्यूब व्हिडीओसाठी संहितालेखन
- ३ DIY (DO IT YOUR SELF) व्हिडीओसाठी लेखन
- ४ कार्पोरेट व्हिडीओसाठी लेखन (उदा. कॉलेजमाहितीपट, कंपनीमाहितीपट)
- ५ वेबीनार, स्काईप, फेसबुक, लाइव्ह, वेबसेरीज आदी तंत्र साधनांसाठी लेखन

संदर्भ ग्रंथ :

- १ भारतीय रंगभूमी, आद्य रंगाचार्य, नॅशनल बुक ट्रस्ट
- २ अभिनय शास्त्र, स्टानिस्लावस्की, अनुवाद- व.ह.गोळे, कॉन्टिनेंटल प्रकाशन, पुणे
- ३ नाटककाराची कला, जी.बी.प्रिस्ले
- ४ खेळ नाटकाचा, राजीव नाईक, मौज प्रकाशन

- ५ मराठी साहित्य आणि चित्रपटकथा (शतकी वाटचाल), डॉ. प्रवीण महाजन, माय बुक्स पब्लिकेशन, नागपूर.
- ६ मराठी नाट्यलेखन तंत्राची वाटचाल, अ.वा.कुलकर्णी, व्हीनस, पुणे.
- ७ संवादशास्त्र, श्रीपाद जोशी, विजय प्रकाशन, नागपूर.
- ८ मराठी बोलपटांची सविस्तर सूची, भा.वि.धारप, चित्रशाखा महामंडळ, मुंबई.
- ९ चित्रपट : संपादन स्वरूपआणि कार्य, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक
- १० बातमीची कार्यक्षेत्रे संपादक, यशवंतराव चव्हाण महाराष्ट्र मुक्त संगीत समीक्षा विद्यापीठ, नाशिक
- ११ दूरदर्शनसाठी लेखन, केशव केळकर
- १२ जाहिरातीचे युग, केशव केळकर
- १३ गीतयात्री, माधव मोहोळकर, मौज प्रकाशन
- १४ संगीतशास्त्राचा अभ्यास, बी.आर. देवधर
- १५ थोर संगीतकारांची परंपरा, बी.आर. देवधर
- १६ शब्दप्रधान गायकी, यशवंत देव
- १७ सर्जनात्मक लेखन, आनंद पाटील
- १८ मराठी लेखन मार्गदर्शिका, यास्मिन शेख
- १९ भयंकर सुंदर मराठी भाषा, द.दि.पुंडे
- २० कविता आणि प्रतिमा, सुधीर रसाळ
- २१ कवितेविषयी, वसंत आबाजी डहाके
- २२ पत्रकारितेचा स्वभाव, ल.ना.गोखले
- २३ फीचर रायटिंग, प्रसन्नकुमार अकलूजकर
- २४ भाषांतर मीमांसा, कल्याण काळे, अंजली सोमण
- २५ पत्रकारिता : स्वरूप आणि चिकित्सा, महावीर जोंधळे
- २६ भारतीय रंगभूमीची परंपरा, डॉ.माया सरदेसाई
- २७ भरतमुनीचे नाट्यशास्त्र (अभिनय केंद्री), डॉ.सरोज देशपांडे
- २८ वैखरी, डॉ. अशोक केळकर
- २९ मराठीचिचे मंदिरी, श्री.ना. चाफेकर
- ३० व्यावहारिक मराठी भाषा, शरदिनी मोहिते
- ३१ शब्दसखे, वसंत उत्पात

- ३२ जाहिरात शास्त्र, डॉ.वंदना खेडीकर
- ३३ मराठी चित्रपटाची पटकथा, डॉ.अनिल सपकाळ, प्रतिमा प्रकाशन,पुणे
- ३४ मराठी साहित्य: काही लेखनबंध, डॉ.सुधाकर शेलार, स्वरूप प्रकाशन, औरंगाबाद
- ३५ व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक ,डॉसंदीप सांगळे .
- ३६ व्यासपीठ, डॉ.महादेव वाळुंज

साहित्य समीक्षा [CC – 10 (4)]

तिसरे सत्र

उद्दिष्टे :

- १ साहित्य, समीक्षाव्यवहाराच्या क्षमता विकसित करणे.
- २ समीक्षेची संकल्पना समजावून घेणे.
- ३ समीक्षाव्यवहारातील मूल्यकल्पनांचा परिचय करून घेणे.
- ४ विविध समीक्षापद्धतींमागील विचारव्यूह, दृष्टी समजावून घेणे.
- ५ मराठी साहित्यसमीक्षकांची व संशोधकांची परंपरा समजावून घेणे.
- ६ समीक्षा करण्याची दृष्टी व क्षमता विकसित करणे.
- ७ संशोधनाची संकल्पना, प्रयोजने आणि विविध संशोधन पद्धती समजावून घेणे.
- ८ वाङ्मयीन संशोधनाच्या विविध अभ्यासक्षेत्रांचा परिचय करून घेणे.
- ९ आंतर्विद्याक्षेत्रीय संशोधनाचे स्वरूप आणि महत्त्व लक्षात घेणे.
- १० संशोधन करण्याची दृष्टी व क्षमता विकसित करणे.

अभ्यासक्रम :

१ समीक्षेची संकल्पना :

- १ समीक्षा संकल्पना : स्वरूप आणि प्रयोजन
- २ समीक्षेची प्रक्रिया : वाचन, आस्वाद, विश्लेषण, अर्थनिर्णयन, मूल्यमापन आणि शब्दांकन
- ३ समीक्षेचे उपयोजन : साहित्यकृतीची समीक्षा, लेखकाची समीक्षा, कालखंडाची समीक्षा,
- ४ साहित्यप्रकाराची समीक्षा, साहित्यप्रवाहांची समीक्षा, विचारव्यूहात्मक समीक्षा.

५ वाङ्मयीन मूल्ये व जीवनमूल्ये : परस्परसंबंध आणि समीक्षा

२ समीक्षेच्या दृष्टीकोन :

- १ आस्वादक समीक्षा
- २ समाजशास्त्रीय समीक्षा
- ३ चरित्रात्मक समीक्षा
- ४ ऐतिहासिक समीक्षा

३ आधुनिक समीक्षा सिद्धांत : परिचय :

- १ आधुनिकता व उत्तर - आधुनिकता
- २ रूपवाद

३ संरचनावाद

४ उत्तरसंरचनावाद

५ स्त्रीवाद

६ नव - इतिहासवाद, उत्तर - वसाहतवाद

४ मराठी समीक्षेची वाटचाल :

१ इ. स. १८७४ ते इ. स. १९२०

२ इ. स. १९२१ ते इ. स. १९४५

३ इ. स. १९४६ ते इ. स. १९७५

४ इ. स. १९७६ ते इ. स. २०००

संदर्भ ग्रंथ :

- १ समीक्षेची नवी रूपे, गंगाधर पाटील
- २ समीक्षामीमांसा (सिद्धांतन आणि समीक्षण), गंगाधर पाटील
- ३ समीक्षा - सिद्धांत, मिलिंद मालशे आणि अशोक जोशी
- ४ वाङ्मयीन वाद, म. सा. परिषद, प्रकाशन पुणे
- ५ टीकाविवेक, श्री.के.क्षीरसागर
- ६ साहित्यसमीक्षा : स्वरूप आणि विकास, ना. वा. गोडबोले, गं. ना. जोगळेकर
- ७ नवसमीक्षा : काही विचारप्रवाह, संपादक गो.म.कुलकर्णी
- ८ आदिबंधात्मक समीक्षा, म.सु.पाटील
- ९ मानसशास्त्रीय समीक्षा, डॉ. अ. वा. कुलकर्णी
- १० साहित्याची निर्मितिप्रक्रिया, आनंद यादव
- ११ मराठी समीक्षेची वाटचाल, गो.म.कुलकर्णी
- १२ साहित्य: स्वरूप आणि समीक्षा, वा.ल.कुलकर्णी
- १३ साहित्य: स्वरूपआणि समीक्षा, दि.के.बेडेकर
- १४ साहित्य: समाज व संस्कृती, दिगंबर पाध्ये
- १५ साहित्यशास्त्र : स्वरूप आणि समस्या, वसंत पाटणकर
- १६ आधुनिक समीक्षा-सिद्धान्त, मिलिंद मालशे
- १७ वाङ्मयीन आकलन, रा.ग.जाधव, वाङ्मय सेवा प्रकाशन, नाशिक रोड
- १८ अहिराणी लोकगीते आणि लोकभाषा, म.सु.पगारे, वाङ्मय सेवा प्रकाशन, नाशिक रोड

- १९ स्त्रीवादी समीक्षा: स्वरूपआणि उपयोजन, डॉ.अश्विनी धोंगडे
- २० जनसाहित्याचा दिशेने, या. वा. वडस्कर
- २१ तौलनिक साहित्याभ्यास : मूलतत्त्वे आणि दिशा, वसंत बापट
- २२ टीकाविवेक, श्री. के. क्षीरसागर
- २३ टीका प्रपंच, कमलाकर दीक्षित,मेहता पब्लिशिंग हाऊस, पुणे
- २४ प्रदक्षिणा (खंड १,२), काँटिनेंटल प्रकाशन, पुणे)
- २५ टीका आणि टीकाकार, डॉ. वा.भा.पाठक
- २६ मार्क्सवादी साहित्यविचार, के.रं. शिरवाडकर
- २७ साहित्याचे परीघ, डॉ.निशिकांत ठकार
- २८ साहित्य विचार : संपा. द. न.गोखले, भावे, पाध्ये
- २९ वाङ्मयीन वाद : संकल्पना व स्वरूप, संपा. सीताराम रायकर, आनंद यादव
- ३० समीक्षेतील नव्या संकल्पना, संपा.डॉ.मनोहर जाधव
- ३१ सामाजिक शास्त्रे आणि साहित्य, संपा.डॉ.ह.श्री.साने
- ३२ साहित्य आणि संस्कृती, डॉ. दु. का. संत
- ३३ वाङ्मयीन संज्ञा व संकल्पना कोश, संपा. वसंत डहाके व इतर
- ३४ कवितेची शैली, डॉ. महेंद्र कदम
- ३५ कादंबरी : सार आणि विस्तार, डॉ.महेंद्र कदम
- ३६ स्त्रीवादी विचार आणि समीक्षेचा मागोवा, डॉ.शोभा पाटील,
- ३७ समीक्षेतील अवतरणे, रा.ग. जाधव
- ३८ मराठीतील रूपनिष्ठ समीक्षा, डॉ. सिद्धार्थ आगळे

चौथे सत्र

साहित्य संशोधन [CC -14]

अभ्यासक्रम :

१ संशोधन: संकल्पना व स्वरूप :

- १ संशोधन : संकल्पना, स्वरूप, प्रेरणा, प्रयोजन, प्रकार आणि आवश्यकता
- २ संशोधकांच्या अंगी असणारे आवश्यक गुण
- ३ संशोधन प्रक्रियेतील विविध टप्पे
- ४ संशोधनाची साधने : संदर्भ ग्रंथ, नियतकालिके, वृत्तपत्रे, कोशवाङ्मय, सूचिवाङ्मय, हस्तलिखिते, शिलालेख, ताम्रपट इ.

२ साहित्य संशोधनाची अभ्यासक्षेत्रे

- १ साहित्यकृतीनिष्ठ संशोधन
- २ साहित्यप्रकारनिष्ठ संशोधन
- ३ लेखकाचा अभ्यास
- ४ कालखंडाचा अभ्यास
- ५ विशिष्ट धर्मसंप्रदायाचा अभ्यास
- ६ भाषिक संशोधन
- ७ लोकसाहित्यविषयक संशोधन
- ८ तौलनिक साहित्याभ्यास
- ९ वाङ्मयेतिहासासंबंधी संशोधन
- १० संहिता संपादन व विश्लेषण

३ आंतर्विद्याशाखीय संशोधन

- १ साहित्य आणि तत्त्वज्ञान
- २ साहित्य आणि समाजशास्त्र
- ३ साहित्य आणि मानसशास्त्र
- ४ साहित्य आणि संस्कृती
- ५ साहित्य आणि सौंदर्यशास्त्र
- ६ साहित्य आणि इतिहास
- ७ साहित्य आणि राज्यशास्त्र

८ साहित्य आणि अर्थशास्त्र

४ संशोधन पद्धती, आराखडा आणि संदर्भसाधने

- १ संशोधन विषयाची निवड
- २ संशोधन पद्धती : विमर्शक पद्धती, शास्त्रीय पद्धती, क्षेत्रीय, सर्वेक्षणात्मक, निष्कर्षात्मक, तुलनात्मक, अवगामी, उदगामी, ऐतिहासिक, समाजशास्त्रीय, विश्लेषणात्मक आदी पद्धती.
- ३ संशोधन प्रारूप, आराखडा स्वरूप
- ४ संदर्भसाधने, इंटरनेटवरील साधने

संदर्भ ग्रंथ :

- १ भाषा व साहित्य संशोधन : खंड १,२,३- १९८९, संपा.वसंत स.जोशी, म.ना.अदवंत, गं.ना.जोगळेकर व इतर संपादक, महाराष्ट्र साहित्य परिषद, पुणे.
- २ शोध निबंधाची लेखनपद्धती, स.गं.मालशे, लोकवाङ्मय गृह प्रकाशन मुंबई.
- ३ मराठी साहित्य संशोधन : स्वरूप आणि दिशा, शं.रा.राणे, का.स.वाणी म.प्र.अ.संस्था धुळे.
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- ५ साहित्याचा अभ्यास- डॉ.र.बा.मंचरकर सद्भाव ग्रंथ, चं.वि.जोशी व इतर, प्रतिमा प्रकाशन, पुणे.
- ६ संशोधनाची क्षितिजे- वि.भि.कोलते, गौरव ग्रंथ, भा.ल.भोळे संपादक, अमेय प्रकाशन, नागपूर.
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- १४ संशोधन पद्धती : प्रक्रिया आणि अंतरंग, डॉ.दु.का.संत, अनाथ विद्यार्थिगृह प्रकाशन, पुणे
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- २० लोकसाहित्य स्वरूपव विवेचन, कालभूत
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- २२ लोकसाहित्याचे स्वरूप, डॉ. तारा भवाळकर
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- २४ लोकमानसातील पारंपरिक कोळीगीते, शेट्टे, जगदीश संसारे, रामचंद्र वरड
- २५ लोकसाहित्य दर्शन, (संपा.)डॉ.रमेश देवरे
- २६ लोकसाहित्याच्या अभ्यास दिशा, डॉ. तारा भवाळकर
- २७ लोकसाहित्यातील कुटुंब चित्रण, डॉ.लता महाजन
- २८ लोकसाहित्यातील स्त्रीजीवन, डॉ.भारती रेवडकर
- २९ साहित्यसंशोधन : वाटा आणि वळणे - डॉ.सुधाकर शेलार.
- ३० संशोधनप्रदीप, डॉ.वेदश्री थिगळे
- ३१ ज्ञानेश्वरी अध्याय ९, डॉ. विद्यासागर पाटंगणकर, डॉ. अशोक देशमाने
- ३२ साहित्य : संशोधन व समीक्षा, राजेंद्र सलालकर

नेमलेल्या मध्ययुगीन साहित्यकृतींचा अभ्यास [CC- 11]

तिसरे सत्र

उद्दिष्टे:

- १ मध्ययुगीन कालखंडातील साहित्यप्रकार, संकल्पना व स्वरूप लक्षात घेणे.
- २ साहित्यकृतींची वैशिष्ट्ये जाणून घेणे.
- ३ साहित्यकृतींतील वाङ्मयीनमूल्ये आणि जीवनमूल्ये जाणून घेणे.
- ४ कालखंड आणि साहित्यकृतीच्या निर्मितीचा अनुबंध शोधणे.

अभ्यासक्रम :

नेमलेल्या मध्ययुगीन साहित्यकृती

- १ संत ज्ञानदेवांचे हरिपाठाचे अभंग
- २ स्मृतिस्थळ
- ३ दमयंती स्वयंवर, रघुनाथ पंडित

चौथे सत्र

नेमलेल्या मध्ययुगीन साहित्यकृतींचा अभ्यास [CC- 15]

अभ्यासक्रम :

नेमलेल्या मध्ययुगीन साहित्यकृती

- १ संत तुकारामांचे निवडक अभंग ३ आज्ञापत्र, रामचंद्रपंत अमात्य
२ श्लोक केकावली, मोरोपंत

संत तुकारामांचे निवडक अभंग यामध्ये खालील अभंगांचा समावेश करण्यात आला आहे.					
अ.न.	अभंग अंक	अभंग	अ.न.	अभंग अंक	अभंग
१	२	सुंदर तें ध्यान उभें विटेवरी ।	१६	२००६	माझिये जातीचें मज भेटो कोणी ।
२	४६	विष्णुमय जग वैष्णवांचा धर्म ।	१७	२११४	भाग्यवंत म्हणों तयां ।
३	८७	कानडीनें केला मन्हाटा भ्रतार ।	१८	२३०६	हें चि दान देगा देवा ।
४	८८	सुख पाहता जवापाडें ।	१९	२३८०	मुंगीचिया घरा कोण जाय मूळ ।
५	२६६	कन्या सासुरासि जाये ।	२०	२४८१	वृक्षवल्ली आम्हां सोयरीं वनचरें ।
६	२८९	न लगे चंदना सांगावा परिमळ ।	२१	२६६९	आपुलें मरण पाहिलें म्यां डोळां ।
७	३२०	बरे देवा कुणबी केलों ।	२२	२८२१	भेटीलागीं जीवा लागलीसे आस ।
८	३४७	जे कां रंजलें गांजलें ।	२३	२८६४	जोडोनियां धन उत्तम वेव्हारें ।
९	९२३	कोणाच्या आधारे करूं मी विचार ।	२४	२८९२	मुंगी होउनि साकर खावी ।
१०	९८७	मऊ मेणाहून आम्ही विष्णुदास ।	२५	२९५०	आपुलिया बळें नाहीं मी बोलत ।
११	९९३	अणुरणीयां थोकडा ।	२६	३२५०	फोडिलें भांडारें ।
१२	१३२०	नामदेवें केलें स्वप्नामाजी जागें ।	२७	३२५१	आनंदाचे डोहीं आनंदतरंग ।
१३	१३३५	बरें जालें देवा निघालें दिवाळे ।	२८	३३९६	आम्हां घरीं धन शब्दचीं च रत्नें ।
१४	१५९२	आपुल्या माहेरा जाईन मी आतां ।	२९	४३३२	काय बा करिशी सोवळें ओवळें ।
१५	२०००	जेथें जातों तेथें तूं माझा सांगाती ।	३०	४४७१	आम्ही जातों आपुल्या गावां ।

संदर्भ ग्रंथ :

- १ श्रीज्ञानेश्वरदर्शन, संपा. न.ब.देशमुख
२ स्मृतिस्थळ, संपा.डॉ. रमेश आवलगावकर, चंद्रकला प्रकाशन,पुणे
३ स्मृतिस्थळ, संपा.डॉ. यू. म.पठाण, स्नेहवर्धन प्रकाशन, पुणे.
४ दमयंती स्वयंवर, संपा.डॉ.सतीश बडवे,चिन्मय प्रकाशन,औरंगाबाद
५ दमयंती स्वयंवर, संपा. शकुंतला पुंडे, स्नेहवर्धन प्रकाशन, पुणे.
६ मोरोपंतांची श्लोककेकावली - संपा.सतीश बडवे, शब्दालय प्रकाशन, श्रीरामपूर, अहमदनगर.
७ आज्ञापत्र,संपादक, विलास खोले, लोकवाङ्मय गृह, मुंबई
८ महाराष्ट्र सारस्वत, वि.ल.भावे, शं.गो.तुळपुळे

- ९ मराठी वाङ्मयाचा इतिहास, खंड १, २, ३ महाराष्ट्र साहित्य परिषद, पुणे
- १० प्राचीन मराठी वाङ्मयाचा इतिहास, अ.ना.देशपांडे
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- १२ राजवाडेलेखसंग्रह, संपा. तर्कतीर्थ लक्ष्मणशास्त्री जोशी
- १३ मराठी गद्याचे पूर्वरंग, संपादक भीमराव कुलकर्णी
- १४ मराठी वाङ्मयाचा विवेचक इतिहास अर्वाचीन कालखंड, डॉ. प्र.न. जोशी
- १५ महाराष्ट्र जीवन खंड १ व २, गं. बा. सरदार
- १६ महाराष्ट्राचा सांस्कृतिक इतिहास, शं. दा. पेंडसे
- १७ वाङ्मयेतिहासाची संकल्पना. द. दि. पुंडे
- १८ महानुभाव संशोधन खंड-१. वि.भि.कोलते
- १९ महानुभावीय पंथ आणि त्याचे वाङ्मय, शं.गो.तुळपुळे
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- २१ संत वाङ्मयाची सामाजिक पार्श्वभूमी, गं. बा. सरदार
- २२ महानुभाव संत, वसंत स.जोशी
- २३ चक्रधर चरित्र, वि.भि.कोलते
- २४ मराठी भाषेचा व वाङ्मयाचा इतिहास, बा.अ.भिडे
- २५ प्राचीन मराठी कविता खंड -१ ते ६, संपा. ज. शा.देशपांडे, कृष्णदास महानुभाव
- २६ महाराष्ट्रीयानांचे काव्यपरीक्षण, श्री.व्यं.केतकर
- २७ मराठी वाङ्मयाचा इतिहास खंड पहिला, ल.रा.पांगारकर
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- २९ महाराष्ट्रातील पाच संप्रदाय, पं.रा.मोकाशी
- ३० पाच संतकवी, शं.गो.तुळपुळे
- ३१ वारकरी पंथ : उदय व विकास, भा.पं. बहिरट
- ३२ ज्ञानदेव आणि नामदेव, शं.दा. पेंडसे
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- ३६ पंडित कवी, के.ना.वाटवे
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- ४२ तंत्रकवी तथा शाहीर, य.न.केळकर
- ४३ ऐतिहासिक पोवाडे खंड -१ ते ३, य.न.केळकर
- ४४ बखर वाङ्मय, र.वि. हेरवाडकर
- ४५ महानुभाव साहित्य : शोधसंचार, डॉ. अविनाश आवलगावकर
- ४६ संतसाहित्य आकलन आणि अध्यापन, वसंत आबाजी डहाके आणि इतर, महाराष्ट्र राज्य माध्य. व उच्च माध्य. शिक्षण मंडळ, पुणे.
- ४७ तुका म्हणे, दिलीप चित्रे
- ४८ तुकाराम, भालचंद्र नेमाडे
- ४९ त्रयोदशी, सदानंद मोरे
- ५० चार भावंडे, सदानंद मोरे
- ५१ तुकारामदर्शन, सदानंद मोरे
- ५२ नाचू कीर्तनाच्या रंगी, यशवंत पाठक
- ५३ तुका म्हणे भाग १, भाग २, डॉ. दिलीप धोंडगे
- ५४ भगवद् – गीता, साहेबराव बन्सी आवारे
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- ५७ साहित्याची सामाजिकता, डॉ.सतीश बडवे,शब्दालय प्रकाशन,श्रीरामपूर,अहमदनगर.
- ५८ मराठी संत कवयित्रींचा इतिहास, डॉ. विद्यासागर पटांगणकर
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- ६१ संतसाहित्यातील सामाजिकता, डॉ. तानाजी पाटील
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- ६४ ज्ञानदेवांचा लोकतत्त्वीय अभ्यास, डॉ. प्रमोद पडवळ, स्नेहवर्धन प्रकाशन, पुणे.
- ६५ संतसाहित्य मीमांसा, संपादक डॉ. ताहेर पठाण, डॉ. न.ब.कदम
- ६६ दीप चैतन्याचा, डॉ. अशोक लिंगेकर
- ६७ वारी एक आनंद सोहळा, दीपक बिचे
- ६८ पसायदान, दीपक बिचे
- ६९ संत साहित्य : स्वरूप आणि शोध, डॉ. बाबुराव उपाध्ये
- ७० संतांचे भक्ती आंदोलन, डॉ. संदीप तापकीर
- ७१ संत तुकाराम गाथेतील लोकमानस, डॉ.दत्तात्रेय फलके, सुप्रभा प्रकाशन, नाशिक.प्रथमावृत्ती २०१५.
- ७२ <https://www.youtube.com/watch?v= PhGAp2QnwM>

नेमलेल्या अर्वाचीन साहित्यकृतींचा अभ्यास [CC- 11]

तिसरे सत्र

उद्दिष्टे :

- १ अर्वाचीन कालखंडातील साहित्यप्रकार, संकल्पना व स्वरूप लक्षात घेणे.
- २ साहित्यकृतींची वैशिष्ट्ये जाणून घेणे.
- ३ साहित्यकृतींतील वाङ्मयीनमूल्ये आणि जीवनमूल्ये जाणून घेणे.
- ४ अर्वाचीन साहित्यप्रकारांची वैशिष्ट्ये जाणून घेणे.
- ५ कालखंड आणि साहित्यकृतीच्या निर्मितीचा अनुबंध शोधणे.

अभ्यासक्रम :

- १ स्त्रीपुरुष तुलना – ताराबाई शिंदे
- २ शेटजी प्रताप – मुकुंदराव पाटील
- ३ शोभा यात्रा – शफाअत खान

चौथे सत्र

नेमलेल्या अर्वाचीन साहित्यकृतींचा अभ्यास [CC- 15]

अभ्यासक्रम :

- १ अमेरिका - अनिल अवचट
- २ दिवे गेलेले दिवस – रंगनाथ पठारे
- ३ वाट तुडवताना - उत्तम कांबळे

संदर्भ ग्रंथ :

- १ ताराबाई शिंदे-लिखित स्त्री पुरुष तुलना, संपा.विलास खोले
- २ स्त्री-पुरुष तुलना- संपा. नागनाथ कोत्तापले
- ३ शेटजी प्रताप, संपा. प्रा. जी.ए. उगले, दीनमित्रकार मुकुंदराव पाटील स्मारक समिती, तरवडी, ता. नेवासे जि. अ. नगर, द्वितीय आवृत्ती, २००३.
- ४ सत्यशोधक मुकुंदराव पाटील, एरंडे अशोक, स्फूर्ती प्रकाशन, अ. नगर, प्रथमावृत्ती, १९९६.
- ५ अर्वाचीन मराठीतील खंडकाव्ये (१८५०-१९५०), तोडमल ह. कि., काँटिनेंटल, पुणे, आ. पहिली, १९६३.
- ६ सत्यशोधक साहित्याचा इतिहास(खंड पहिला), श्रीराम गुंदेकर, मुक्तरंग प्रकाशन, लातूर, प्रथमावृत्ती, १ मे २०१०.

- ७ सत्यशोधक चळवळ : वाटचाल आणि चिकित्सा, संभाजी खराट, प्रतिमा प्रकाशन, पुणे.
- ८ सत्यशोधकीय नियतकालिके, डॉ. अरुण शिंदे, कृष्णा संशोधन व विकास अकादमी, मंगळवेढा, सोलापूर, द्वितीय आवृत्ती, २८ नोव्हेंबर २०१९.
- ९ माझ्या लिखाणाची गोष्ट, अनिल अवचट, समकालीन प्रकाशन
- १० समकालीन कादंबरीकार : भालचंद्र नेमाडे आणि रंगनाथ पठारे, राम वाघमारे, शब्दालय प्रकाशन
- ११ प्रत्यय आणि व्यत्यय एक संवाद, दिलीप पुरुषोत्तम चित्रे आणि रंगनाथ पठारे, शब्दालय प्रकाशन
- १२ रंगनाथ पठारे यांच्या साहित्यातील स्त्री-दर्शन, राजेंद्र सलालकर, शब्दालय प्रकाशन
- १३ तिरकसपणातील सरळता, संपा. राजन गवस, शब्दालय प्रकाशन आधुनिक मराठी वाङ्मयाचा इतिहास खंड १ व २, डॉ. अ. ना. देशपांडे
- १४ साहित्य : आशय आणि आविष्कार, सतीश कामत
- १५ डॉ. रंगनाथ पठारे साहित्य विशेषांक, सक्षम समीक्षा, संपा. डॉ. शैलेश त्रिभुवन, ऑक्टो- नोव्हें- डिसेंबर २०१९.
- १६ निवडक उत्तम कांबळे - संपा. प्रल्हाद लुलेकर, कैलाश पब्लिकेशन, औरंगाबाद.
- १७ साहित्यिक उत्तम कांबळे, डॉ. सिंधू जयवंत आवळे, निर्मिती संवाद प्रकाशन, कोल्हापूर.
- १८ उत्तम कांबळे यांची आत्मकथने, संपा. डॉ. शैलेश त्रिभुवन, डायमंड पब्लिकेशन, पुणे.
- १९ उत्तम कांबळे यांच्या गाजलेल्या प्रस्तावना, संपा. मिलिंद कसबे, सुगावा प्रकाशन, पुणे
- २० उत्तम कांबळे अव्यक्त माणसांच्या कथा, संपा. राजन गवस, मनोविकास प्रकाशन, पुणे.
- २१ वाट तुडवतानाच्या शोधात, संपा. आशुतोष पाटील, शब्दालय प्रकाशन,
- २२ मराठी वाङ्मयाचा इतिहास, खंड ४, ५, ६, महाराष्ट्र साहित्य परिषद, पुणे
- २३ प्रदक्षिणा खंड १ व २ (सा.वा.नाशिक), कॉन्टीनेन्टल प्रकाशन, पुणे
- २४ मराठी वाङ्मयाचा विवेक इतिहास अर्वाचीन कालखंड, डॉ. प्र.न. जोशी
- २५ अर्वाचीन मराठी गद्याची पूर्वपीठिका, गं. बा. सरदार
- २६ मराठी गद्याचा इंग्रजी अवतार, द. वा. पोतदार
- २७ महाराष्ट्र जीवन खंड १ व २, गं. बा. सरदार
- २८ साहित्य समाज आणि संस्कृती, दिगंबर पाध्ये
- २९ मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी, गो. म. कुलकर्णी
- ३० अर्वाचीन मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी, सदा कऱ्हाडे
- ३१ एकोणिसाव्या शतकातील महाराष्ट्र, य. दि. फडके
- ३२ विसाव्या शतकातील महाराष्ट्र, य. दि. फडके

- ३३ मराठी साहित्य प्रेरणा आणि स्वरूप, गो. मा. पवार व म. द. हातकणंगलेकर
- ३४ मराठी वाङ्मयाची सद्यस्थिती, संपादक डॉ.विद्यागौरी टिळक, डॉ. द. दि. पुंडे
- ३५ मराठी कथा रूप आणि परिसर, म. द. हातकणंगलेकर
- ३६ मराठी कथा उदगम आणि विकास, इंदुमती शेवडे
- ३७ धार आणि काठ, नरहर कुरुंदकर
- ३८ टीकास्वयंवर, भालचंद्र नेमाडे
- ३९ खडक आणि पाणी, गंगाधर गाडगीळ
- ४० आधुनिक मराठी कविता, रा. श्री. जोग
- ४१ कविता आणि प्रतिमा, सुधीर रसाळ
- ४२ मराठी कविता, वा.ल. कुलकर्णी
- ४३ कवितेविषयी, वसंत आबाजी डहाके
- ४४ मराठी नाटक आणि रंगभूमी, वि. भा. देशपांडे
- ४५ नाटक वाङ्मयप्रकार, दत्ता भगत, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक
- ४६ नाटक : आशय आणि आकलन, अनिल सपकाळ
- ४७ मराठी रंगभूमीच्या तीस रात्री खंड १, २ व ३, मकरंद साठे
- ४८ रंगविमर्श, नरहर कुरुंदकर
- ४९ शोकनाट्याचे साहित्यरूप, सदा कन्हाडे
- ५० मराठी नाट्यकला आणि नाट्यवाङ्मय, श्री.ना.बनहट्टी
- ५१ नाटक एक चिंतन, वसंत कानेटकर
- ५२ दलित रंगभूमी, भालचंद्र फडके
- ५३ आधुनिक मराठी काव्य : उद्गम, विकास आणि भवितव्य, दि. के. बेडेकर
- ५४ मराठी कविता एक दृष्टिक्षेप, नागनाथ कोत्तापल्ले
- ५५ मराठी कविता १९४५ ते १९६०, रा. श्री. जोग
- ५६ कामगार कवितेतील सामाजिक जाणिवा, दिलीप पी. पवार
- ५७ कवितेचा अंतःस्वर, देवानंद सोनटक्के
- ५८ मराठी कादंबरीचा इतिहास, चंद्रकांत बांदिवडेकर
- ५९ मराठी कादंबरी पहिले शतक, कुसुमावती देशपांडे
- ६० कादंबरी आणि मराठी कादंबरी, उषा हस्तक

- ६१ मराठी कादंबरी प्रेरणा व स्वरूप, कुसुमावती देशपांडे
- ६२ मराठी प्रादेशिक कादंबरी, मदन कुलकर्णी
- ६३ कादंबरी : स्वरूप व समीक्षा, द. भि. कुलकर्णी
- ६४ निवडक मराठी समीक्षा, संपादक गो. मा. पवार
- ६५ कादंबरी : एक साहित्यप्रकार, हरिश्चंद्र थोरात
- ६६ मराठी कादंबरी : त्रेसष्ट ते तेरा, हरिश्चंद्र थोरात
- ६७ साहित्यकृतीचा अभ्यास, हरिश्चंद्र थोरात
- ६८ आत्मचरित्र मीमांसा, आनंद यादवचरित्र - आत्मचरित्र, अ. म. जोशी
- ६९ चरित्र - आत्मचरित्र, सदा कऱ्हाडे
- ७० दलितांची आत्मकथने : संकल्पना व स्वरूप, डॉ. वासुदेव मुलाटे
- ७१ दलित आत्मचरित्रे : साहित्य आणि समाज - डॉ. रमेश धोंडगे
- ७२ मराठी प्रवासवर्णनाची वाटचाल, नीला पांढरे
- ७३ मराठीतील आत्मचरित्रपर लेखन, उषा हस्तक
- ७४ मराठी वाङ्मय कोश, खंड ४, संपादक, विजया राजाध्यक्ष
- ७५ आत्मचरित्र, मराठी विश्वकोश, खंड २
- ७६ विसाव्या शतकातील मराठी आत्मचरित्र, उषा हस्तक
- ७७ मराठीतील चरित्रात्मक कादंबरी, शिरीष लांडगे
- ७८ मराठी कादंबरी आशय आणि आविष्कार, दत्ता घोलप
- ७९ महाराष्ट्रातील विस्थापित आणि मराठी कादंबरी, संजय नगरकर
- ८० एकोणिसावे शतक : सुधारणावाद व मराठी साहित्य, सुधाकर शेलार, स्वरूप प्रकाशन, औरंगाबाद
- ८१ मराठी साहित्य : काही लेखनबंध, डॉ. सुधाकर शेलार, स्वरूपप्रकाशन, औरंगाबाद
- ८२ मराठी कादंबरी : परंपरा आणि चिकित्सा, राजेंद्र सलालकर
- ८३ कामगार कवितेतील सामाजिक जाणिवा, डॉ. दिलीप पवार, सुगावा प्रकाशन, पुणे
- ८४ मराठी ग्रामीण लेखिकांची कथा, जया कदम, शब्दवैभव प्रकाशन, पुणे.
- ८५ ग्रामीण लेखिकांचे साहित्य: स्वरूप, विकास आणि दिशा, संपादक- डॉ. जया कदम, डॉ. प्रवीण ताटे देशमुख, प्रा. राणी शेंडकर, शब्दवैभव प्रकाशन, पुणे.
- ८६ साहित्यातील स्त्रीवाद, संपादक महादेव वाळुंज, प्रज्ञा लामतुरे
- ८७ ग्रामीण बोलीभाषेचे वैभव, प्रज्ञा लामतुरे

- ८८ आधुनिक मराठी कविता : वेदना आणि विद्रोह, महादेव कांबळे
- ८९ मराठी साहित्याचे समकालीन संदर्भ, विनायक येवले
- ९० स्त्रीभान : स्त्रियांच्या साहित्याची समीक्षा, संपादक कविता घोंगडे
- ९१ कादंबरीनिर्मिती विशेषांक, संपादक बाळासाहेब घोंगडे
- ९२ तीन नाटके, नागनाथ बळते

लोकसाहित्याची मूलतत्त्वे आणि मराठी लोकसाहित्य [CBOP - 12]

तिसरे सत्र

उद्दिष्टे :

- १ लोकसाहित्याच्या मूलतत्त्वांची ओळख करून देणे.
- २ मराठीतील लोकसाहित्याच्या संकलन, संशोधन व मूल्यनास चालना देणे.
- ३ लोकसाहित्याचे स्वरूप, व्यापकता व सर्वसमावेशकता लक्षात आणून देणे.
- ४ लोकसाहित्यातील विविध प्रकार, स्वरूप व विशेष समजावून घेणे.
- ५ लोकसाहित्यातील सामाजिक, धार्मिक, सांस्कृतिक जाणिवा स्पष्ट करणे.
- ६ लोकसाहित्याच्या अभ्यासक्षेत्राची व्याप्ती समजावून घेणे.
- ७ लोकसाहित्याचे कलात्मक सौंदर्य व कलाविष्काराचे स्वरूप जाणून घेणे.
- ८ लोकसाहित्याच्या अभ्यासकांचे लोकसाहित्यातील योगदान अभ्यासणे.

अभ्यासक्रम :

१ लोकसाहित्य :स्वरूप व व्याप्ती

- १ लोकसाहित्याच्या भारतीय व पाश्चात्य अभ्यासकांच्या व्याख्या.
- २ लोक'व 'साहित्य'या पदाचे स्पष्टीकरण
- ३ लोकसाहित्याची प्रयोजने
- ४ लोकसाहित्याच्याउत्पत्तीविषयक विविध उपपत्ती
- ५ लोकसाहित्याचे सामाजिक, राष्ट्रीय व सांस्कृतिक जीवनाशी असलेले अनुबंध
- ६ लोकसाहित्याचे इतिहास, पुरातत्त्व, मानवंशशास्त्र, भाषाशास्त्र, मानसशास्त्र, धर्मशास्त्र, दैवतकथाशास्त्र इ. शास्त्रांशी असलेले अनुबंध.

२ लोकसाहित्याचा अभ्यास

- १ लोकसाहित्याचे जागतिक अभ्यासक्षेत्र
- २ लोकसाहित्याच्या अभ्यासाच्या विविध संप्रदाय व त्यांचे वेगळेपण

३ लोकसाहित्य व लोकजीवन

- १ लोकसाहित्य आणि लोकजीवनप्रवाह अनुबंध
- २ लोकसाहित्याचानिसर्ग, तत्त्वज्ञान, मानवी जीवन, शास्त्रे, समाज, संस्कृती, धर्म, व्यवहार इ.
- ३ क्षेत्रांशी असलेल्या अनुबंधाचेस्वरूप

- ४ लोकसाहित्यातील परिवर्तन, पर्याय आणि चिरंतनत्व
- ४ लोकसाहित्य व ग्रांथिक साहित्य संबंध
- १ लोकसाहित्य आणि महाकाव्य यांचा अनुबंध
 - २ लोकसाहित्य व संतकवीची कविता (अभंग, ओवी, पदे गौळणी, आरत्या भारूडे इ.)
 - ३ लोकसाहित्य व अर्वाचीन साहित्य यांचा अनुबंध
 - ४ लोकसाहित्यातील लोकतत्त्व, आदिबंध आणि लोकबंध
 - ५ लोकसाहित्यातील लोकसमजुती, रूढी-परंपरा, विधी-विधाने, मंत्र-तंत्र, लोकभ्रम, लोककला, सामाजिक व भाषिक संकेत,वाक्प्रचार, म्हणी, कोडी, उखाणे इ.
 - ६ लोकसाहित्याचे प्रादेशिक, सामाजिक आणि सांस्कृतिक विशेष

चौथे सत्र

लोकसाहित्याची मूलतत्वे आणि मराठी लोकसाहित्य [CBOP -16]

अभ्यासक्रम :

१ मराठीतील लोकसाहित्याचे स्वरूप

- १ मराठीतील लोकसाहित्याचा आशय, भाषा, रचना, प्रदेश यांचे विशेष
- २ मराठी लोकगीते: प्रेरणा व स्वरूप व विशेष : अ) १. स्त्रीगीते २. पुरुषगीते ३. सणोत्सवाची गाणी, ४. विधिगीते (जत्रा-यात्रा-प्रसंगी) ५. भलरीगीते ६. श्रमगीते ७. संस्कारगीते (लग्न, पाचवी, बारसे इ.) ८. बडबडगीते ९. साखळीगीते आ) कथा गीते,लोकगीते व लौकिकगीते यांतील भेद इ) लोकगीते व आधुनिक गेय कविता (भावगीते, पदे व इतर कविता, नाट्यगीते, सिनेगीते)

२ मराठी लोककथा: प्रेरणा,स्वरूप व विशेष

- १ लोककथांचे प्रकार : १) दैवतकथा, उत्पत्तीकथा, व्रतकथा इ. २) अद्भुत कथा, परिकथा ३) दंत कथा-स्थानिक व भटकी दंतकथा ४) प्राणीकथा, बोधकथा ५) हस्तकथा ६) मालाकथा ७) लोककथा, कल्पनाबंध विचार,

३ मराठी लोकसाहित्याचे विविध कलाविष्कार आणि कलात्मक सौंदर्य

१. मराठी लोकनाट्य व लोककला: घटक स्वरूप, परंपरा व विशेष अ) रंजननाट्य - तमाशा आ) धार्मिक उपासना नाट्ये, कीर्तन, लळीत, गोंधळ व जागरण २.महाराष्ट्र लोकसंस्कृती उपासकाचे आविष्कार-वासुदेव, पिंगळा, चित्रकथी, भुत्ये, गोंधळी,वाघे,मरीआई, नंदीबैलवाले, माकडवाले, दरवेशी, कोल्हाटी, मांग गारूडी इ.
- २ मराठी लोकसाहित्याचे कलात्मक सौंदर्य : १ मराठी लोकसाहित्याचे कलात्मक सौंदर्य : स्वरूप व विशेष २ लोककला सादरीकरण: अभिजात, आधुनिक कला व साहित्याशी अनुबंध ३ साहित्यसमीक्षेचा लोकसाहित्य शास्त्रीय (लोकतत्त्वीय किंवा लोकबंधात्मक) दृष्टिकोन ४ लोकसाहित्याचे सादरीकरण, जाणवा आणि आस्वाद्यता

४ मराठी लोकसाहित्य अभ्यासकांची परंपरा आणि विविध संस्था

- १ मराठी लोकसाहित्याच्या अभ्यासकांचा परिचय
- २ साने गुरुजी, सरोजिनी बाबर, दुर्गा भागवत, रा.चिं. ढेरे, प्रभाकर मांडे, गं.ना.मोरजे आदी.
- ३ लोकसाहित्याच्या अभ्यासात साहाय्य करणाऱ्या संस्थांचा परिचय : अ) महाराष्ट्र राज्य लोकसाहित्य समिती, पुणे आ) लोकसाहित्य संशोधन मंडळ, औरंगाबाद

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- ६ लोकसाहित्याचे लेणे- डॉ. मालती देशपांडे
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- १० धर्म आणि लकिसाहित्य - दुर्गा भागवत
- ११ मराठीतील स्त्रीधन-डॉ.सरोजिनी बाबर
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किंवा

सौंदर्यशास्त्र [CBOP - 12]

तिसरे सत्र

उद्दिष्टे :

- १ सौंदर्यशास्त्राचा परिचय करून घेणे.
- २ सौंदर्यशास्त्र आणि विज्ञान, मनोविज्ञान, तत्त्वज्ञान इतर शास्त्रे यातील परस्पर संबंध समजावून घेणे.
- ३ सौंदर्यविषयक प्रमुख सिद्धांतांचा परिचय करून घेणे.
- ४ सौंदर्यानुभव ही संकल्पना आणि त्यामागील घटक समजावून घेणे.
- ५ सौंदर्यवाचक विधानांचे स्वरूप आणि त्यामागील दृष्टीकोण समजावून घेणे.
- ६ कलाकृतीचे रूप ही संकल्पना समजावून घेणे.
- ७ साहित्यविचार, समीक्षाविचार आणि सौंदर्यशास्त्र यातील अनुबंध स्पष्ट करणे.
- ८ सौंदर्यतत्त्वांची आकलनक्षमता विकसित करणे.

अभ्यासक्रम :

१ सौंदर्यशास्त्राचे स्वरूप

- १ सौंदर्यशास्त्र व विज्ञान, मनोविज्ञान आणि तत्त्वज्ञान संबंध
- २ सौंदर्यशास्त्र आणि समीक्षासंकल्पना
- ३ निसर्गातील सौंदर्य व निसर्गाबाहेरील सौंदर्य
- ४ सौंदर्यशास्त्र आणि नवे शोध

२ सौंदर्यवाचक विधानांचे स्वरूप

- १ सौंदर्यविधान आणि तार्किकता
- २ सौंदर्यविधान : सार्वत्रिक की व्यक्तिनिष्ठ?
- ३ सौंदर्यविधान आणि अनन्यसाधारणत्व
- ४ सौंदर्यविधान आणि नीतिविधान
- ५ सौंदर्यविधान आणि मूल्यविधान
- ६ सौंदर्यविधान आणि द्विध्रुवात्मकता

३ सौंदर्यसिद्धांत

- १ आविष्कारवाद
 - २ क्रीडासिद्धांत
 - ३ सुखवादाचा सिद्धांत
 - ४ भावनिष्ठतेचा सिद्धांत
 - ५ सह-अनुभूतीचा सिद्धांत
 - ६ लयसिद्धांत
- ४ सौंदर्यानुभव
- १ सौंदर्यानुभव आणि व्यावहारिक अनुभव
 - २ सौंदर्यानुभव आणि तार्किक अनुभव
 - ३ सौंदर्यानुभवाची विविधता व स्वायत्तता
 - ४ सौंदर्यानुभवातील तटस्थता
 - ५ सौंदर्यानुभवाची भावना
 - ६ सौंदर्यानुभवातील ज्ञानशक्तीचे मुक्तमेलन
 - ७ सौंदर्यानुभवातील वैश्विकता

चौथे सत्र
सौंदर्यशास्त्र [CBOP – 16]

अभ्यासक्रम :

१ सौंदर्यभावना : दृष्टिकोन

- १ सौंदर्यभावनेचे स्वरूप
- २ मानवी भावनांतील एक भावना : सौंदर्यभावना
- ३ सौंदर्यभावना : दृष्टिकोन
- ४ सौंदर्यभावनेचे कार्य

२ कला आणि रूप

- १ रूप (Significant Form) म्हणजे काय?
- २ ॲरिस्टॉटलची रूपविषयक कल्पना
- ३ कलाकृतीची सेंद्रिय एकात्मता
- ४ कलाकृतीचे अर्थपूर्ण रूप

३ कलेचे परिणाम

- १ कलेच्या परिणामाचे स्वरूप
- २ भावनांचे विरेचन अथवा विशुद्धीकरण
- ३ भावनात्मक समाधानता
- ४ परिणामकारक संदेशन

४ सौंदर्यशास्त्र आणि समीक्षा

- १ सौंदर्यशास्त्र आणि समीक्षेचे स्वरूप
- २ सौंदर्यशास्त्र आणि साहित्यविचार
- ३ सौंदर्यशास्त्र आणि समीक्षाविचार
- ४ सौंदर्यशास्त्राभ्यास आणि समीक्षकता

संदर्भ ग्रंथ :

- १ सौंदर्यमीमांसा- रा.भा.पाटणकर

- २ कांटची सौंदर्यमीमांसा- रा.भा. पाटणकर
- ३ क्रोचेचे सौंदर्यशास्त्र- रा.भा.पाटणकर
- ४ अरिस्टॉटलचे काव्यशास्त्र- गो.वि.करंदीकर
- ५ सौंदर्यविचार- मुंबई मराठी साहित्य संघ
- ६ सौंदर्यानुभव- प्रभाकर पाध्ये
- ७ सौंदर्य आणि साहित्य- बा. सी. मर्ढेकर
- ८ मर्ढेकरांचे सौंदर्यशास्त्र : पुनर्विचार- संपा.- कमलाकर दीक्षित
- ९ सृष्टी, सौंदर्य व साहित्यमूल्य- शरच्चंद्र मुक्तिबोध
- १० मर्ढेकरांचे सौंदर्यशास्त्र: पुनःस्थापना-डॉ.द.भि.कुलकर्णी
- ११ Principles of Art R.D.Collingwood
- १२ The Theory of Beauty E.F.Carrit
- १३ Aesthetics Harold Osborne
- १४ History of Aesthetics Befond Bosen Quet
- १५ The Traditional Theory of Literature Ray Livigstonl

किंवा

लेखनविद्या आणि निबंध लेखन [CBOP - 12]

तिसरे सत्र

उद्दिष्टे :

- १ जीवनव्यवहारामध्ये लेखनविद्येचे स्वरूप, महत्त्व, गरज व वेगळेपण समजावून घेणे.
- २ संवादाची भाषा व लेखनाची भाषा यातील साम्यभेद समजावून घेणे.
- ३ सामाजिक, सांस्कृतिक, शासकीय, न्यायालयीन, आर्थिक आदी क्षेत्रात मराठी भाषेचे उपयोजन समजावून घेणे.
- ४ आधुनिक प्रसारमाध्यमांसाठी लेखन कौशल्ये समजावून घेणे.
- ५ निबंधलेखनाचे स्वरूप, विविधता, गरज समजावून घेणे.

अभ्यासक्रम :

१ भाषा : स्वरूप व कार्य

- १ जीनव्यवहारातील भाषेचे महत्त्व
- २ भाषेचे प्रकार, स्वरूप
- ३ भाषिकसंवाद : स्वरूप, उद्दिष्टे, गरज
- ४ भाषेचेकार्य, भाषा एक सामाजिक संस्था

२ लेखनाची गरज व महत्त्व

- १ लिपीची गरज व महत्त्व
- २ बोलीभाषा व लिखितभाषा
- ३ लिखित भाषेचे महत्त्व व व्याप्ती
- ४ लेखन एकसंवाद : व्यक्तीगत पातळीवरील, सामाजिक पातळीवरील

३ लेखनाचे प्रकार ललित व ललितेतर लेखन :

- १ ललित लेखन : कथा, कादंबरी, नाटक, चरित्र, आत्मचरित्र व कविता यांचे लेखन
- २ ललित लेखनाची शैलीवैशिष्ट्ये
- ३ ललितेतर लेखन : शास्त्रीय लेखन, कार्यालयीन लेखन, वैचारिक लेखन
- ४ ललितेतर लेखनाची शैलीवैशिष्ट्ये

४ निबंधलेखन

- १ निबंधाचे स्वरूप, हेतू गरज
- २ निबंधाचे प्रकार
- ३ निबंधलेखनासाठी आवश्यक कौशल्ये
- ४ निबंधाची शैली व भाषा

लेखनविद्या आणि निबंध लेखन [CBOP - 16]

चौथे सत्र

अभ्यासक्रम :

- १ वृत्तपत्रीय लेखनविद्या
 - १ बातमी : लेखनकौशल्य व भाषावैशिष्ट्ये
 - २ अग्रलेख, स्फुटलेख, वृत्तलेखाचे लेखनकौशल्य
 - ३ जाहिरातलेखन
 - ४ जाहिरातीच्या भाषेची वैशिष्ट्ये
- २ नभोवाणीसाठी संहितालेखन
 - १ नभोवाणीसाठी बातमीलेखन कौशल्य
 - २ नभोवाणीवरील भाषणलेखन कौशल्य
 - ३ नभोवाणीसाठी जाहिरातसंहितालेखन कौशल्य
 - ४ नभोवाणीवरील विविध वाहिण्यांच्या भाषेतील वेगळेपण
- ३ चित्रवाणीमाध्यमासाठी लेखनविद्या
 - १ बातमी संहिता लेखनकौशल्य
 - २ मालिका संहिता लेखनकौशल्य
 - ३ जाहिरात संहिता लेखनकौशल्य
 - ४ माहितीप्रधान कार्यक्रम संहितालेखन कौशल्य
- ४ कार्यालयीन कामकाजासाठी लेखनविद्या
 - १ प्रमाणभाषेचे स्वरूप, गरज व महत्व
 - २ परिभाषा व कार्यालयीन परिभाषा , पारिभाषिक संज्ञा
 - ३ शासकीय परिपत्रके, पत्रे, इतिवृत्त, टिप्पणी यासाठीचे लेखनकौशल्य
 - ४ निवेदन युनिकोड व संगणकाचा वापर : अर्जमसुदा निर्मिती , माहितीपत्रक ,

संदर्भ ग्रंथ :

- १ व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन
- २ व्यावहारिक मराठी, डॉ. काळे, डॉ. पुंडे
- ३ परिभाषाविषयक शासकीय पुस्तके (शासनव्यवहारात मराठी, पदनामकोश, आकाशवाणी, परिभाषाकोश इ.)
- ४ भाषा, मातृभाषा व परिभाषा, डॉ. रा. सो. सराफ
- ५ Marathi Structural Patten, डॉ. मॅक्सिन बर्नसन, जाई निमकर

- ६ An Intensive Course in Marathi, डॉ. विजया चिटणीस
- ७ Learning Marathi, डॉ. कल्याण काळे
- ८ वैखरी, डॉ. अशोक केळकर
- ९ भाषांतर : शास्त्र की कला ?, म. वि. फाटक
- १० जनसंपर्क:संकल्पना आणि सिद्धान्त, सुरेश पुरी
- ११ व्यावहारिक मराठी, ल. रा. नसिराबादकर
- १२ दूरदर्शन, आकाशानंद
- १३ दूरदर्शनसाठी लेखन, केशव केळकर
- १४ व्यावहारिक मराठी भाषा, य.च.म.मुक्त विद्यापीठ प्रकाशन
- १५ संवादाची मूलतत्त्वे, य.च.म.मुक्त विद्यापीठ प्रकाशन
- १६ संवादशास्त्र, श्रीपाद जोशी, संभव प्रकाशन
- १७ साहित्याची भाषा, भालचंद्र नेमाडे
- १८ लोकसंबंधविज्ञान, डॉ.गं. ना. मोरजे, गोपाळराव मिरीकर
- १९ Mass Communication in India, Kewal Kumarl
- २० व्यावहारिक मराठी भाषा, शरदिनी मोहिते
- २१ व्यावहारिक मराठी, (संपा।) डॉ. स्नेहल तावरे
- २२ व्यावहारिक मराठी, डॉ.सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे
- २३ व्यावहारिक मराठी, डॉ.गोविलकर, डॉ. पाटणकर
- २४ व्यावहारिक मराठी, डॉ.स्नेहल तावरे
- २५ व्यावहारिक आणि उपयोजित मराठी, डॉ.मनोहर रोकडे
- २६ व्यावहारिक मराठी, प्रकाश परब
- २७ साहित्य संशोधन : वाटा आणि वळणे, डॉ.सुधाकर शेलार, अक्षरवाङ्मय प्रकाशन, पुणे.
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- ३० अक्षरनिष्ठांची मांदियाळी, (ग्रंथ-शोध आणि वाचन-बोध), अरुण टिकेकर, रोहन प्रकाशन, २०१२.
- ३१ विक्रत्यांचे अंतरंग, कि. मो. फडके, प्रथमावृत्ती, त्रिदल प्रकाशन, १९९७
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- ३५ पुस्तकांची मुखपृष्ठे आणि मांडणी, संपादक, अस्मिता मराठ
- ३६ शब्दस्पर्श, वार्षिक विशेषांक २०१७
- ३७ पुस्तकविक्रीच्या शटरमागे, संपादक, अस्मिता साठे
- ३८ मराठी ग्रंथप्रकाशनाची २०० वर्षे, शरद गोगटे, राजहंस प्रकाशन, २००८
- ३९ लेखनकला आणि लेखनव्यवसाय, वा. गो. आपटे, आनंद कार्यालय, पुणे, १९२६
- ४० बखर एका प्रकाशकाची, कुलकर्णी पं. अ. , मेनका प्रकाशन, पुणे १९९२
- ४१ प्रकाशक रा. ज. देशमुख, प्रकाशक, सदानंद भटकळ, संपा. सदानंद भटकळ, मुकुंदराव किलोस्कर आणि जया दडकर
- ४२ जाहिरातीचं जग, यशोदा भागवत, मौज प्रकाशन, तिसरी आवृत्ती, २०१७
- ४३ दशक्रियेची चित्रकथा, संजय कृष्णाजी पाटील, साकेत प्रकाशन, पहिली आवृत्ती, २०१९
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- ४५ प्रकाशनातील भावे प्रयोग आणि पतंगाची दोरी, ह. अ. भावे, मंदाकिनी भावे, वरदा बुक्स, पहिली आवृत्ती, २०१४
- ४६ डॉ. आनंदीबाई जोशी, एका लघुपटाची रोजनिशी, अंजली किर्तने, शब्द प्रकाशन, प्रथमावृत्ती मे २००१
- ४७ स्वातंत्र्यवीर सावरकर चित्रपटकथा व संवाद, भाग पहिला, विश्राम बेडेकर, पॉप्युलर प्रकाशन, पहिली आवृत्ती, १९९१
- ४८ पत्रकारितेची मूलतत्त्वे, प्रभाकर पाध्ये, अनु. प्र. ना. परांजपे, वसुधा परांजपे, मेहता पब्लिशिंग हाऊस, पुनर्मुद्रण, २०१४
- ४९ वृत्तपत्र व्यवसाय काल आणि आज, डॉ. सुधाकर पवार, प्रकाशक, प्रमोद पवार, प्रथमावृत्ती, मार्च १९८६
- ५० गाथा कर्नाटक प्रिंटिंग प्रेसची, सदानंद भटकळ, मूळ गंथः द कर्नाटक प्रेस सागा, अनु. उषा टाकळकर, पद्मगंधा प्रकाशन, पहिली आवृत्ती, २०१०.
- ५१ ग्रंथालय संघटन, डॉ. रामेश्वर पवार, दिलीपराज प्रकाशन प्रा. लि, प्रथमावृत्ती २०१५.
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- ५९ जनसंवाद आणि जनमाध्यम : सैद्धांतिक संकल्पन, श्रीपाद भालचंद्र जोशी, श्रीमंगेश प्रकाशन, २०००.
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- ६१ व्यक्तिमत्त्व विकास आणि भाषा, डॉ. मधुकर मोकाशी
- ६२ व्यावहारिक आणि व्यावसायिक लेखन प्रणाली, डॉ. मधुकर मोकाशी

किंवा

मराठीतील वैचारिक साहित्य [CBOP - 12]

तिसरे सत्र

उद्दिष्टे :

- १ वैचारिक साहित्याचे स्वरूप, संकल्पना समजावून देणे.
- २ वैचारिक साहित्यामागील सामाजिक, राजकीय, धार्मिक, शैक्षणिक, सांस्कृतिक आदी पार्श्वभूमी समजावून देणे.
- ३ आधुनिक मराठी साहित्यातील वैचारिक साहित्याची परंपरा समजावून देणे.

अभ्यासक्रम :

१ वैचारिक साहित्य: स्वरूप व संकल्पना

- १ साहित्य : स्वरूप व संकल्पना
- २ साहित्य प्रकार : ललित व ललितेतर साहित्य
- ३ वैचारिक साहित्य : स्वरूप व प्रयोजन
- ४ वैचारिक साहित्य : शैलीवैशिष्ट्ये

२ वैचारिक साहित्य: आशय आणि अभिव्यक्ती

- १ वैचारिक साहित्य : विषय आणि व्याप्ती
- २ वैचारिक साहित्य : तत्त्वचिकित्सा व आशय प्रतिपादन
- ३ वैचारिक साहित्य : अभिव्यक्ती वैशिष्ट्ये
- ४ वैचारिक साहित्य : सर्जनशीलता व नवनिर्मिती

३ मराठी वैचारिक साहित्य : पार्श्वभूमी व परंपरा

- १ मराठी वैचारिक साहित्य : मध्ययुगीन कालखंड
- २ मराठी वैचारिक साहित्य : गद्यलेखन परंपरा व नवता
- ३ मराठी वैचारिक साहित्य : अर्वाचीन कालखंड
- ४ मराठी वैचारिक साहित्य : नियतकालिकांचे योगदान

४ मराठीतील वैचारिक साहित्याची वाटचाल आणि त्यातील प्रमुख विचारवंत

- १ इ. स. १८१८ ते इ. स. १८७५
- २ इ. स. १८७५ ते इ. स. १९२०

३ इ. स. १९२१ ते इ. स. १९४५

४ इ. स. १९४६ ते इ. स. १९६०

चौथे सत्र

साहित्याचा सामाजिकदृष्टीने अभ्यास [CBOP - 16]

अभ्यासक्रम :

१ साहित्य आणि समाज : सहसंबंध

- १ साहित्य आणि समाज : परस्परसंबंध
- २ समाज, संस्कृती आणि साहित्यपरंपरा
- ३ समाजाचे साहित्यातील प्रतिबिंब
- ४ सामाजिक वृत्ती-प्रवृत्ती, युगधर्म आणि साहित्यातील आशय व अभिव्यक्ती

२ साहित्याच्या सामाजिक अभ्यासाचे स्वरूप

- १ साहित्याच्या अभ्यासाचे स्वरूप : विविध दृष्टिकोन
- २ साहित्याच्या सामाजिक अभ्यासाचे स्वरूप : समाजशास्त्रीय भूमिका
- ३ साहित्याचा सामाजिक अभ्यास : भूमिका व व्याप्ती
- ४ साहित्याचा सामाजिक अभ्यास : जीवनमूल्ये आणि कलामूल्ये यांचे संबंध

३ समाज आणि लेखक : सहसंबंध

- १ समाज आणि लेखकाचे व्यक्तिमत्त्व
- २ साहित्य निर्मिती आणि लेखकाचे व्यक्तिमत्त्व
- ३ साहित्य निर्मितीवरील वाङ्मयीन, राजकीय, सामाजिक, चळवळींचा प्रभाव
- ४ लेखकाची मातृभाषा आणि भाषिक क्षमता

४ साहित्य आणि वाचक

- १ साहित्यवाचन : मध्ययुगीन परंपरा
- २ साहित्यवाचन : अर्वाचीन काळातील बदलती वाङ्मयीन अभिरूची
- ३ सामाजिक वाटचालीचे साहित्यावरील परिणाम
- ४ साहित्याचे समाजावरील परिणाम

संदर्भ ग्रंथ

- १ मराठी साहित्यातील स्पंदने, गो.म.कुलकर्णी, सुवर्ण प्रकाशन, पुणे १९८५
- २ साहित्य आणि सामाजिक संदर्भ, रा.ग.जाधव, कॉन्टिनेंटल प्रकाशन, पुणे १९७५

- ३ साहित्य आणि सामाजिक संदर्भ, अंजली सोमण, प्रतिमा प्रकाशन, पुणे १०८९
- ४ साहित्य आणि समाज, सुनंदा गोसावी, विलास खोले, प्रा.गोखले, एज्युकेशन सोसायटी, नाशिक १९९१
- ५ साहित्य: समीक्षा आणि संवाद, रवींद्र ठाकूर, दिलीपराज प्रकाशन, पुणे
- ६ कथा सृजनाची, प्रभाकर अत्रे, सोमय्या पब्लिकेशन, मुंबई १९७०
- ७ मराठी सामाजिक नाटक आणि समस्या, कल्पना परांजपे
- ८ नवसमीक्षा : काही विचारप्रवाह गो.म.कुलकर्णी, मेहता पब्लिशिंग हाउस,
- ९ मराठी साहित्य, समाज व संस्कृती, आनंद यादव, मेहता पब्लिशिंग हाउस, पुणे १९८५
- १० समाज आणि साहित्य, अविनाश सहस्रबुद्धे, लोकवाङ्मय गृह प्रा.लि.मुंबई १९८०
- ११ समीक्षेतील अवतरणे, रा.ग.जाधव
- १२ सांस्कृतिक मूल्यवेध, रा.ग.जाधव
- १३ मूल्यविवेक, मोतीराम कटारे
- १४ साहित्य संशोधन : वाटा आणि वळणे, डॉ.सुधाकर शेलार, अक्षरवाङ्मय प्रकाशन, पुणे.
- १५ संतसाहित्यातील सामाजिकता, डॉ. तानाजी पाटील
- १६ विष्णुशास्त्री चिपळूणकर कार्य आणि कर्तृत्व, डॉ. प्रभाकर कुलकर्णी, संपा. डॉ. तानाजी पाटील

किंवा

साहित्य : सर्जन व उपयोजन [CBOP - 12]

तिसरे सत्र

उद्दिष्टे :

- १ साहित्य सर्जनाचे स्वरूप समजावून देणे.
- २ विविध साहित्यप्रकारांचे साम्य भेद लक्षात घेऊन त्यांची वैशिष्ट्ये समजावून देणे.
- ३ साहित्य सर्जनामध्ये समाज, भाषा, परिस्थिती, प्रसार-माध्यमे, कालतत्त्व आदींचे स्थान समजावून देणे.
- ४ विविध साहित्यप्रकारांच्या माध्यमातून साहित्यसर्जनाचे उपयोजन करणे

अभ्यासक्रम :

१ साहित्याच्या सर्जन प्रक्रियेसंबंधी तात्त्विक मीमांसा

- १ साहित्य : स्वरूप व निर्मितीप्रक्रिया
- २ साहित्य आणि प्रतिभा
- ३ साहित्य : अभिव्यक्ती पद्धती व साहित्यप्रकार
- ४ साहित्य आणि भाषा

२ भारतीय व पाश्चात्य विचारवंतांची लेखकांची मते

- १ साहित्यनिर्मितीविषयक भारतीय मीमांसा
- २ साहित्यनिर्मितीविषयक पाश्चात्य मीमांसा
- ३ साहित्यविषयक भारतीय सिद्धांत
- ४ साहित्यविषयक पाश्चात्य सिद्धांत

३ सर्जनप्रक्रिया व समकालीन परिस्थिती

- १ सर्जनप्रक्रिया व युगधर्म
- २ सर्जनप्रक्रिया व उपलब्ध साहित्यप्रकार
- ३ सर्जनप्रक्रिया व समकालीन प्रसारमाध्यमांतील लेखनप्रकार
- ४ सर्जनशीलता : एक अर्जित कौशल्य

४ साहित्यनिर्मिती : आवश्यक कौशल्ये

- १ साहित्याच्या पूर्वपरंपरेचे ज्ञान
- २ समकालीन साहित्याचे वाचन

- ३ संवेदनक्षमता व समकालाचे सजग भान
- ४ अभिव्यक्त होण्याची इच्छाशक्ती

चौथे सत्र

साहित्य : सर्जन व उपयोजन [CBOP - 16]

अभ्यासक्रम :

१ सर्जनप्रक्रियेच्या उपयोजनातील समस्या

- १ सर्जनप्रक्रियेच्या उपयोजनातील समस्या : भारतीय विचार
- २ सर्जनप्रक्रियेच्या उपयोजनातील समस्या : पाश्चात्य विचार
- ३ साहित्य निर्मिती आणि साहित्यप्रकारांच्या कक्षा
- ४ साहित्य निर्मिती आणि सामाजिक निर्बंध

२ साहित्यनिर्मितीच्या प्रक्रियेमध्ये समाज, भाषा इ. चे स्थान

- १ साहित्याचे उपयोजन : साहित्य प्रकारांचा अभ्यास
- २ साहित्यप्रकार : मध्ययुगीन, अर्वाचीन.
- ३ साहित्यप्रकार : अभिव्यक्ती वैशिष्ट्ये
- ४ साहित्यकृती आणि भाषा

३ साहित्यसर्जनाच्या प्रक्रियेमधील प्रसार माध्यमे, कालतत्त्व इ. चे स्थान

- १ साहित्यप्रसार : आधुनिक साधने
- २ आधुनिक साधने आणि बदलते लेखन प्रकार (विषय, आशय व अभिव्यक्ती दृष्ट्या)
- ३ समाजाची बदलती अभिरुची
- ४ साहित्याचे इतर कलांसाठी उपयोजन

४ स्वाध्याय- प्रकल्प

- १ विद्यार्थ्यांनी सैद्धांतिक विवेचन अथवा कोणत्याही साहित्यप्रकारातील (सर्जनशील) ललित साहित्यकृतीचे लेखन करून सादर करणे अपेक्षित आहे.

संदर्भ ग्रंथ :

- १ सौंदर्यमीमांसा, रा.भा. पाटणकर
- २ काव्यशास्त्रप्रदीप, स.रा.गाडगीळ
- ३ कविता फुलते अशी, वा.रा.ढवळे

- ४ एका पिढीचे आत्मकथन, वा.रा.ढवळे
- ५ कथाकल्प, पु.भा.भावे
- ६ संवाद, विजया राजाध्यक्ष
- ७ मुलाखती साहित्यिकांच्या, नंदनवार
- ८ गप्पा : सहा साहित्यिकांशी, वीणा देव
- ९ कहाणीमागची कहाणी, वीणा देव
- १० साहित्याची निर्मितीप्रक्रिया, आनंद यादव
- ११ मध्यमा : भाषा आणि भाषा व्यवहार, अशोक केळकर
- १२ वैखरी: भाषा आणि भाषा व्यवहार, अशोक केळकर
- १३ प्रतिभा साधन, ना.सी.फडके
- १४ लघुकथा : तंत्र आणि मंत्र, ना.सी.फडके
- १५ अनुष्ठुभ २००२ दिवाळी २००४ डिसेंबर, जानेवारी २००५
- १६ शैलसंवाद, शैलेश त्रिभुवन.



SAVITRIBAI PHULE PUNE UNIVERSITY

(formerly University of Pune)

M. A. Political Science Syllabus

(CREDIT & SEMESTER SYSTEM)

**Revised syllabus will be implemented with effect from the academic year 2019-2020
at College Centers**

Savitribai Phule Pune University
Political Science
Syllabus for M.A. - I

Semester I

List of Compulsory Courses (C= compulsory)

PO-C1: Traditions of Political Thought
PO-C2: Administrative Theory
PO-C3: Political Institutions in India

List of Optional Courses (O = optional)

PO-O1-Modern Political Ideologies
PO-O2- Political Process in Maharashtra
PO-O3- India's Foreign Policy
PO-O4- Party System in India

Semester II

List of Compulsory Courses (C= compulsory)

PO-C4: Comparative Political Analysis
PO-C5: Theory of International Politics
PO-C6: Public Policy

List of Optional Courses (O = optional)

PO-O5- Politics and the Media
PO-O6- Human Rights
PO-O7- Social Movements in India
PO-O8- Political Thought in Modern Maharashtra

M.A. - I
Political Science

Semester I

PO-C1: Traditions of Political Thought

Objectives:

This course is meant to serve as a window on the major traditions of thought that have shaped political discourse in different parts of the world over the last three millennia. It stresses the great diversity of social contexts and philosophical visions that have informed the ideas of key political thinkers across epochs. The chief objective is to project the history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life.

1. ANCIENT ERA

1. Confucius

- a. Life and Works
- b. Ruling through Virtue
- c. Rituals and Filial Piety

2. Plato

- a. Life and Works
- b. Plato's concept of Ideal State
- c. Platonic Theory of Justice

2. MODERN ERA

1. Niccolo Machiavelli

- a. Life and Works
- b. Suggestions to the "Prince"
- c. Relationship between Ethics and Politics

2. Jean-Jacques Rousseau

- a. Life and Works
- b. Social Contract Theory
- c. General Will

3. INDUSTRIAL ERA

1. John Stuart Mill

- a. Life and Works
- b. Liberty
- c. Representative Government

2. Karl Marx

- a. Life and Works
- b. State and Class
- c. Historical Materialism

4. COLONIAL ERA

1. M. K. Gandhi

- a. Life and Career
- b. Views on the State
- c. Critique of Western Civilization

2. Frantz Fanon

- a. Life and Career
- b. Africana Phenomenology
- c. Theory of Decolonization

Readings:

1. Adams Ian and R. W Dyson, 2008, *Fifty Great Political Thinkers*, London, Routledge.
2. Benewick Robert and Philip Green (ed.), 1998, *The Routledge Dictionary of Twentieth Century Political Thinkers*, London, Routledge.
3. Boucher David and Paul Kelly, 2009, *Political Thinkers*, Oxford, Oxford University Press.
4. Edward Craig and Edward Craig (ed.), 2000, *Concise Routledge Encyclopedia of Philosophy*, London & New York, Routledge
5. Cooper David, 2003, *World Philosophies: An Introduction*, UK, Blackwell.
6. डोळे ना. य., २००९, *राजकीय विचारवंतांचा इतिहास*, पुणे, कॅनटीनेंटल प्रकाशन.
7. Haddock Bruce, 2012, *A History of Political Thought*, Cambridge, Polity Press
8. Jha Shefali, 2010, *Western Political Thought: From Plato to Marx*, Delhi, Pearson.
9. Klosko George, 2012, *History of Political Theory*, Oxford, Oxford University Press.
10. Mehta V. R., 1996, *Foundations of Indian Political Thought*, New Delhi, Manohar.
11. Misra R. K., 2012, *An Introduction to Political Thought*, Delhi, Pearson.
12. Nelson Brian, 2004, *Western Political Thought*, Delhi, Pearson Education.
13. Parekh Bhikku, 1995, *Gandhi's Political Philosophy*, New Delhi, Ajanta International.
14. Parel Anthony and Ronald Keith (ed.), 2003, *Comparative Political Philosophy: Studies under the Upas Tree*, Lanham, Lexington Books.
15. रेगे मे. पु., १९७४, *पाश्चात्य नीतीशास्त्राचा इतिहास*, पुणे, समाज प्रबोधन संस्था.
16. Sabine G. H., 1971, *A History of Political Theory*, Calcutta, Oxford & I.B.H.
17. White Michael, 2012, *Political Philosophy: A Historical Introduction*, New York, Oxford University Press.

PO-C2: Administrative Theory

Objectives:

Public Administration is an essential part of a society. In last few years the profession of Public Administration is going through changes. Present paper aims to make aware the students about Evolution & Importance of the Public Administration. Paper introduces changing trends in the field of Public Administration.

1. Public Administration

- a. Evolution of the Discipline
- b. Changing Nature of Public Administration
- c. Changing Role of Public Administration in Developing Societies

2. Major Approaches to Public Administration

- a. Bureaucratic Approach
- b. Decision Making Approach
- c. Ecological Approach

3. Theories of Public Administration

- a. Rational Choice Theory
- b. Comparative Public Administration
- c. Development Administration

4. Principles of Organization

- a. Hierarchy, Unity of Command,
- b. Span of Control – Centralization and Decentralization
- c. Line- Staff Agencies

5. New Trends in Public Administration

- a. New Public Management
- b. Challenges of Liberalization, Privatization

6. Governance

- a. Problems of Administrative Corruption
- b. Ombudsman
- c. Lok Pal, Lok Ayukta

Readings:

1. Basu Rumki, 2012, *Public Administration: Concepts and Theories*, New Delhi, Sterling Publishers.
2. Bhattacharya Mohit, 2008, *New Horizons of Public Administration*, New Delhi, Jawahar Publishers and Distributors.
3. भट्टाचार्य मोहित (अनु- वासंती फडके), २०१३, *न्यूहोरायझन्स ऑफ पब्लिक एडमिनिस्ट्रेशन*, नवी दिल्ली, जवाहर पब्लिशर्स आणि डीस्ट्रीब्यूटर्स.

4. बोरा पारस आणि शिरसाठ शाम, २०१५, लोकप्रशासनशास्त्र, औरंगाबाद, विद्या बुक्स.
5. Chakrabarty Bidyut and Mohit Bhattacharya (ed.), 2005, *Public Administration: A Reader*, New Delhi, Oxford University Press.
6. Chakrabarty Bidyut and Mohit Bhattacharya (ed.), 2008, *The Governance Discourse: A Reader*, New Delhi, Oxford University Press.
7. Chakrabarty Bidyut and Prakash Chand, 2012, *Public Administration in a Globalizing World: Theories and Practices*, New Delhi, Sage.
8. Chakrabarty Bidyut, 2007, *Reinventing Public Administration: The India Experience*, New Delhi, Orient Blackswan.
9. Chakrabarty Bidyut and Prakash Chand, 2017, *Public Administration: From Government to Governance*, New Delhi, Orient BlackSwan.
10. Dhameja Alka (ed.), 2003, *Contemporary Debates in Public Administration*, New Delhi, Prentice-Hall India.
11. Denhardt Robert B. and Janet V. Denhardt, 2010, *Public Administration: Action Orientation*, Blemont, Thomson Higher Education.
12. Goel S.L., 2003, *Public Administration: Theory and Practice*, New Delhi, Deep and Deep Publishers.
13. Henry Nicholas, 2004, *Public Administration and Public Affairs*, New Delhi, Prentice-Hall India.
14. Hoshiyar Sing & Pradeep Sachdeva, 1999, *Administrative Theory: Theory and Practice*, Delhi, Pearson.
15. इनामदार ना.र.व काळे सुनिता, १९९७, लोकप्रशासन, पुणे, साधना प्रकाशन.
16. Maheshwari S.R., 2003, *Administrative Theory: An Introduction*, New Delhi, Macmillan.
17. Medury Uma, 2010, *Public Administration in the Globalization Era*, New Delhi, Orient Blackswan.
18. पाटील पी. बी., २००२, लोकप्रशासन, कोल्हापूर, फडके प्रकाशन.
19. Shafritz Jay M. (ed.), 2007, *Defining Public Administration*, Jaipur, Rawat Publications.
20. Shafritz Jay M. and Albert C. Hyde (ed.), 1987, *Classics of Public Administration*, Chicago, Illinois, The Dorsey Press.

PO-C3: Political Institutions in India

Objectives:

The course introduces the student to the leading institutions of India's political system and to the changing nature of these institutions. Apart from explaining the structure and functions of the main institutions the course will try to acquaint students with the idea of institutional balance of power as discussed in the Indian constitution and as developed during the functioning of Indian democracy over the past seven decades.

1. Nationalist legacies

- a. Unity and Integrity
- b. Democracy
- c. Development and Social Transformation

2. Federal institutions

- a. Strong Centre' framework
- b. Autonomy and devolution
- c. Multilevel federalism

3. Executive

- a. President and prime minister
- b. Principle of collective responsibility and accountability to the legislature
- c. Role of governor

4. Legislature

- a. Composition and powers
- b. Norms of representation
- c. Legislative supremacy

5. Judiciary

- a. Composition
- b. Judicial review and judicial activism
- c. Judicial interpretations of Fundamental Rights and Directive Principles, basic structure doctrine

6. Welfare, Regulation and Security

- a. UIDAI
- b. TRAI
- c. AFSPA

Readings:

1. Austin Granville, 1972, *The Indian Constitution: Cornerstone of a Nation*, New Delhi, Oxford University Press.

2. Austin Granville, 1999, *Working a Democratic Constitution: The Indian Experience*, New Delhi, Oxford University Press.
3. Basu, D.D., 2016, *Introduction to the Constitution of India*, Nagpur, Wadhwa.
4. Das Samir (ed) 2013, *The Indian State*, New Delhi, Oxford University Press
5. चपळगावकर नरेंद्र, २००२, *राज्यघटनेचे अर्धशतक*, मुंबई, मौज प्रकाशन.
6. Jayal Niraja Gopal and Pratap Bhanu Mehta (ed.), 2010, *The Oxford Companion to Politics in India*, New Delhi, Oxford University Press.
7. Kamble Bal and Pradeep Jagtap (ed.), 2016, *Indian Democracy and Fundamentalism*, Latur, Aditya Prakashan.
8. Kamble Bal and Eknath Khandave (ed.), 2012, *Challenges to Indian Democracy*, Pune, Diamond Publications.
9. Kamble Bal, 2016, *Political Awareness of Sindhi Community*, Pune, Diamond Publication
10. कांबळे बाळ आणि एकनाथ खांदवे (संपा.), २०१२, *भारतीय लोकशाही समोरील आव्हाने*, पुणे, डायमंड प्रकाशन.
11. कांबळे बाळ आणि प्रदीप जगताप (संपा.), २०१६, *भारतीय धर्मनिरपेक्षतेचे मूल्य आणि वास्तव*, नांदेड, अनुराधा प्रकाशन.
12. कांबळे बाळ, २०१६, *सिंधी समाजाची राजकीय जागृती*, पुणे, डायमंड पब्लिकेशन्स
13. Kapur Devesh and Pratap Bhanu Mehta (Ed.), 2005, *Public Institutions in India*, New Delhi, Oxford University Press.
14. Kashyap Subhash, 2009, *Concise Encyclopedia of Indian Constitution*, New Delhi, Vision Books.
15. Manor James (ed.), 1994, *Nehru to the Nineties: The Changing Office of Prime Minister in India*, London: Hurst and Company.
16. Noorani A. G., 2000, *Constitutional Questions in India*, New Delhi, Oxford University Press.
17. Reddy O. Chinnappa, 2010, *The Court and the Constitution of India: Summits and Shallows*, New Delhi, Oxford University Press.
18. Saez Lawrence, 2004, *Federalism without a Centre*, New Delhi, Sage.
19. Sathe S.P., 2002, *Judicial Activism in India*, New Delhi, Oxford University Press.
20. Shankar B. L. and Valerian Rodrigues, 2011, *The Indian Parliament: A Democracy at Work*, New Delhi, Oxford University Press.
21. Sharma Brijkishor, 2009, *Introduction to the Constitution of India*, New Delhi, Prentice Hall.
22. Suri K. C. (ed.), 2013, *ICSSR Research Surveys and Explorations on Political Science- Volume II, Indian Democracy*, New Delhi, Oxford University Press.

Optional Papers

PO-O1- Modern Political Ideologies

Objectives:

This Course is meant to acquaint students with the character and trajectory of modern political ideologies. It seeks to clarify the key differences between ideological and other modes of thought, and to introduce debates such as End of Ideology and End of History. More specifically, the course serves as an introduction to the distinctive doctrines and variants of major ideologies, and to the role the latter play in contemporary politics.

1. Introduction to Political Ideologies

- a. Origin and Development
- b. Nature and Significance
- c. End of Ideology- Debate

2. Liberalism and Conservatism

- a. Origin and Development
- b. Basic Principles
- c. Types

3. Socialism and Communism

- a. Origin and Development
- b. Basic Principles
- c. Types

4. Multiculturalism and Postmodernism

- a. Origin and Development
- b. Basic Principles
- c. Types

5. Fascism and Fundamentalism

- a. Origin and Development
- b. Basic Principles
- c. Types

6. Feminism and Environmentalism

- a. Origin and Development
- b. Basic Principles
- c. Types

Readings:

1. Adams Ian, 1993, *Political Ideologies Today*, Manchester, Manchester University Press.
2. बापट राम, २०१३, *राज्यसंस्था, भांडवलशाही आणि पर्यावरण*, मुंबई, लोकवाडमय गृह.
3. देसाई दत्ता, २०१९, *नवउदार जगाचा उदयास्त*, पुणे, युनिकअकॅडमी.
4. Eatwell Roger and Anthony Wright, 2003, *Contemporary Political Ideologies*, New Delhi, Rawat.
5. Eccleshall Robert (ed.), 2003, *Political Ideologies: An Introduction*, London and New York, Routledge.
6. Freedon Michael, 1996, *Ideologies and Political Theory: A Conceptual Approach*, New York, Oxford University Press.
7. Freedon Michael (ed.), 2001, *Reassessing Political Ideologies*, New York, Routledge.
8. Goodin Robert and Philip Petit (ed.), 1993, *A Companion to Contemporary Political Philosophy*, London, Blackwell.
9. Graham Gordon, 1986, *Politics in Its Place - A Study of Six Ideologies*, Oxford, Clarendon Press.
10. Halperin S. William, 1964, *Mussolini and Italian Fascism*, New York, Anvil Books
11. Heywood Andrew, 2012, *Political Ideologies*, New York, Palgrave Macmillan.
12. Hoffman John and Paul Graham, 2015, *Introduction to Political Theory*, New Delhi, Pearson Education Ltd.
13. Hoover R Kenneth, 2001, *Ideology and Political Life*, California, Harcourt College Publishers.
14. कुलकर्णी ए. एन., १९९७, *आधुनिक राजकीय विचारप्रणाली*, नागपूर, विद्या प्रकाशन.
15. Laqueur Walter, 1997, *Fascism: Past, Present, Future*, Houston, Open University Press.
16. लेले जयंत, २०१४, *पाश्चात्य विचारसरणीच्या इतिहासातील महत्वाचे टप्पे*, पुणे, युनिक अकॅडमी.
17. McLellan David, 1998, *Ideology*, Delhi, World View.
18. Sargent Lyman Tower, 1999, *Contemporary Political Ideologies*, London and New York, Harcourt Brace College Publishers.
19. Srivastav Smita, 2012, *An Introduction to Political Ideology*, Delhi, Pearson.
20. सुमंत यशवंत, २०१८, *विचारसरणीच्या विश्वात*, पुणे, युनिक अकॅडमी.
21. Vincent Andrew, 2014, *Modern Political Ideologies*, London, Blackwell.

PO-O2- Political Process in Maharashtra

Objectives:

This course intends to introduce students to an in-depth study of politics in one State- Maharashtra. Therefore, students are expected to understand both the historical evolution of Maharashtra's politics and different analyses of politics of the state. It is expected that the students will situate the politics in Maharashtra in three contexts One, the historical context of the region itself, two, the all India context and three comparative context of other states. This approach will help the students in distinguishing between the special and normal features of state's politics.

1. Making of Maharashtra

- a. Politics before 1960 – Non Brahman Movement
- b. Formation of Maharashtra State

2. Socio-Economic Bases of Politics in Maharashtra

- a. Religion, Caste, Language, Region
- b. Agriculture, Industry, Co-operative & Service Sectors

3. Emerging Issues in Politics of Maharashtra.

- a. Regionalism and Sub-Regionalism
- b. Backwardness and Regional Imbalances
- c. Demand for Separate State
- d. Demand for New Districts

4. Politics of Castes and Communities.

- a. Politics of Maratha's
- b. Politics of Dalit's
- c. Politics of OBC's
- d. Politics of Adiwasi's

5. Major Political Parties and Elections in Maharashtra

- a. Congress, BJP, Shiv Sena, NCP, RPI and Bharip Bahujan Mahasangh - Ideologies and Roles
- b. Election Performance after 1957 to Present (Loksabha, Vidhansabha)

6. Contemporary Concerns in Politics of Maharashtra

- a. Reservation Policy
- b. Women's Participation in Politics
- c. New Issues of Development- Water and Border Disputes, Health, Education

Readings:

1. बोकील नीता, २०१२, महाराष्ट्राचा राजकीय इतिहास- १९६० ते १९७२, मुंबई, मौज प्रकाशन.
2. Deo.V.P., 2000, *Politics of Modern Maharashtra*, Pune, Dastane and Company.
3. घारे गोविंद, २०००, *आदिवासी समस्या आणि बदलते संदर्भ*, पुणे, सुगावा प्रकाशन.
4. Usha Jayachandran(ed.), 2014, *Human Development Report, Maharashtra 2012: Toward Inclusive Human Development*, New Delhi, Sege.
5. कांबळे बाळ, २०१७, *भारतातील छोट्या राज्यांची मागणी*, नांदेड, अनुराधा प्रकाशन.
6. Kamble Bal, 2015, *Performance Of Scheduled Caste MLAs in Maharashtra Vidhan Sabha*, Nanded, Anuradha Publication.
7. Lele Jayant, 1982, *Elite Pluralism and Class Rule, Political Development in Maharashtra*, Mumbai, Popular.
8. मिचेल एस.एम. आणि भाके विद्या (संपा.), २००८, *आधुनिक भारतातील दलित दृष्टीकोन आणि मूल्य*, पुणे, डायमंड प्रकाशन.
9. निकाळजे तुषार, २०१६, *भारतीय निवडणूक प्रणाली : स्थित्यंतर व आव्हाने*, पुणे, हरिती प्रकाशन.
10. पळशीकर सुहास आणि नितीन बिरमल (संपा.), २००२, *महाराष्ट्राचे राजकारण : राजकीय प्रक्रियेचे स्थानिक संदर्भ*, पुणे, प्रतिमा प्रकाशन.
11. Palshikar Suhas and Rajeshwari Deshpande, 1999, *Maharashtra: Electoral Politics and Structures of Domination*, Pune, Dept. of Politics and Public Administration, University of Pune.
12. पळशीकर सुहास आणि कुलकर्णी सुहास (संपा.), २००७, *महाराष्ट्रातील सत्ता संघर्ष : राजकीय पक्षांची वाटचाल*, पुणे, समकालीन प्रकाशन.
13. पवार प्रकाश, २००९, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
14. पवार प्रमोद, कांबळे बाळ आणि इतर (संपा.), २०१९, *महाराष्ट्रातील स्थित्यंतरे*, जळगाव, अथर्व प्रकाशन.
15. पवार वैशाली, २०१२, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
16. फडके वाय.डी. २००६, *राखीव जागांची शंभर वर्षे*, पुणे, सुगावा प्रकाशन.
17. सोनवणे कैलास, २०१०, *महाराष्ट्रातील चर्मकार समाजाचे राजकारण*, पुणे, नवीन उद्योग प्रकाशन.
18. तेलतुंबडे आनंद, २०१०, *दलित चळवळीचे एन्जिओकरण*, पुणे, सुगावा प्रकाशन.
19. Thakkar Usha and Kulkarni Mangesh, 1995, *Politics in Maharashtra*, Mumbai, Himalaya Publishing House.
20. थोरात सुखदेव, २००५, *खासगी क्षेत्रातील आरक्षण का? व कसे?*, पुणे, सुगावा प्रकाशन.

PO-O3- India's Foreign Policy

Objectives:

This paper encourages the student to undertake an in depth analysis of India's foreign policy. It seeks to probe and ascertain the major issues and debates in the field of Indian foreign policy and explores India's complex relationships, both bilateral and multilateral, with other countries.

1. Nature and Determinants of India's Foreign Policy

- a. History and Geopolitical context
- b. Political and Ideological factors
- c. Socio- Economic dimensions

2. Evolution of Indian Foreign Policy

- a. The Liberal phase – Nehru and non-alignment
- b. The Realist phase – Post-Nehru shift to state-centrism
- c. The Neo-Liberal phase – Impact of the end of the Cold War and globalization

3. Making of Foreign Policy: Actors and Processes

- a. Role of the Executive – Political and Bureaucratic
- b. Role of the Parliament
- c. Role of Political Parties, Pressure Groups, Media

4. India and Her Neighbors: Contemporary Issues

- a. India and Pakistan
- b. India and Sri Lanka, Bangladesh
- c. India and Nepal, Bhutan

5. India and Major Powers

- a. U.S.A
- b. Russia
- c. China

6. India and Regional Organizations

- a. SAARC
- b. BRICS
- c. EU

Readings:

1. Appadorai A., 1999, *National Interest and Non-Alignment*, New Delhi, Kalinga Publication.
2. Bajpai Kanti and Siddharth Mallavarapu (ed.), 2005, *International Relations in India: Theorising the Region and Nation*, New Delhi, Orient Longman.

3. B. R. Nanda, 1975, *India's Foreign Policy. The Nehru Years*, Delhi, Vikas Publishing House.
4. Challaney Brahma (ed.), 1999, *Securing Indian Future in the New Millennium*, New Delhi, Orient Longman.
5. Chatterjee Aneek, 2017, *Neighbours, Major Powers and Indian Foreign Policy*, New Delhi, Orient BlackSwan.
6. Dhiraj Srivastav, 2007, *India's Foreign Policy and its Neighbors*, Jaipur, ABD Publication.
7. Dutt, V.P., 2011, *Foreign Policy of India: Since Independence* 2011, New Delhi, National Book Trust
8. E. Sridharan, 2007, *The India-Pakistan Nuclear Relationship: Theories of Deterrence and International Relations*, New Delhi, Routledge.
9. Frankel, Francine and Harry Harding (ed.), 2004, *The India-China Relationship: Rivalry and Engagement*, New Delhi, Oxford University Press.
10. Ganguly Sumit, Andrew Scobell and Brian Shoup (ed.), 2006, *US-India Strategic Cooperation into the 21st Century: More than Words*, New York, Routledge.
11. Ganguly Sumit (ed.), 2011, *India's Foreign Policy: Retrospect and Prospect*, New Delhi: Oxford University Press.
12. George Perkovich 2002, *India's Nuclear Bomb: the impact on global proliferation*, Berkley, University of California Press.
13. Gupta K. R. and Vatsala Shukla, 2009, *Foreign Policy of India*, New Delhi, Atlantic Publishers & Distributors Pvt. Ltd.
14. Harshe, Rajen and K.M. Seethi (ed.), 2005, *Engaging with the World: Critical Reflections on India's Foreign Policy*, New Delhi, Orient Longman.
15. Harsh V. Pant (ed.), 2013, *Indian Foreign Policy in a Unipolar World*, New Delhi, Routledge.
16. J. Bandyopadhyay, 2003, *The Making of India's Foreign Policy*, New Delhi, Allied Publishers.
17. Kamble Bal, 2017, *The Foreign Policy of India – An Overview (Special reference to Narendra Modi Government)*, Pune, Diamond Publications.
18. Malone David M., 2011, *Does the Elephant Dance?: Contemporary Indian Foreign Policy*, New Delhi, Oxford University Press.
19. Malone David M., C. Rajmohan and Shrinath Raghwan (ed.), 2015, *The Oxford handbook of Indian Foreign Policy*, London, Oxford University Press.
20. Mohan, C. Raja, 2005, *Crossing the Rubicon: The Shaping of India's New Foreign Policy*, New Delhi, Viking Penguin Books.
21. Nayar Baldev Raj and T.V. Paul, 2004, *India in the World Order: Searching for Major Power Status*, New Delhi, Cambridge University Press.
22. Sharma R.R. (ed.), 2005, *India and Emerging Asia*, New Delhi, Sage.
23. Sethi H., 2008, *State of Democracy in South Asia: India*, New Delhi, Oxford University Press.
24. Thakkar Usha and Mangesh Kulkarni (ed.), 1999, *India in World Affairs: Towards the 21st Century*, Mumbai, Himalaya Publishing House.

PO-O4- Party System in India

Objectives:

This course provides a much fuller treatment, otherwise not available, on political parties and on the electoral process and on the factors that shape and influence both in the specifically Indian context. As parties constitute an important part of the political process, this course would expect students to understand the evolution of different parties and the different configurations of competition both at all-India level and in different states of India. Students will also study the ideological variations across parties, their relationship with social movements and the social bases of parties.

1. Party System in India

- a. One Party Dominance
- b. Multi Party System and Coalition Politics
- c. Reemergence of one party Dominance

2. Indian National Congress

- a. Ideology and Leadership
- b. Social Base and Support Structure
- c. Electoral Performance

3. Bhartiya Janata Party

- a. Ideology and Leadership
- b. Social Base and Support Structure
- c. Electoral Performance

4. Communist Party of India and Marxist Communist Party

- a. Origin and Development
- b. Social Base and Leadership Patterns
- c. Electoral Performance

5. Bahujan Samaj Party

- a. Origin and Development
- b. Social Base and Leadership Patterns
- c. Electoral Performance

6. People's Movement and Political Parties

- a. Peasant Movements
- b. Dalits and Tribal's Movement
- c. Women and Environment Movements

Readings:

1. Adeney Katharine and Lawrence Saez, 2005, *Coalition Politics and Hindu Nationalism*, New York, Routledge.
2. Chandra Kanchan, 2004, *Why Ethnic Parties Succeed?: Patronages and Ethnic Head Counts in India*, Cambridge, Cambridge University Press.
3. De Souza Peter Ronald and E. Sridharan (ed.), 2006, *India's Political Parties*, New Delhi, Sage.
4. Hansen Thomas Blom and Jaffrelot Christophe, 1998, *The BJP and the Compulsions of Politics in India*, New Delhi, Oxford University Press.
5. Harman Horst, 1977, *Political Parties in India*, Meerut, Meenakshi Prakashan.
6. Hasan Zoya (ed.), 2002, *Parties and Party Politics in India*, Delhi, Oxford University Press.
7. Hasan Zoya, 2012, *Congress After Indira*, New Delhi, Oxford University Press.
8. Jafferlot, Christophe, 1996, *The Hindu Nationalist Movement In India, Part I& II*, New Delhi, Penguin India.
9. Joe Midgal, Atul Kohli and Vivienne Shue (ed.), 1994, *State Power and Social Forces*, New York, Cambridge University Press.
10. Kothari Rajni, 1974, 'The Congress System Revisited: A Decennial Review', Berkeley, University of California Press, Asian Survey Vol. XIV: 12, Dec.
11. Mehra Ajay K., D.D. Khanna and Gert W. Kueck (eds.), 2003, *Political Parties and Party Systems*, New Delhi, Sage.
12. Pai, Sudha, 2000, *State Politics, New Dimension: Party System Liberalization and Politics of Identity*, New Delhi, Shipra.
13. Palshikar Suhas, K.C. Suri and Yogendra Yadav (ed.), 2014, *Party Competition in Indian States*, New Delhi, Oxford University Press.
14. पळशीकर सुहास, २०१६, देश- प्रदेश: प्रादेशिक राजकारणाच्या बदलत्या दिशा, पुणे, युनिक अकॅडमी.
15. Sisson Richard and Ramashray Roy (ed.), 1990, *Diversity and Dominance in Indian Politics*, New Delhi, Sage.
16. Sridharan E. (ed.), 2014, *Coalition Politics in India*, New Delhi, Academic Foundation.
17. Suri K. C., 2005, *Parties under Pressure: Political Parties in India since Independence*, Delhi, Lokniti-CSDS.
18. Suri K. C. (ed.), 2013, *ICSSR Research Surveys and Explorations on Political Science- Volume II, Indian Democracy*, New Delhi, Oxford University Press.

M.A. - I
Political Science

Semester II

PO-C4: Comparative Political Analysis

Objectives:

The purpose of this course is to acquaint the student with the sub-discipline of comparative politics. It expects the students to understand the comparative methodology and dynamics of domestic politics across countries.

- 1. Nature of Comparative Analysis**
 - a. Old and New Comparative Politics
 - b. Nature and Scope

- 2. Approaches to the study of Comparative Politics**
 - a. New Institutional
 - b. Structure-Functional

- 3. Theories of Development**
 - a. Modernization
 - b. World System Theory

- 4. Security Apparatus and Concerns**
 - a. Military
 - b. Violence

- 5. Parties and Pressure Groups**
 - a. Parties and Party System
 - b. Pressure Groups in Politics

- 6. Non State Political Actors**
 - a. Social Movements
 - b. Non-Governmental Organizations

Readings:

1. Almond G. and B.Powell, 2004, *Comparative Politics Today: A World View*, Chicago, Foresman.
2. Bara Judith & Mark Pennington (ed.), 2009, *Comparative Politics*, Los Angeles, Sage.
3. Blondel Jean, 1995, *Comparative Government*, London, Prentice Hall.
4. Chilcote Ronald H (ed.), 1994, *Theories of Comparative Politics: The Search for a Paradigm Reconsider*, Oxford, West View Press.
5. Drogus Carol Ann, 2012, *Introducing Comparative Politics*, Washington D C, CQ Press.
6. Hague Rod and Harrop Martin, 2004, *Comparative Government & Politics*, Hampshire, Macmillan.
7. Haynes Jeffrey, 2005, *Comparative Politics in Globalizing World*, Cambridge, Polity Press.

8. Lawrence Mayer and Dennis Patterson (ed.), 2009, *Contending Perspectives in Comparative Politics*, Washington DC, CQ Press.
9. Mahler Gregory, 2008, *Comparative Polity*, Delhi, Pearson Education.
10. O'Neil Patrick, 2004, *Essentials of Comparative Politics*, New York, W.W. Norton & Co.
11. Ray S.N., 1999, *Modern Comparative Politics: Approaches, Methods and Issues*, New Delhi, Prentice Hall.
12. Samuels David J., 2013, *Comparative Politics*, Delhi, Pearson Education.
13. Tilly Charles, 2003, *The Politics of Collective Violence*, Cambridge, Cambridge University Press.

PO-C5: Theory of International Politics

Objectives:

Students need a brief history of international politics to understand why we study the subject and how current scholarship is informed by what preceded it. Theories provide interpretative frameworks for understanding what is happening in the world and the levels of analysis. Competing theories are presented.

1. Introduction to International Politics

- a. Meaning
- b. Nature
- c. Scope

2. Changing International Political Order since World War II

- a. Rise of super powers; cold war & Détente
- b. Non-aligned movement: aims and achievements, relevance
- c. Collapse of the Soviet Union; Rise of American hegemony

3. Approaches to International Politics

- a. Idealism
- b. Realism
- c. Liberalism
- d. Marxism

4. Geopolitical Issues

- a. Theories of Geopolitics, Alfred Mahan, Harry Mackinder and Robert Kohen
- b. Contemporary Geopolitics

5. Positivist and Post Positivist Framework

- a. Positivism
- b. Critical Theory
- c. Constructivism

6. Contemporary concerns

- a. Terrorism
- b. Environment
- c. Gender
- d. Human Rights

Readings:

1. Aneek Chaterjee, 2012, *International Relations: Today: Concepts and Application*, New Delhi, Pearson.
2. Brown Chris and Ainley Hirstein, 2009, *Understanding International Relations*, New York, Palgrave.

3. Burchill, Scott et al, 2009, *Theories of International Relations*, New York, Palgrave.
4. Chan Stephen and Cerwyn Moore(ed.), 2006,*Theories of International Relation Vol 1 to 5*,London, Sage.
5. Jeffrey Haynes, 2014, *An Introduction to International Relations and Religin*, New York, Routledge.
6. Ray K Ashwini, 2004, *Western Realism and International Relation-A Non-Western view*, Delhi, Fondation.

PO-C6: Public Policy

Objectives:

The purpose of this course is to provide students an understanding of the basic concepts, theories and process of public policy. The course also seeks to help students understand public policy processes and actors involved in it by studying specific policies. It attempts to help students understand and analyze policy making in practical context.

- 1. Public Policy**
 - a. Nature and Scope
 - b. Evolution of Discipline

- 2. Major Approaches**
 - a. Group
 - b. Incremental
 - c. Policy Network

- 3. Public Policy in Action**
 - a. Implementation
 - b. Evolution
 - c. Bureaucracy

- 4. Shaping of Public Policy**
 - a. Agenda
 - b. Public formulation and adoption
 - c. Role of legislature

- 5. Public Policy Development**
 - a. Health
 - b. Agriculture
 - c. Environment

- 6. Globalization and Public Policy**
 - a. Global Policy Process
 - b. Role of Transnational Actors
 - c. Impact of Globalization on Public Policy making.

Readings:

1. Chakrabarti Rajesh and Sanyal Kaushiki, 2015, *Public Policy in India*, NewDelhi, Oxford University Press.
2. Chakrabarty Bidyut and Chand Prakash, 2016, *Public Policy: Concept, Theory and Practice*, New Delhi, Sage.
3. Dye Thomas, 2014, *Understanding Public Policy*, New Delhi, Pearson

4. Fischer Frank, Miller J Gerald and Sidney S Mara, 2007, *Handbook of Public Policy Analysis- Theory Politics and Methods*, New York, CRC Press.
5. Anderson J., 2007, *Public Policy Making*, New York, Thomas Nelson and sons Ltd.
6. Jean Dreze and Amartya Sen, 1997, *Indian Development: Selected Regional Perspectives*, Oxford, Clarendon Press.
7. Jean Drèze and Amartya Sen India, 1995, *Economic Development and Social Opportunity*, Oxford, Oxford University Press.
8. Jugal Kishore, 2005, *National Health Programs of India: National Policies and Legislations*, New Delhi, Century Publications.
9. K. Vijaya Kumar, 2012, *Right to Education Act 2009: It's Implementation as to Social Development in India*, Delhi, Akansha Publishers.
10. M. Howlett, M. Ramesh and A. Perl, 2009, *Studying Public Policy: Policy Cycles and Policy subsystems*, Toronto, Oxford University Press.
11. Marma Mukhopadhyay and Madhu Parhar(ed.), 2007, *Education in India: Dynamics of Development*, Delhi, Shipra Publications.
12. Mathur Kuldeep, 2015, *Public Policy and Politics in India*, New Delhi, Oxford University Press.
13. Nalini Juneja, 2001, *Primary Education for All in the City of Mumbai: The Challenge Set By Local Actors*, International Institute for Educational Planning, UNESCO Paris, IIEP.
14. पवार प्रकाश (संपा.) २०१७, *राजकीय अर्थकारण*, पुणे, डायमंड प्रकाशन.
15. R. B. Dehardt and J.V. Dehardt, 2009, *Public Administration: an action orientation*, Belmont, Thomson Higher Education.
16. Sapru R.K., 2016, *Public Policy- Formulation, Implementation and Evaluation*, Delhi, Sterling Publishers.
17. Surendra Munshi and Biju Paul Abraham (ed.), 2004, *Good Governance, Democratic Societies and Globalisation*, New Delhi, Sage,
18. Y. Dror, 1989, *Public Policy Making Reexamined*, oxford, Transaction Publication.

Websites -

1. www.un.org/millenniumgoals
2. <http://www.cefsindia.org>
3. www.righttofoodindia.org

Optional Papers

PO-O5- Politics and the Media

Objectives:

The news media are sometimes called the fourth branch of government-and for good reason. Much of our exposure to politics comes not from direct experience but from mediated stories. This course is designed to help you think about this relationship between the news media and politics. We will explore how news organizations decide what is news, how they report it, how those reports have an impact on viewers or readers, and ultimately, the political system.

This course covers theories and methods used for understanding the role of media in political processes. It explores the role of mediated communications by political actors, media organizations, and individuals via both traditional and digital media, the development of public opinion, the images and perceptions of public figures and policies, in elections.

The course is particularly relevant to students interested in further study in politics and media and considering careers related to journalism, public relations, opinion polling, campaign management, political advertising, and political consulting.

The course is intended to advance students' understanding of the role of media and communication in political processes, including theories and methods used for analyzing the effects of media and communication on public opinion, the practice and processes of political communication, factors influencing news production and dissemination, as well as the roles played by media in various domestic and international policy processes. Finally, the students should be equipped to critically evaluate the role of media and communication in relation to politics and society in a wide range of different settings globally.

1. Media, Politics and Democracy

- a. Nature of Media- Folk Media, Print Media, Broadcast Media and New Media
- b. Media as fourth Pillar of Democracy
- c. Role of Media in Power Politics

2. Media and Political Socialization

- a. Role of Media in Socializing the Public towards Politics and Political Processes
- b. Role of Media in creating Political Attitudes of Public
- c. Influence of Media in deciding levels of Political Participation of the Public

3. Effects of Media on Public Opinion and Political Processes

- a. Role of Media in the Formation of Public Opinion about Political Issues
- b. Role of Media in Setting Political Agendas
- c. The Level of Media influence on Public Opinion

4. Election Campaigns, Awareness and Propaganda

- a. Campaign and Propaganda
- b. The Techniques of Media Election Campaigns
- c. Political Coverage and Paid News

5. Governing through the Media

- a. Assessing Partisan Bias in Political News
- b. Media Favoritism and Political Nominations
- c. Role of Media in Policy Making Process

6. New Media, Social Movements and Collective Action

- a. Role of New Media in Collective Action, Social Movements and Popular Mobilization
- b. Media Impact on Voters and Political Outcome
- c. Media and Image Building

Readings:

1. Bennett W. Lance, and Robert M Entman (ed.), 2001, *Mediated Politics: Communication in the Future of Democracy*, New York, Cambridge University Press.
2. Chadwick Andrew and Philip N. Howard (ed.), 2009, *Routledge Handbook of Internet Politics*, London, Routledge.
3. Chadwick Andrew, 2013, *The Hybrid Media System: Politics and Power*, New York, Oxford University Press.
4. Cook, Timothy, 2005, *Governing with the News: The News Media as a Political Institution*, Chicago and London, University of Chicago Press.
5. Shanto Iyengar and Richard Reeves (ed.), 1997, *Do the media govern? Politicians, Voters and Reporters in America*, New Delhi, Sage.
6. Hacker Kandvan and Djik J., 2000, *Digital Democracy: Issues of theory and practice*, New Delhi, Sage.
7. Hague B and Loader B, 1999, *Digital Democracy: Discourse and Decision making in the information age*, New York, Routledge.
8. Kuhn Raymond, 2007, *Politics and the Media in Britain*, New York, Palgrave Macmillan.
9. McCombs M, Shaw D. L. and Weaver D (ed.), 1997, *Communication and Democracy Exploring the intellectual frontiers in agenda-setting theory*, New York, Lawrence Erlbaum Associates, Inc.
10. McNair Brian, 2007, *An Introduction to Political Communication*, London, Routledge.
11. Negrine Ralph M and James Stanyer (ed.), 2007, *The Political Communication Reader*, London, Routledge.
12. Norris P, 2000, *A Virtuous Circle: Political Communications in Postindustrial Societies*, Cambridge, Cambridge University Press.
13. Oates Sarah, 2008, *Introduction to Media and Politics*, London, Sage
14. Reese S. D., Gandy O. H. and Grant, A.E., 2001, *Framing Public Life-Perspectives on media and our understanding of the social world*, Mahwah, LEA.
15. Semetko Holli A and Margaret Scammell (ed.) 2012, *The SAGE Handbook of Political Communication*, London, Sage.
16. Wolfsfeld Gadi, 2011, *Making Sense of Media and Politics*, New York, Routledge.

PO-O6- Human Rights

Objectives:

This course is aimed at introducing the basic idea of Human rights; equip the student with an ability to distinguish between human rights, fundamental rights and also between individual rights and group rights. The course operates at two levels: it discusses human rights in the context of global political order and secondly, discusses the implementation of human rights in the context of rights movements in India.

1. **Human Rights: Historical Traditions**
 - a. Human Rights: Meaning and Nature
 - b. Evolution of Human Rights
 - c. Universalist and Relativist Conceptions of Rights

2. **Understanding Human Rights**
 - a. Universal Declaration of Human Rights
 - b. Civil and Political Rights
 - c. Economic, Social and Cultural Rights

3. **Specific Human Rights**
 - a. Major Human Rights Conventions
 - b. Right to Self-determination
 - c. Right to Development: Food, Health and Shelter

4. **Human Rights Of Groups**
 - a. Women's Rights
 - b. Rights of the Child
 - c. Rights of Dalits and Tribes
 - d. The Rights of Persons Belonging to Minorities
 - e. Rights of Refugees and Migrant Workers

5. **Human Rights: Implementation**
 - a. The U.N. Machinery: Charter and Treaty Bodies
 - b. Regional Arrangements
 - c. National Institutions and Laws
 - d. Non-Governmental Organizations

6. **Human Rights Concerns And Challenges**
 - a. Humanitarian Law and Human Rights
 - b. Human Rights: International Concerns - Vienna and other UN Conferences
 - c. Human Rights: Terrorism and Fundamentalism
 - d. Human Rights in 21st Century: Challenges of Globalization

Readings:

1. Baxi Upendra, 2002, *The Future of Human Rights*, New Delhi, Oxford University Press.
2. Byrne Darren, 2003, *Human Rights*, Delhi, Pearson.
3. Campbell Tom and Goldberg David et al., 1986, *Human Rights*, Oxford, Basil Blackwell
4. Coicaud J. M. and Doyle M. W. et al., 2004, *The Globalization of Human Rights*, Tokyo, United Nations University Press
5. Evans Tony, 2005, *The Politics of Human Rights*, London, Pluto Press.
6. Hawkesworth Mary and Kogan Maurice (ed.), 1992, *Encyclopaedia of Government and Politics- Vol. II*, London, Routledge.
7. जाधव तुकाराम आणि शिरापूरकर महेश, २०१५, *मानवी हक्क*, पुणे, युनिक अकॅडमी.
8. कांबळे बाळ, देवरे पी.डी. आणि भोंग श्रीनिवास, २०१२, *मानव संसाधन विकास आणि मानवी हक्क*, पुणे, डायमंड प्रकाशन.
9. Narang A.S. (ed.), 2009, *Human Rights in India*, New Delhi, Indira Gandhi National Open University
10. Narang A.S. (ed.), 2015, *Human Rights: Evolution, Concepts and Concerns*, New Delhi, Indira Gandhi National Open University

PO-O7- Social and Political Movements in India

Objectives:

This course expects students to get introduced to the Phenomenon of Social movements arising from collective mobilizations. Students are expected to also understand the relationship between competitive democratic politics and social movements. Movements by different sections are to be studied with specific reference to the experience of social movements that have taken place in post independence India. The course also touches upon the issue of civil society initiatives in contemporary India.

1. Socio-Political Movement

- a. Meaning, Definition, Nature and Scope of Movement
- b. Origin and Objectives of Movement
- c. Classification of Movements

2. Labour Movement

- a. Pre and post Independent period
- b. Trade union, Informalization of labour

3. Agrarian Movement

- a. Issue of land reforms- Naxalites, Farmers Movement
- b. Bhudan Movement
- c. Landless Movement, Bhartiya Kisan Union

4. Anti-Caste Movement

- a. Dalit-Movement, Dalit Panther
- b. Adiwasi Movement
- c. OBC Mobilization after Mandal Commission

5. Women Movement

- a. Historical Background of women in India
- b. Issues of Sexual and Domestic Violence, Reservation in politics

6. Emerging Movement

- a. Chipko Andolan
- b. Narmada Andolan
- c. Student Movement
- d. New Movement- Issues of Human Rights, NGOs and Corruption Eradication Movements

Readings:

1. बिडवई प्रफुल आणि मिलिंद चंपानेरकर (अनु.), २०१८, *भारतातील डाव्या चळवळीचा मागोवा, इतिहास, आवाहन आणि नवसंजिवनीच्या शक्यता*, पुणे, रोहन प्रकाशन,
2. चैतन्य दीपक, २००१, *मेधा पाटकर : नर्मदा संघर्ष*, औरंगाबाद, संकेत प्रकाशन.
3. चौसाळकर अशोक, २०१५, *विचारवंत आणि समाज (सामाजिक चळवळी)*, पुणे, युनिक अकॅडमी.
4. धनागरे डी. एन. २००३, *संकल्पनांचे विश्व आणि सामाजिक वास्तव*, पुणे, प्रतिमा प्रकाशन.
5. देवगावकर एस. जि. आणि देवगावकर शैलेजा, २००९, *सामाजिक चळवळी परंपरागत आणि नवीन*, नागपूर, श्री साईनाथ प्रकाशन.
6. Guha Ramchandra (ed.), 2010, *The Defender of the Tribals: Verrier Elvin, Makers of Modern India*, New Delhi, Penguin.
7. गारे गोविंद, २००३, *नक्षलवादी आणि आदिवासी*, पुणे, सुगावा प्रकाशन.
8. खोपकर कृष्णा, २०००, *मुंबई सह संयुक्त महाराष्ट्राचा लढा आणि डाव्या पक्षांचे योगदान*, मुंबई, जनशक्ती प्रकाशन.
9. Mohanty Manoranjan (eds), 2004, *Caste Clas and Gender*, New Delhi, Sage.
10. मिचेल एस.एम. (संपा.) भाके विद्या (अनु.) २००८, *आधुनिक भारतातील दलित दृष्टीकोन आणि मूल्य*, पुणे, डायमंड प्रकाशन.
11. मुठे सुमन, २००१, *आदिवासी स्त्री जीवन*, पुणे, सुगावा प्रकाशन.
12. Omvedt Gail, 1993, *Reinventing Revolution: New Social Movements and the Socialist Tradition in India*, New York, ME Sharpe.
13. पळशीकर सुहास, २०१३, *भारताच्या राजकारणाचा ताळेबंद*, पुणे, साधना प्रकाशन.
14. पवार प्रकाश, २०११, *समकालीन राजकीय चळवळी*, पुणे, डायमंड प्रकाशन.
15. Pawar Prakash (ed.) 2015, *India Society and Politics*, Pune, Diamond Publications.
16. पारखे कमिला, २००६, *दलित ख्रिस्तीयांचा हक्कासाठीचा लढा*, पुणे, सुगावा प्रकाशन.
17. Ray Raka and Mary Fainsod Katzen Stein (eds), 2005, *Social Movements in India: Poverty, Power and Politics*, New Delhi, Oxford University Press.
18. शहा घनश्याम आणि चिकटे प्राची (अनु.), २०११, *भारतातील सामाजिक चळवळी*, दिल्ली, सेज प्रकाशन.
19. शहा घनश्याम आणि वेंगुरकलेकर योगिनी (अनु.), २००९, *सामाजिक चळवळी आणि सरकार*, पुणे डायमंड प्रकाशन.
20. Shah Ghanshyam (ed.), 2002, *Social Movements and State*, New Delhi, Sage.

PO-08- Political Thought in Modern Maharashtra

Objectives:

The course is an introduction to the political thinking in Modern Maharashtra since the late 19th century. It tries to acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the context of colonialism, nationalism and modernity. The course is woven around thematic issues rather than around individual thinkers in order to help students understand the essentially collective and yet diverse nature of political thought.

1. Mahatma Phule

- a. Views on Equality
- b. Analysis of Caste System and Critique of Brahminism
- c. Sarvajanik Satya Dharma

2. Lokmanya Bal Gangadhar Tilak

- a. Cultural Nationalism
- b. Doctrine of Chatusutri i.e. Swadeshi, National Education, Boycott and Swaraj
- c. Views on Ends and Means

3. Dr. Babasaheb Ambedkar

- a. Nation and Nationalism
- b. Constitution of India
- c. Dalit Rights Movement

4. Vinayak Damoder Savarkar

- a. Hindu Nationalism
- b. Views on Social Reform
- c. Views on Militarization

5. Maharshi Vitthal Ramji Shinde

- a. Views on Untouchability
- b. Views regarding Bahujan Politics
- c. Views on Social Reforms

6. Vinoba Bhave

- a. Satyagrah
- b. Sarvodaya
- c. Bhoodan Movement

Readings:

1. Appadorai A., 1987, *Indian Political Thinking in the 20th century*, New Delhi, South Asian Publishers.
2. Brown D M, 1964, *Nationalist Movement: Indian Political Thought from Ranade to Bhave*, Berkeley, University of California Press.
3. भोळे भा. ल., २००९, *आधुनिक भारतातील राजकीय विचार*, नागपूर, पिंपळापुरे प्रकाशन.
4. Deshpande G. P., 2009, *The World of Ideas in Modern Marathi*, New Delhi, Tulika.
5. डोळे ना. य., २००९, *राजकीय विचारांचा इतिहास*, पुणे, कॅनटीनेंटल प्रकाशन.
6. जावडेकर एस.डी., १९७४, *आधुनिक भारत*, पुणे, कॅनटीनेंटल प्रकाशन.
7. Lederle Mathew, 1976, *Philosophical Trends in Modern Maharashtra*, Mumbai, Popular.
8. Lohia Rammanohar, 1976, *Marx, Gandhi and Socialism*, Hyderabad, Scientific Socialist Educational Trust.
9. Mehta V R, 1996, *Indian Political Thought*, New Delhi, Manohar.
10. पंडित नलिनी, १९७२, *महाराष्ट्रातील राष्ट्रवादाचा विकास*, पुणे. मॉडर्न बुक्स डेपो.
11. Panthom Thomas and Kenneth Deutsch, (eds), 1986, *Political Thought in Modern India*, New Delhi, Sage.
12. फडके य. डी. १९७९, *व्यक्ती आणि समाज*, पुणे, श्री विद्या प्रकाशन.
13. Sharma G N and Moin Shakir, 1976, *Politics and Society: Rammohan Roy and Nehru*, Aurangabad, Parimal Prakashan.
14. सुमंत यशवंत आणि पुंडे डी.डी. (संपा.), २००६, *महाराष्ट्रातील जातीसंस्थाविषयक विचार*, पुणे, प्रतिमा प्रकाशन.
15. व्होरा राजेंद्र (संपा.), २०००, *परंपरा आणि आधुनिकता*, पुणे, प्रतिमा प्रकाशन.

UNIVERSITY OF PUNE

M.A. Political Science

Credit and Semester system (CSS)

Revised syllabus will be implemented with effect from the academic year 2013-2014 at College Centers

Syllabus for M. A. Part I

Syllabus for M.A. Part I Semester I

List of Compulsory Courses (C= Compulsory)

Paper No	Papers Title
PO-C1 :	Political Theory
PO-C2 :	Public Administration
PO-C3 :	Political Institutions in India

List of Optional Courses (O=Optional)

PO-O1 :	Modern Political Ideologies
PO-O2 :	Political Thinkers in Modern Maharashtra
PO-O3 :	India's Foreign Policy
PO-O4 :	Inequality and Exclusion

UNIVERSITY OF PUNE

Political Science

Syllabus for M. A. Part I

Syllabus for M.A. Part I Semester II

List of Compulsory Courses (C= Compulsory)

Paper No	Papers Title
PO-C4 :	Public policy
PO-C5 :	Issues in World Politics
PO-C6 :	Comparative Politics

List of Optional Courses (O=Optional)

PO-O5 :	Political Process in Maharashtra
PO-O6 :	State Politics in India
PO-O7 :	Human Rights
PO-O8 :	Social Movement in India

Compulsory paper

Semester –I

**M.A. Part -I (Political
Science)**

Compulsory Paper Semester- I M.A. Part-I (Political Science)

PO-C1 : Political Theory

Objectives: This Course introduces Political Theory as a distinctive area of inquiry that is integral to the study of politics. It highlights contemporary normative debates and places them in a historical perspective. The Course projects the global and interdisciplinary orientation of Political Theory. It also emphasises the interplay of theory and practice in the political process.

- 1. Political Theory:** Nature, Significance and Resurgence.
- 2. Contemporary Perspectives:** Liberal, Marxist, Feminist and Communitarian.
- 3. State and Citizen:** Political Obligation, Resistance and Civil Disobedience.
- 4. Key Concepts I:** Liberty, Equality and Fraternity.
- 5. Key Concepts II:** Justice, Rights and Duties.
- 6. Theories of Democracy:** Liberal, Radical and Cosmopolitan.

Readings:

1. Bhargava Rajeev and Ashok Acharya (eds.), 2008/2011, *Political Theory/ Rajakiya Siddhanta* (Marathi translation), Delhi, Pearson
2. Goodwin Barbara, 2004, *Using Political Ideas*, Chichester, John Wiley & Sons.
4. Hampton Jean, 1998, *Political Philosophy*, New Delhi, Oxford University Press.
5. Kulkarni Mangesh (ed.), 2011, *Interdisciplinary Perspectives in Political Theory*, New Delhi/Thousand Oaks, Sage
6. Kymlicka Will, 2002, *Contemporary Political Philosophy*, Oxford, Oxford University Press.
7. Knowles Dudley, 2001, *Political Philosophy*, London, Routledge
8. Pierson Christopher, 2004, *The Modern State*, London, Routledge.
9. Rege M. P., 2005, *Swatantrya, Samata ani Nyaya*, Mumbai, Shanta Rege.
10. Swift Adam, 2001, *Political Philosophy*, Cambridge, Polity.

Compulsory Paper Semester- I M.A. Part-I (Political Science)

PO-C2 : Public Administration

Objectives: This course seeks to help students understand important concepts, approaches and theories of public administration. The course aims to equip students with understanding of the latest developments in the field of Public Administration. The course will be useful for students who seek to understand and analyze broad transformations in the study of public administration in the course of changes in socio-economic and political life.

- 1. Public Administration:** Nature and Scope, Private-Public Debate
- 2. Evolution of Public Administration:** Classical, Neo-classical, New Public Administration, Development Administration.
- 3. Major Approaches to the Study of Public Administration:** Bureaucratic Approach, Decision-Making, Systems Approach, Public Choice
- 4. Governance:** Good Governance Practices and Reforms, Public Sector in the context of Liberalization.
- 5. Accountability and Control:** Administrative and Financial Accountability, Civil Society and Public Administration.
- 6. Contemporary Public Administration:** New Public Management, Ethics in Public Administration.

Readings:

1. Bhattacharya Mohit, 2008, *New Horizons of Public Administration*, New Delhi; Jawahar Publishers, 5th Edition.
2. Dhameja Alka (ed.), 2003, *Contemporary Debates in Public Administration*, New Delhi; Prentice-Hall India
3. Goel S.L., 2003, *Public Administration: Theory and Practice*, New Delhi; Deep and Deep Publishers.
4. Maheshwari S.R., 2003, *Administrative Theory: An Introduction*, New Delhi; MacMillan
5. Medury Uma, 2010, *Public Administration in the Globalization Era*, New Delhi; Orient Blackswan.
6. Nicholas Henry, 2004, *Public Administration and Public Affairs*, New Delhi; Prentice-Hall India, 8th Edition.

7. Shafritz Jay M. (ed.), 2007, *Defining Public Administration*, Jaipur; Rawat Publications, Indian Reprint.

8. Shafritz Jay M. and Albert C. Hyde (ed.), 1987, *Classics of Public Administration*, Chicago, Illinois, The Dorsey Press

Compulsory Paper Semester- I M.A. Part-I (Political Science)

PO-C3 : Political Institutions in India

Objectives: The course introduces the student to the leading institutions of the Indian political system and to the changing nature of these institutions. Apart from explaining the structure and functions of the main institutions the course will try to acquaint students with the idea of institutional balance of power as discussed in the Indian constitution and as developed during the functioning of Indian democracy over the past six decades.

1. Nationalist legacies

- a. Unity and Integrity
- b. Democracy
- c. Active state

2. Federal institutions

- a. 'Strong centre' framework
- b. Autonomy and devolution
- c. Multilevel federalism

3. Executive

- a. President and prime minister
- b. Principle of collective responsibility and accountability to the legislature
- c. Role of governor

4. Legislature

- a. Composition and powers
- b. Norms of representation
- c. Legislative supremacy

5. Judiciary

- a. Judicial review
- b. Judicial interpretations of FRs and DPSPs and basic structure doctrine
- c. Judicial activism

6. New institutional mechanisms of governance

- a. Central Information Commission
- b. Central Vigilance Commission
- c. The National Human Rights Commission

Readings:

1. Austin Granville, 1972, *The Indian Constitution: Cornerstone of a Nation*, New Delhi, OUP

2. Austin Granville, 1999, *Working a Democratic Constitution: The Indian Experience*, New Delhi, OUP
3. Basu, D.D., 2001, *Introduction to the Constitution of India*, Nagpur, Wadhwa
4. Chapalgaonkar Narendra, *Rajyaghatanche Ardhashatak*, (Marathi), Mumbai, Mauj Prakashan.
5. Chapalgaonkar Narendra, *Vidhimandale and Nyayasanstha*, (Marathi), Mumbai, Mauj Prakashan.
6. Jayal Nirja Gopal and Pratap Bahnu Mehta (eds), 2010, *The Oxford Companion to Politics in India*, New Delhi, OUP
7. Kashyap Subhash, 2009, *Concise Encyclopedia of Indian Constitution*, New Delhi, Vision Books
8. Kapur Devesh and Pratap Bhanu Mehta(eds), 2005, *Public Institutions in India*, New Delhi, OUP
9. Noorani A G, 2000, (paperback), *Constitutional Questions in India*, New Delhi, OUP
10. Reddy O. Chinnappa, 2010 (paperback), *The Court and the Constitution of India: Summits and Shallows*, New Delhi, OUP
11. Saez Lawrence,2004, *Federalism without a Centre*, New Delhi, Sage
12. Sathe S.P., 2002, *Judicial Activism in India* , New Delhi, OUP
13. Sathe S P, 1999, *Rajyaghatanechi Pannas Varshe* (Marathi), Pune, Continental Prakashan.
14. Shankar B L and Valerian Rodrigues, 2011, *The Indian Parliament: A Democracy at Work*, New Delhi, OUP
15. Sharma Brijkishor,2009, *Introduction to the Constitution of India*, New Delhi, Prentice Hall

Compulsory paper

Semester –II

**M.A. Part -I (Political
Science)**

Compulsory Paper Semester- II M.A. Part-I (Political Science)

PO-C4 : Public policy

Objectives: The purpose of this course is to provide students an understanding of the basic concepts, theories and process of public policy. The course also seeks to help students understand policy processes and actors involved in it by studying specific policies. It attempts to help students understand and analyze policy making in practical context.

1. Public Policy

- a. Concept, Nature and Scope
- b. Evolution of the discipline

2. Approaches to the Study of Public Policy

- a. Group Approach
- b. Incremental Approach
- c. Rational Choice Approach
- d. Policy Networks Approach

3. Public Policy Making

- a. Process: Agenda, Policy Formulation, Adoption
- b. Institutions and Actors

4. Public Policy Implementation

- a. Implementation and Evaluation
- b. Institutions and Actors

5. Globalization and Public Policy

- a. Global Policy Process
- b. Role of Transnational Actors
- c. Impact of Globalization on policy-making

6. Policy Analysis in India

- a. Education- Right to Education
- b. Health- National Rural Health Mission (NRHM)

Readings:

1. Anderson J.E., 2006, *Public Policy-making: an introduction*, Boston, Houghton
2. Birkland Thomas A., 2005, *An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making*, 2nd Edition, Armonk; M.E. Sharpe

3. Dye Thomas, 2008, *Understanding Public Policy*, Singapore, Pearson Education
4. Gerston Larry N., 2004, *Public Policy Making: process and principles*, Armonk, M.E.Sharpe
5. Hill Michael, 2005, *The Public Policy Process*, Harlow, UK; Pearson Education, 5th Edition
6. Parsons Wayne, 1995, *Public Policy: An Introduction to the Theory of Policy Analysis*, Aldershot, U.K.; Edward Elgar
7. Rathod P.B., 2005, *Framework of Public Policy: The Discipline and its Dimensions*, New Delhi; Commonwealth.
8. Stone Deborah, 2001, *The Policy Paradox*, N.Y., Norton
9. Dreze Jean and Amartya Sen, 2002, *India: Development and Participation*, New Delhi; Oxford University Press.

Compulsory Paper Semester- II M.A. Part-I (Political Science)

PO-C5 : Issues in World Politics

Objectives: This course applies the theories and used to illustrate how each level of analysis the international system, the state, and the individual- to help in organizing and conceptualizing the issues. The major issues of the twenty first century- security, economics and transnational issues are presented and analyzed.

- 1. Foreign Policy Decision Making:** State, Sovereignty and Territory-The Structure of Domestic politics- Democracy promotion
- 2. Transnational Actors:** Global IGOs and INGOs- Globalization and Interdependence
- 3. Environment and Population Pressures:** Resource Depletion- Energy Security
- 4. Power and Security** -Nuclear proliferation and the new world order, Information Revolution and Soft Power
- 5. Coercive Diplomacy and Intervention**
- 6. Twenty first century armed conflict:** Civil war, Terrorism, nationalism and ethnic conflicts

Readings:

1. Baylis, John and Steve Smith, Patricia Owens, 2011, The Globalization of World Politics, New York, OUP.
2. Carlsnaes Walter, Risse ,Thomas and Simmons ,Beth A. (Ed) 2006, Handbook of International Relations London: Sage
3. De Mesquita, Bruce Bueno., 2010, Principles of International Politics, Washington DC: CQ Press.

4. Goldstein, Joshua.S. and Jon.C.Pevehouse, 2011, International Relation (VIII Edn) New – Delhi, Pearson.
5. Jervis, Art., 2009, International Politics-Enduring Concepts and Contemporary Issues (IX Edn) New-York: Pearson.
6. Kegley Jr., Charles W. and Shannon L Blanton, 2010, World Politics: Trend and Transformation, Belmont, Thomson-Wadsworth
7. Mingst, Karen A and Ivan .M. Arreguin-Toft, 2011, Essential Readings in World Politics, New York: W.W. Norton and Co.
8. Nye Jr., Joseph S. 2007, Power in the Global Information Age London: Routeledge
9. Nye Jr., Joseph S. 2009, Understanding International Conflicts- An Introduction to theory and History (VII edn) New York: Pearson Longman
10. Ray, James Lee and Juliet Kaarbo, 2008, Global Politics (IX edn.) Boston: Houghton Mifflin Co.
11. Rourke, John T. 2008, International Politics on the world stage Boston: McGraw Hill.
12. Viotti, Paul.R. and Kauppi, Mark.V., 2007, *International Relations and World Politics-Security, Economy, Identity*, New Delhi, Pearson.

Compulsory Paper Semester- II M.A. Part-I (Political Science)

PO-C6 : Comparative Politics

Objectives: The purpose of this course is to acquaint the students with the sub-discipline of Comparative Politics with the following objectives

- (i) To understand the trajectory of the sub-discipline.
- (ii) To understand the significance of the comparative methodology
- (iii) To understand the dynamics of domestic politics across the countries.

1. Approaches to the Study of Comparative Politics

- a. Systems theory and structural functionalism
- b. Institutionalism
- c. Political Economy approach

2. Organizing the state

- a. Constitutions and Constitutionalism
- b. Unitary State, Federations and Confederations
- c. Non-democratic systems

3. Governmental Structures

- a. Legislatures and Constitutionalism
- b. Bureaucracy and Military
- c. Judiciary

4. Parties and Groups

- a. Electoral Systems and Elections
- b. Parties and Party – Systems
- c. Groups in Politics

5. Political Development

- a. Modernization and Development
- b. Underdevelopment
- c. Revolutions

6. Non-state Political Process

- a. Social movements
- b. Non-governmental organizations

Readings:

1. Almond G. and B. Powell, 1988, *Comparative Politics Today: A World view*, Chicago, Foresman.

2. Chilcote Ronald H., 1994, *Theories of Comparative Politics: The search for a Paradigm Reconsidered*, Oxford, Westview Press.
3. Hague Rod, Harrap Martine and Breslin Shaun; 2004, *Comparative Government and Politics : An Introduction*, Hampshire, Macmillan.
4. Haynes Jeffery, 2005 *Comparative Politics in a Globalizing World*, Polity Press, Cambridge.
5. O'Neil Patrick, 2004, *Essentials of Comparative Politics*, New York, W.W. Norton and Co.
6. Ray S.N., 1999, *Modern Comparative Politics: Approaches, Methods and Issues*, New Delhi, Prentice Hall.
7. Landman Todd, 2000, *Issues and Methods in Comparative Politics: An Introduction*, London, Routledge.
8. Blondel Jean, 1995, *Comparative Government*, London, Prentice Hall, 2nd Edition.
9. Bara Judith and Mark Pennington, (eds) 2009, *Comparative Politics*, Los Angeles, Sage.
10. Newton Kenneth and Van Deth Jan, 2005, *Comparative Politics*, Cambridge, Cambridge University Press.

Optional Paper

Semester –I

**M.A. Part -I (Political
Science)**

Optional Paper Semester- I M.A. Part-I (Political Science)

PO-01 : Modern Political Ideologies

Objectives: The purpose of this course is to acquaint the students with the study of select modern ideologies with the following objectives.

- I. To understand the difference between ideology and thought as well as between theory and ideology.
- II. To understand the relationship between ideas and politics.
- III. To understand the core doctrines of each of the ideologies and to make sense of politics through different ideological perspectives.

1. Liberalism

2. Socialism

3. Nationalism

4. Fascism

5. Feminism

6. Environmentalism

Readings:

1. Adams Ian, 1993, *Political Ideologies Today*, Manchester, Manchester University Press.
2. Goodin Robert and Philip Petit (eds.), 1993, *A Companion to Contemporary Political Philosophy*, London, Blackwell.
3. Graham Gordon, 1986, *Politics in its Place- A Study of Six Ideologies*, Oxford, Clarendon Press.
4. Heywood Andrew, 1992, *Political Ideologies*, London, Macmillan.
5. Vincent Andrew, 1992, *Modern Political Ideologies*, London, Blackwell.
6. Macridis Roy C, 1985, *Contemporary Political Ideologies*, Boston, Little Brown and Co.
7. Bholay Bhaskar, *Rajakiya Siddhanta Ani Vishleshan*, (Marathi) Nagpur, Pimplapure.
8. Hoffman John and Graham Paul, 2006, *Introduction to Political Theory*, New Delhi, Pearson Education Ltd.

Optional Paper Semester- I M.A. Part-I (Political Science)

PO-O2: Political Thinking in Modern Maharashtra

Objectives: The course is an introduction to the political thinking in Maharashtra since the late 19th century. It tries to acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the context of colonialism, nationalism and modernity. The course is woven around thematic issues rather than around individual thinkers in order to help students understand the essentially collective and yet diverse nature of political thought.

1. Tradition and Reforms: Chiplunkar, Agarkar

2. Nationalism and Maharashtra Dharma-Ranade , Tilak, Shinde

3. Religion and Society: Savarkar , Vinoba

4. Caste Question- Phule, Ambedkar

5. Gender Inequalities: Agarkar, Phule, Tarabai Shinde

6. Satyagraha and Sarvodaya: Javdekar, Vinoba

Readings:

1. Brown D M, 1964, *Nationalist Movement: Indian Political Thought from Ranade to Bhave*, Berkeley, University of California Press

2. Deshpande G. P. , 2009, *The World of Ideas in Modern Marathi*, New Delhi, Tulika

3. Javdekar S D, 1994, *Adhunik Bharat*, Pune, Continental Prakashan

4. Lederle Mathew, 1976, *Philosophical Trends in Modern Maharashtra*, Mumbai, Popular Prakashan

5. Pandit Nalini, 1972, *Maharashtratil Rashtravadacha Vikas*, Pune, Modern Book Depot

6. Pantham Thomas and Kenneth Deutsch, (eds.), 1986, *Political Thought in Modern India*, New Delhi, Sage

7. Phadke Y D, 1979, *Vyakti ani Vichar*, Pune, Shrividya Prakashan

8. Sumant Yashwant and DD Punde (eds.), 2006, *Maharashtratil Jaatisansthavishyak Vichar*, (Marathi) Pune, Pratima Prakashan

9. Vora Rajendra (ed.), 2000, *Parampara ani Adhunikta*, Pune, Pratima Prakashan

Optional Paper Semester- I M.A. Part-I (Political Science)

PO-O3 : India's Foreign Policy

Objectives: This paper introduces the student to an in depth analysis account of India's foreign policy. It seeks to probe and ascertain the major issues and debates, the festering problems and the complex relationships, both bilateral and multilateral.

- 1. Conceptual and Philosophical Origins-**The decision making process- challenges
- 2. India's options in a Changing Asia:** India and Asia--Relations with China, Japan. Central-Asia, West-Asia
- 3. India's relations with USA, Europe and Russia**
- 4. Relations with neighbors:** Pakistan, Myanmar, Sri Lanka, Bangladesh, Nepal and Bhutan; Indian Ocean- India's growing Maritime power
- 5. India's Contemporary Security Challenges-** Internal and External- Security Concerns: Energy Security, Nuclear threats.
- 6. India's Economic Interests and evolution of multilateralism, India's initiatives in global politics**

Readings:

1. Bajpai, Kanti and Siddharth. Mallavarapu, (Ed) 2005, *International Relations in India: Theorising the Region and Nation*, New-Delhi: Orient Longman.
2. Chellaney Brahma, (ed.), 1999, *Securing India's Future in the New Millennium*, New Delhi, Orient Longman.
3. Chellany, Brahma, 2006, *Asian Juggernaut-The Rise of China, India and Japan*, N-Delhi: Harper Collins.
4. Cohen, Stephen.P., 2001, *India: Emerging Power*, New Delhi, OUP
5. Dixit, J.N., 2003, *India's Foreign Policy [1947-2003]* N.Delhi: Picus.
6. Ganguly, Sumit., 2011, *Indian Foreign policy: Retrospect and Prospect*
7. Harshe, Rajen and K.M. Sethi, (Ed) 2005, *Engaging with the World- Critical Reflections on India's Foreign Policy*, New-Delhi: Orient Longman.

8. Kugelman, Michael (Ed) 2011, *India's Contemporary Security Challenges*, Washington DC: Woodrow Wilson Centre.
9. Kumaraswamy, P. (Ed) 2004, *Security Beyond Survival- Essays for K. Subrahmanyam* N.Delhi: Sage,
10. Malone, David M., 2011, *Does the Elephant Dance?- Contemporary Indian Foreign Policy*, Oxford: OUP.
11. Pant, Harsh (Ed), 2011, *India's Foreign policy in a unipolar world*
12. Perkovitch George, 2003, *India's Nuclear Bomb-The Impact of Global Proliferation*, New Delhi, OUP.
13. Raja Mohan, C., 2003, *Crossing the Rubicon –The Shaping of India's New Foreign Policy*, New Delhi: Viking.
14. Sharma, R.R., (ed.) 2005, *India and Emerging Asia*, New Delhi: Sage.
15. Sikri, Rajiv, 2009, *Challenge and Strategy: Rethinking India's Foreign Policy*, New Delhi Sage

Optional Paper Semester- I M.A. Part-I (Political Science)

PO-04 : Inequality and Exclusion

Objectives: This course expects that the students know about basic ideas of Marx and Weber and are aware of the systems sustaining inequality. The course draws attention to multiplicity (and overlap) of systems of inequality and also focuses on resulting exclusion and effects on political and economic relations within a society circumscribed by various inequalities.

1. The ideas of inequality and exclusion

2. Class

3. Caste

4. Gender

5. Race

6. Ethnicity

Readings:

1. Bhattacharya Harihar and others (eds.), 2010, *The Politics of Social Exclusion in India*, New Delhi, Routledge
2. Byrne David, 2009, *Social Exclusion* (Indian Edition), New Delhi, Rawat Publications
3. Hutchinson John and Anthony Smith (ed), 1996, *Ethnicity*, Oxford, OUP.
4. Mohanty Manoranjan (ed), 2004, *Caste, Class and Gender*, New Delhi, Sage
5. Oommen T K (ed), 2010, *Classes, Citizenship, Inequality: Emerging Perspectives*, New Delhi, Pearson
6. Shelly Toby, 2007, *Exploited: Migrant Labour in the New Global Economy* (Indian edition), Bangalore, Books for Change.

Optional Paper

Semester –II

**M.A. Part -I (Political
Science)**

Optional Paper Semester- II M.A. Part-I (Political Science)

PO-05 : Political Process in Maharashtra

Objectives: This course expects the students to study one state in an in-depth manner to understand how the political process evolves at the state level. It will also allow the students to do assignments based on field studies. The study is to be done from socio-historical as well as political economy perspectives. The course seeks to sensitize students to the changes in the political process over the period of over half a century from Congress domination to a bipolar competition and from Maratha hegemony to the crisis of hegemony.

1. Politics before 1960: a) Non-Brahman Movement and its impact on State politics b) Movement for the formation of Maharashtra State

2. Regionalisms and Sub-regionalism: a) Politics of regional and linguistic identity; b) Issue of backwardness and regional imbalances; c) Demand for separate Vidarbha State
3. Caste and Politics: a) Rise of Maratha hegemony; b) Dalits politics; c) Challenges to Maratha hegemony

4. Political Economy: a) The cooperative sector; b) Agrarian interests; c) Rise of urban interests

5. Electoral politics: a) Dominant party system—1957-76; b) Crisis of dominant party system—1977-1995; c) Rise of competitive coalition system—1990 to the present

6. Politics of Local governments: a) Rural local politics after since 1992; b) Politics in Mumbai; c) Politics of urban areas

Readings:

1. Desai Datta, 2010, Maharashtra@50: *Vikasachi Disha ani Paryay, Special Issue of Parivartanacha Watsaru*, Oct 16-31.
2. Frankel Francine R. and M.S.A. Rao (eds.), 1990, *Dominance and State Power in Modern India*, Vol.2, Delhi. OUP
3. Khatu Gajanan, 2011, *Swapnachya Shodhat Maharashtra*, Mumbai, Sahit Prakashan.
4. Palshikar Suhas and Rajeshwari Deshpande, 1999, *Maharashtra: Electoral Politics and Structures of Domination*, Pune, Department of Politics and Public Administration, University of Pune
5. Palshikar Suhas and Nitin Birmal (eds.), 2003, *Maharashtrache Rajkaran: Rajakiya Prakriyeche Sthanik Sandarbh*, Pune, Pratima

6. Palshikar Suhas and Suhas Kulkarni, 2007, *Maharashtratil Satta Sangharsh*, Pune, Samkaleen.
7. Palshikar Suhas, Nitin Birmal and Vivek Ghotale, 2010, *Coalitions in Maharashtra: Political Fragmentation or Social Reconfiguration?* Pune, Dept of Politics & Public Administration, CAS Occasional Paper Series: No. 4.
8. Vora Rajendra and Suhas Palshikar, 1996, *Maharashtratil Sattantar*, Mumbai, Granthali

Optional Paper Semester- II M.A. Part-I (Political Science)

PO-06 : State Politics in India

Objectives: The objective of this course is to introduce students to the varied patterns of politics in Indian states with a focus on key common thematic issues. Each thematic issue will be studied with reference to a few states as mentioned in each topic. With the emergence of state as an important unit in Indian politics over the past two decades the course will be a useful supplementary course for students doing Indian politics.

1. States as units of politics

- a. Formation of states
- b. Centre state and inter-state conflicts
(Andhra Pradesh and Assam)

2. Electoral and party politics

- a. All India and state parties
- b. Multiple bipolarities
(Gujarat, Bihar, Kerala)

3. Regional Identity politics

- a. Politics of language, religion and ethnicity
- b. Demands of autonomy and insurgency
(Punjab, Jharkhand, Nagaland)

4. Caste and politics

- a. Rise of middle peasant castes
- b. Dalit and OBC politics
(Uttar Pradesh and Tamil Nadu)

5. Political Economy

- a. Regional disparities
- b. Urban rural divide
(Orissa, Maharashtra)

6. In- depth study of any one state except Maharashtra

Readings:

1. Frankel Francine and M.S.A. Rao (eds), 1990, Dominance and State Power in Modern India, vols.1 and 2, New Delhi, OUP.
2. Jaffrelot Christophe and Sanjay Kumar (ed.), 2009, Rise of the Plebeians: the Changing Face of Indian Legislative Assemblies, New Delhi, Routledge
3. Jenkins Rob, 2004, Regional Reflections: Comparing Politics Across India's States, New

Delhi, OUP.

4. Narain Iqbal (ed), 1976, *State Politics in India*, Meerut, Meenakshi Prakashan.

5. Shastri Sandeep, K C Suri and Yogendra Yadav (eds.), 2009, *Electoral Politics in Indian States*, OUP.

6. Weiner Myron (ed.), 1965, *State Politics in India*, New Jersey, Princeton University Press.

7. Wood John R (ed.), 1984, *State Politics in Contemporary India: Crisis or Continuity*, Boulder, Westview Press.

8. *Economic and Political Weekly*, 2009, September 26-October 2

Optional Paper Semester- II M.A. Part-I (Political Science)

PO-07 : Human Rights

Objectives: This course is aimed at introducing the basic idea of Human rights, equip the student with an ability to distinguish between human rights, fundamental rights and also between individual rights and group rights. The course operates at two levels: it discusses human rights in the context of global political order and secondly, discusses the implementation of human rights in the context of rights movements in India.

1. The Idea of Human Rights

2. Individual Rights and Group Rights

3. Universalist and Relativist Conceptions of Rights

4. Human Rights in the World: Safeguards and Challenges

5. Human Rights in India: Safeguards and Challenges

6. Human Rights Organisations and Movements

Readings:

1. Baxi Upendra, 2002, The Future of Human Rights, New Delhi, OUP
2. Byrne Darren, 2003, Human Rights, Delhi, Pearson Education
3. Campbell Tom, Goldberg David et al., 1986, Human Rights, Oxford, Basil Blackwell
4. Coicaud J.M., Doyle M. W. et al., 2004, The Globalization of Human Rights, Tokyo, United Nations University Press
5. Evans Tony, 2005, The Politics of Human Rights, London, Pluto Press Gupta, Vijay (ed.), 1996, Perspectives on Human Rights, Delhi, Vikas
6. Hawkesworth Mary and Kogan Maurice (ed.), 1992, Encyclopaedia of Government and Politics (Vol. II), London, Routledge

Optional Paper Semester- II M.A. Part-I (Political Science)

PO-O8 : Social Movement in India

Objectives: This course expects students to get introduced to the phenomenon of social movements arising from collective mobilizations. Students are expected to also understand the relationship between competitive democratic politics and the social movements. Movements by different sections are to be studied with specific reference to the experience of social movements that have taken place in post independence India. The course also touches upon the issue of civil society initiatives in contemporary India.

1. Politics of Mobilization

- a. Nationalist legacies
- b. Class and caste
- c. 'New' social movements

2. Labour movements

- a. Trade unionism, Informalization of labour
- b. Hamal Panchayat in Pune

3. Agrarian Movements

- a. Issues of land reform, Naxalite struggles, farmers' movements
- b. Bhartiya Kisan Union

4. Anti- caste movement

- a. Dalit movement, OBC mobilizations
- b. Dalit Panthers

5. Women's movement

- a. Issues of sexual and domestic violence, Reservations in political offices
- b. Anti arrack movement

6. Civil Society Interventions

- a. Challenges to the development agenda of the state, Issues of human rights, NGOs
- b. National Alliance of People's Movements

Readings:

1. Mohanty Manoranjan (ed), 2004, Caste, Class and Gender, New Delhi, Sage
2. Mohanty Manoranjan, Partha Nath Mukherjee and Olle Tornquist (eds), 1998, People's Rights: Social Movements and the State in the Third World, New Delhi, Sage

3. Omvedt Gail, 1993, Reinventing Revolution: New Social Movements and the Socialist Tradition in India, New York, ME Sharpe

4. Oommen T K (ed), 2010, Social Movements (Vol I and II), New Delhi, OUP

5. Ray Raka and Mary Fainsod Katzenstein (eds.), 2005, Social Movements in India: Poverty, Power and Politics, New Delhi, OUP

University of Pune

M. A. English Part-II-Credit System (Semester III & IV)

from the academic year 2014-15-

Semester-III

Paper 3.1: Indian Writing in English (Core Paper)

Any three papers out of the following eight options:

Paper 3.2: English Language and Literature Teaching

Paper 3.3: Poetry in English

Paper 3.4: Drama in English

Paper 3.5: Linguistics and Stylistics

Paper 3.6: Semantics and Pragmatics

Paper 3.7: Cultural Studies

Paper 3.8: American Literature

Paper 3.9: Research Methodology

Semester-IV

Paper 4.1: Indian Writing in English (Core Paper)

Any three papers out of the following eight options:

Paper 4.2: English Language and Literature Teaching

Paper 4.3: Poetry in English

Paper 4.4: Drama in English

Paper 4.5: Linguistics and Stylistics

Paper 4.6: Semantics and Pragmatics

Paper 4.7: Cultural Studies

Paper 4.8: American Literature

Paper 4.9: Research Methodology

Revised Course Structure of English at Post Graduate level to be implemented from the academic year 2014-2015

M. A. English (Credit System)

Part-II- (Semester- III&IV)

Paper-3.1: Indian Writing in English (Core Paper)

(1) Objectives

- 1) To introduce students to major movements and figures of Indian Literature in English through the study of selected literary texts
- 2) To create literary sensibility and emotional response to the literary texts and implant sense of appreciation of literary text
- 3) To expose students to the artistic and innovative use of language employed by the writers
- 4) To instill values and develop human concern in students through exposure to literary texts
- 5) To enhance literary and linguistic competence of students

(2) Allotment of Credits: One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours).

(3) Course Contents

Semester- III

Unit-I: *The Princes*- Manohar Malgaonkar -15 clock hours

Unit- II: *A Fine Balance*- Rohinton Mistry -15 clock hours

Unit – III: *Derozio to Aurobindo* -15 clock hours

Henry Derozio: 1) The Harp of India, 2) India-My Country

3) To the Pupils of the Hindu College

Toru Dutt: 1) Lakshman 2) The Lotus 3) Our Casuarina Tree

Swami Vivekananda: Kali the Mother (Complete Works of Swami

Vivekananda, vol.4, p.384 Advaita Ashram, 14th rpt. 1992)

Tagore: Playthings

Joseph Furtado: The Fortune Teller (Available in *Gems of English Prose and Poetry*, Orient Blackswan, 2013)

Sri Aurobindo: 1) The Pilgrim of the Night 2) The Stone Goddess 3) Surreal Science (*An Anthology of Commonwealth Poetry* edited by C D Narasimhaiah, Macmillan, 1990)

Unit-IV: *Roses in December*- M. C. Chhagla -15 clock hours

Paper-4.1: Indian Writing in English (Core Paper)

Semester- IV

Unit-I: *The Shadow Lines*- Amitav Ghosh -15 clock hours

Unit- II: *The Inheritance of Loss*- Kiran Desai -15 clock hours

Unit-III: *Dom Moraes to Present Day* -15 clock hours

Dom Moraes: 1) Letter to my Mother 2) Future Plans

Nissim Ezekiel: 1) Background, casually, 2) Enterprise 3) Poet, Lover, Birdwatcher

4) Goodbye Party for Miss Pushpa T. S.

Kamala Das: An Introduction

A. K. Ramanujan: Obituary (*An Anthology of Commonwealth Poetry*)

Shiv K Kumar: 1. Indian Women 2. Pilgrimage

Jayant Mahapatra: Dawn at Puri

Imtiyaz Dharker: Purdah I

Syed Ammanuddin: Don't Call me Indo-Anglian (*An Anthology of Commonwealth Poetry*)

Note: Unless otherwise stated the poems are all available in *Indian English Poetry* edited by Makarand Paranjape, (Macmillan, 1993)

Unit- IV: *Mahanirvan (The Dread Departure)* - Satish Alekar -15 clock hours

4) Suggestions for teachers:

Teachers are expected to discuss literary background, movements, important writers and works in the beginning. The selected texts are representatives of a specific genre. Teachers are expected to compare and contrast these texts with their contemporaries from Indian Writing in English. The topics are suggested as examples only; teachers may discuss other relevant topics as well.

5) Select Bibliography

Deshmane, Chetan, ed. *Muses India: Essays on English-Language Writers from Mahomet to Rushdie*. Jefferson, NC, and London: McFarland & Co., 2013.

Naik, M. K. A History of Indian English Literature. Delhi: Sahitya Akademi, 1992.

Devy, G. N. After Amnesia: Tradition and Changes in Indian Literary Criticism. Hyderabad: Orient Longman and Sangam Books, 1992.

Mukherji, Minakshi . The Twice Born Fiction. New Delhi: Heinemann, 1971.

Nandy, A. The Intimate Enemy: Loss and Recovery of Self Under Colonialism. Delhi, OUP, 1983.

Radhakrishnan, N. Indo Anglian Fiction: Major Trends and Themes. Madras: Emerald. 1984.

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Holeyannavar Nagraj (ed.) *Trends in Indian English Drama: A Study and Perspectives*. Manglam Publishers, New Delhi, 2014

Paper 3.2: English Language and Literature Teaching

(1) Objectives:

1. To acquaint the students with different theoretical and practical aspects of language and literature teaching.
2. To acquaint them with different approaches, methods and techniques of teaching English language and literature.
3. To sensitize the students to the major issues in ELLT in the Indian context

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). The allotment is as given below :

(3) Course Contents:

Semester –III

Unit -I Theories of language learning

15 Clock Hours

- a) Behaviourism and its educational implications
- b) Cognitivism and its educational implications
- c) The concept of Language Acquisition Device (LAD)
- d) Language acquisition and language learning.

Unit -II English in India: Sociolinguistic perspectives

15 Clock Hours

- a) English Studies in India: beginnings (pre-independence scenario)
- b) English Studies in India : later developments (post-independence scenario)
- c) Decolonization of English Studies : shift from 'English literature' to 'literatures in English'
- d) English Language Teaching as an imperialist programme : A critique

Unit-III Tools and methods of teaching

15 Clock Hours

a) Some basic concepts

- i) Linguistic/grammatical competence
- ii) Communicative competence
- iii) Pragmatic competence

b) Curriculum and syllabus

- i) Difference between curriculum and syllabus
- ii) Different kinds of syllabus (structural, notional-functional/ product and process syllabuses)
- iii) EGP and ESP syllabuses

c) Methods

- i) Grammar-Translation method
- ii) Structural method
- iii) Communicative method

Unit -IV Teaching of Language Skills and Testing:

15 Clock Hours

- a) Teaching of (i) Listening (ii) Reading (iii) Writing (iv) Speaking
- b) Teaching of (i) Pronunciation (ii) Vocabulary (iii) Grammar
- c) Testing and evaluation :
 - i) Difference between testing and evaluation
 - ii) Formative and summative evaluation
 - iii) Types of test and qualities of a good test
 - iv) Different types of questions

Paper 4.2: English Language and Literature Teaching

Semester-IV

Unit-I Study skills and dealing with learners' errors **15 Clock Hours**

- a) Teaching of (i) Note taking and Note making (ii) Using Dictionaries
- b) Contrastive analysis c) Error analysis d) Remedial Teaching.

Unit-II Literature Teaching – I **15 Clock Hours**

- a) The concept of Teaching English Literature in India (TELI)
- b) i) Teaching Literature : advantages and disadvantages
 - ii) Relationship between literature teaching and language teaching
- c) Stylistic approach to the teaching of literature

Unit-III Literature Teaching –II **15 Clock Hours**

- a) Teaching of Poetry
- b) Teaching of Drama/One Act Play
- c) Teaching of Fiction (Short/Long)
- d) Teaching of essay.

Unit-IV Instructional materials and classroom issues **15 Clock Hours**

- a) i. Materials Development: print and non-print materials
 - ii. Audiovisual Aids in Language Teaching
 - iii. ICT-based language teaching
- b) Major issues:
 - i. Teaching English in large classes
 - ii. Teaching English to mixed ability students
 - iii. Using mother-tongue in ELT
- c) Lesson planning for literature teaching

(4) Suggestions for Teachers:

Many students opting for M.A. English have teaching career in mind. The present course is designed to acquaint them with the basic issues in English language and literature teaching in the Indian context and to equip them with necessary abilities to become competent teachers of English. The teachers are expected to make the students aware that behind every teaching activity there is some principle at work. Students learn best by doing things on their own; hence their active involvement should be ensured through seminars, group discussions, presentations, etc. The teacher should play the role of a facilitator and monitor the activities of the students.

(5) Select Bibliography:

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- Widdowson, H. G. (1975), *Stylistics and the Teaching of Literature* (Longman)

Paper 3.3: Poetry in English

(1) Objectives:

- 1) To introduce students to major movements related to poetry in English, works and poets through study of selected texts
- 2) To create literary sensibility for appreciation in students and expose them to artistic and innovative use of language by writers and to various worldviews
- 3) To instill values and develop human concern in students through exposure to literary texts
- 4) To enhance literary and linguistic competence of students

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours).

(3) Course Contents:

Semester- III

Unit-I

15 clock Hours

Geoffrey Chaucer: From *The General Prologue* i) Lines 1 to 42 ii) The Monk iii) Clerk of Oxenford 4) Wife of Bath

Unit-II

15 clock Hours

Alexander Pope: i) *Epistle to Dr Arbuthnot* ii) from *An Essay in Criticism* Lines 68 to 129
Samuel Johnson: "London"

Unit-III

15 clock Hours

Robert Browning: i) "Two in the Campagna" ii) "Andrea Del Sarto" iii) "The Statue and the Bust" iv) "A Grammarian's Funeral"
G. M. Hopkins: i) "Pied Beauty" ii) "Spring and Fall" iii) "Thou art indeed just My Lord"
Matthew Arnold: "The Scholar Gipsy"

Unit-IV

15 clock Hours

Wilfred Owen: i) "The Send-off" ii) "Dulce et decorum est" iii) "Futility"
W. H. Auden: i) "The Unknown Citizen" ii) "Musee de beaux Arts"
Ted Hughes: i) "Hawk Roosting" ii) "Jaguar" iii) "The Thought Fox"
Seamus Heaney: i) "Punishment" ii) "Bog Queen" iii) "Strange Fruit"

Paper 4.3: Poetry in English

Semester IV

Unit-I

15 Clock Hours

E. A. Robinson: *i*) "Mr Flood's Party" *ii*) "Karma"

e. e. cummings: *i*) "anyone lived in a pretty how town" *ii*) "what if a much of a which of a wind"

Robert Frost: *i*) "The Oven Bird" *ii*) "For Once, Then, Something" *iii*) "Desert Places" *iii*) "The Most of It"

William Carlos Williams: "The Red Wheelbarrow"

Hilda Doolittle: *i*) "Oread" *ii*) "Heat"

Unit-II

18 Clock Hours

Wallace Stevens: *i*) "Study of Two Pears" *ii*) "The Idea of Order at Key West" *iii*) "Of Modern Poetry,"

Sylvia Plath: *i*) "Lady Lazarus" *ii*) "Cut" *iii*) "Edge"

Robert Lowell: *i*) "For the Union Dead" *ii*) "Skunk Hour"

Anne Sexton: "The Truth the Dead Know"

Adrienne Rich: *i*) "Diving into the Wreck" *ii*) "Delta"

Unit-III

12 Clock Hours

Paul Laurence Dunbar: "Sympathy"

Countee Cullen: "Incident," "Yet Do I Marvel"

Maya Angelou: "Still I Rise," "I Know Why the Caged Bird Sings"

Langston Hughes: *i*) "Theme for English B" *ii*) "Ballad of the Landlord" *iii*) "I, Too"

iv) "The Negro Speaks of Rivers" *v*) "Mother to Son"

Unit-IV

15 Clock Hours

Chinua Achebe: "Refugee Mother and Child"

Derek Walcott: "A Far Cry from Africa"

Tsegaye Gabre-Medhin: "Home-Coming Son"

Noémia De Sousa: "If You Want to Know Me"

Imtiaz Dharker: "Another Woman"

Gabriel Okara: *i*) "The Mystic Drum" *ii*) "Once Upon a Time" *iii*) "Piano and Drums"

(4) Suggestions for Teachers:

It is important that teachers introduce students to the socio-political and historical background of the prescribed period, the tendencies and trends dominant in the period, the stylistic features of the prescribed authors and the major characteristics of their works. Such information provides students with background and necessary contexts. Teachers can encourage students to read

original texts prescribed, literary histories and critical works. Exercises into literary pieces, practical criticism and analytical discussions may be conducted in the classroom for effective understanding. Teachers can make use of ICT methods to create interest and promote literary sensibility in students.

(5) Select Bibliography

Standard and recognized editions of textbooks and reference books may be used as bibliography for the course contents.

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- Narasimhaiah, C. D. *An Anthology of Commonwealth Poetry*. Madras: Macmillan, 1990.
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Paper 3.4: Drama in English

(1) Objectives

- 1) To introduce students to major movements related to drama, works and dramatists through study of selected texts
- 2) To create literary sensibility for appreciation in students and expose them to artistic and innovative use of language by writers and to various worldviews
- 3) To instil values and develop human concern in students through exposure to literary texts
- 4) To enhance literary and linguistic competence of students

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours).

(3) Course Contents

Semester- III

Unit-I: Sophocles: *Antigone* (12 Clock Hours)

Unit-II: Christopher Marlowe: *Doctor Faustus* (12 Clock Hours)

Unit-III: William Shakespeare: *Hamlet* (18 Clock Hours)

Unit-IV: Ben Jonson: *Volpone* (15 Clock Hours)

Paper 4.4: Drama in English

Semester IV

Unit-I: Anton Chekhov: *Cherry Orchard* (15 Clock Hours)

Unit-II: Luigi Pirandello: *Six Characters in Search of an Author* (15 Clock Hours)

Unit-III: John Osborne: *Look back in Anger* (15 Clock Hours)

Unit-IV: Edward Albee: *The Zoo Story* (15 Clock Hours)

(4) Suggestions for Teachers

It is important that teachers introduce students to the socio-political and historical background of the prescribed period, the tendencies and trends dominant in the period, the stylistic features of the prescribed authors and the major characteristics of their works. Such information provides students with background and necessary contexts. Teachers can encourage students to read original texts prescribed, literary histories and critical works. Exercises into literary pieces, practical criticism and analytical discussions may be conducted in the classroom for effective understanding. Teachers can make use of ICT methods to create interest and promote literary sensibility in students.

(5) Select Bibliography

Standard and recognized editions of textbooks and reference books may be used as bibliography for the course contents.

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Boulton, Marjorie, *Anatomy of Drama*

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The Cherry Orchard

Anton Chekhov: *Selected Works*, vol.2. Moscow: Progress Publishers,1973

Styan, J.L. *The Dark Comedy*, Cambridge, 1962.

Six Characters in Search of an Author

Styan, J. L. *Modern Drama in Theory and Practice*, 3 vols. Cambridge, 1981.

Look Back in Anger

John Osborne, *Look Back in Anger* ed. by Prashant Sinha, Mumbai: Oxford University Press, 1992.

Anderson, Michael. *Anger and Detachment: A Study of Arden, Osborne and Pinter*. London: Putnam Publishing, 1976

Gascoigne, Bamber, *Twentieth Century Drama*, London: Hutchinson, 1962.

Taylor, John Russell. *Anger and After*.Baltimore: Penguin Books, 1963.

----- *John Osborne: Look Back in Anger: A Casebook*. London: Macmillan, 1968.

The Zoo Story

Hayman, Ronald. *Edward Albee*.

Esslin, Martin. *Absurd Drama*, Harmondsworth: Penguin, 1965.

----- *The Theatre of the Absurd*.Garden City NJ, Doubleday, 1961.

3.5: Linguistics and Stylistics

(1) Objectives:

1. To acquaint the students with different theoretical and practical aspects and components of linguistics and stylistics.
2. To make students aware of the relation between linguistics and stylistics
3. To give them practice in the application of the basic concepts in stylistics to literary texts.
4. To demonstrate how the basic concepts in Semantics and Pragmatics are applied in the stylistic analysis of literary texts

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). The allotment is as given below:

(3) Course Contents:

Semester-III

Unit -I- Orientation/Basics of Linguistics: (15 clock hours)

- a) What is linguistics? Linguistics as a scientific study
- b) Synchronic and diachronic
- c) Syntagmatic and paradigmatic relations
- d) Langue and parole, competence and performance
- e) Substance and form
- f) Ordinary language and literary language.

Unit-II – Phonological aspects of Literature: (15 clock hours)

- a) Different types of rhymes and Sound patterns based on repetition of individual sounds (i. e. consonants/vowels/both)
- b) The concept of meter, Different types of ‘feet’ or Sound patterns based on repetition of stress patterns
- c) Onomatopoeia, Sound symbolism
- d) The importance spoken word and pauses in literature

Unit-III- Lexico-semantic aspects of Literature: (15 clock hours)

- a) Lexical – i. content words and function words ii. Lexical sets iii. Collocations iv. selectional restrictions iv. Lexical cohesion.

- b) Semantic - Synonymy, antonymy, hyponymy, ambiguity, tautology, contradiction, semantic anomaly, semantic entailment, anaphora denotative and connotative meaning.

Unit -IV- Syntactic aspects of Literature: (15 clock hours)

- a) Periodic and loose sentence structure
- b) Direct and indirect speech, Free Direct and Free indirect speech
- c) Significance of sentence length and sentence types (declarative, interrogative, imperative, simple, compound, complex)
- d) Active and passive voice e) Syntactic cohesion

4.5: Linguistics and Stylistics

Semester-IV

Unit -I: Orientation/Basics of Stylistics: (15 clock hours)

- a) i. What is style? What is stylistics? The nature and scope of stylistics.
 - ii) A brief history of stylistics: Rhetoric to Present day.
 - iii) Strengths and limitations of stylistics.
- b) Linguistics and stylistics, literature and stylistics, practical criticism and stylistics, stylistics and the levels of language (style, register and dialect), grammar and style
- c) Types: i. Linguistic stylistics ii. Literary stylistics iii. Reader-response stylistics

Unit-II- Stylistics of Poetry (15 clock hours)

- a) i) The concept of poetic diction
 - ii) The concept of poetic licence
 - iii) Figures of speech/poetic devices
- b) Creativity in the use of Language:
 - i. The concept of Foregrounding
 - ii) Different types of Repetition
 - iii) Parallelism
 - iv) Different types of Deviation

Unit -III- Stylistics of Drama: (15 clock hours)

- a) Theatre and drama, Drama as a semiotic text, Dramatic text and performance text, Dramatic dialogues and everyday conversations
- b) Dramatic dialogues and speech act theory,

The Co-operative and Politeness principle in relation to drama,
Positive and negative face, face threatening and face saving,
Turn taking and adjacency pairs.

Unit-IV- Stylistics of Fiction: (15 clock hours)

- i. Fiction as narrative form of discourse
- ii. Universe of discourse
- iii. Narrative strategies in fiction

- iv. Exploring the point of view in fiction
- v. Use of distal deixis in fiction

(4) Suggestions for Teachers:

This is basically application-oriented, practical course and hence the teacher should carry out a variety of application based activities/tasks in the classroom. Student involvement could be ensured through student activities like doing practical exercises requiring identification of relevant linguistics and stylistic devices and explaining their purpose/relevance or contribution to literary effect /meaning. The students may be given practical assignments, and the teacher may act as facilitator and monitor student activities.

(5) Select Bibliography:

Austin, J. L. (1962), *How to do things with words*, Oxford: Clarendon Press

Black, Elizabeth (2006), *Pragmatic Stylistics*, (Edinburgh)

Chatman, Seymour (ed.) (1971), *Literary Style : A Symposium*, Oxford : OUP

Crystal, David – *A Dictionary of Applied Linguistics and Stylistics*

Cummings, M. and R. Simmons (1983), *The Language of Literature : A Stylistic Introduction to the Study of Literature*, London : Pergamon

Elam, K. (1980), *The Semiotics of Theatre and Drama*, London : Methuen

Fowler, Roger (1971), *The Language of Literature*, London :Routledge and Kegan

Freeman, D. C. (1970), *Linguistics and Literary Style*, New York : Holt Rinehart and Winston

Halliday and Hasan, (1976),*Cohesion in English*, Longman.

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Krishnaswamy, N., S. K. Verma and N. Nagarajan (1992), *Modern Applied Linguistics*, Madras: Macmillan

Leech, Geoffrey (1969), *A Linguistic Guide to English Poetry*, London: Longman

Leech Geoffrey and Short M. (1981), *Style in Fiction*,Harlon Longman.

Lesley Jeffries and Dan McIntyre, (2010), *Stylistics*, Cambridge (UK) : CUP.

Lyons, J. (1981), *Language and Linguistics*, Cambridge: CUP.

Prakasam, V. (1996), *Stylistics of Poetry : A Functional Perspective*, Hyderabad : Omkar Publishers

Paul Simpson,(2004), *Stylistics; A Resource Book for Students*, Routledge, London and New York.

Thomas, G. *Meaning in Interaction*, London: Longman

Thornborrow and Shan Wareing (1998), *Patterns in Language : An Introduction to Language and Literary Style*, London : Routledge

Tragott and Pratt, (1980), *Linguistics for the Students of Literature*, Harcourt Brace Jovenica Inc.

Radford Andrew,(1997),”*Syntax : A Minimalist Approach*, Cambridge, CUP.

Verdonk, P. (2002), *Stylistics*, Oxford : OUP.

Wales, Katie (1989), *A Dictionary of Stylistics*, London: Longman

Widdowson, H. G.,(1975), *Stylistics and the Teaching of Literature*, Longman.

Wright, Laura and Jonathan Hope (1996), *Stylistics : A Practical Course book*, London : Routledge.

Paper 3.6: Semantics and Pragmatics

(1) Objectives:

1. To familiarize students with the fundamental concepts and principles in Semantics and Pragmatics.
2. To introduce the students to the semantic level of linguistic analysis which deals with meaning
3. To make students aware of the use of language as determined by the conditions of the society and enable them to interpret language in context and use language appropriately.
4. To acquaint them with the different types of context and their relevance for interpreting different types of texts.
5. To enable students to apply the concepts, principles and theories in Semantics and Pragmatics to real life situations and to literary texts.

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). The allotment is as given below:

(3) Course Contents:

Semester –III

Unit-I Fundamentals of Semantics

15 Clock Hours

- i) What is 'Semantics'?
- ii) What is 'Meaning'
- iii) Lexical vs. Grammatical meaning
- iv) Sense and Reference
- v) Sentence, Utterance and Proposition

Unit-II Theories of Meaning

15 Clock Hours

- i) Views of Meaning
- ii) The Componential Theory of Meaning
- iii) Truth-conditional Theory of Meaning
- iv) Generative Theory of Meaning
- v) Contextual Theories of Meaning

Unit-III Lexical Relations -I

15 Clock Hours

- i) Synonymy
- ii) Antonymy (Gradable, Ungradable etc.)
- iii) Hyponymy (Co-hyponyms, Superordinate terms/Hyponyms)
- iv) Prototypes
- v) Homonymy (Homophony, Homography)

Unit-IV Lexical Relations -II

15 Clock Hours

- i) Polysemy
- ii) Difference between Polysemy and Homonymy

- iii) Metonymy
- iv) Collocation
- v) Denotation and Connotation

Paper 4.6: Semantics and Pragmatics

Semester-IV

Unit-I- Fundamentals of Pragmatics

15 Clock Hours

- i) Origin and Journey of Pragmatics
- ii) Definitions of Pragmatics
- iii) Semantics vs. Pragmatics
- iv) Component vs. Perspective
- v) Principles vs. rules

Unit-II- Principles of Pragmatics

15 Clock Hours

- i) The Cooperative Principle and its Maxims
- ii) The Politeness Principle and its Maxims
- iii) Trade off Relationship between Cooperative Principle and Politeness Principle
- iv) Relevance Theory of Sperber and Wilson
- v) The Concept of 'Face', Positive and Negative Face

Unit-III- Important Concepts in Pragmatics

15 Clock Hours

A) Implicature vs Explicature

B) Context and Conversation

- (i) Utterer and Interpreter
- (ii) The Mental World
- (iii) The Social World
- (iv) The Physical World

C) Deixis

- i) Time Deixis
- ii) Place Deixis
- iii) Person Deixis
- iv) Discourse Deixis
- v) Social Deixis

Unit-IV- Literary Pragmatics

15 Clock Hours

- i) Introduction: Author and Reader
- ii) Textual Mechanisms: Reference, Tense, Discourse
- iii) Voice and Point of view
- iv) Reading as a Pragmatic Act

(4) Suggestions for Teachers:

The present course is designed to acquaint the students with the basic issues in Semantics and Pragmatics. The teachers are expected to make the students aware of the subtle distinctions of

meaning in using different words and the role of context in expressing and interpreting meaning. The insights gained from the study of various aspects of semantics and pragmatics ultimately aim at equipping them with necessary abilities to become competent users of language. Students learn best by doing things on their own; hence their active involvement should be ensured through presentations, and practical work on all the sections of the syllabus.

(5) References:

- Leech, Geoffrey (1974) *Semantics*, Penguin: Harmondsworth.
- Leech, Geoffrey (1980) *Explorations in Semantics and Pragmatics*, Amsterdam: John Benjamins.
- Lyons, John (1977) *Semantics*, (Vol. 1 and Vol. 2) Cambridge: CUP.
- Palmer, F.R. (1981) *Semantics*, Cambridge, CUP.
- Hurford, J.R., Heasley, B. & Smith M. B. (1983) *Semantics : A Coursebook* , Cambridge: CUP.
- Kennedy, G. (2011) *Structure and Meaning in English*, New Delhi: Pearson
- Pushpinder. & Jindal D.V. (2001) *An Introduction to Linguistics : Language, Grammar and Semantics*, New delhi : Prentice Hall of India
- Cruse, Allan, (2004) *Meaning in Language : An Introduction to Semantics and Pragmatics*, New York : OUP.
- Saeed, John (2003) *Semantics*, Oxford : Blackwell Publishing.
- Thakur, D. (1999) *Linguistics Simplified : Semantics*, Patna : Bharati Bhavan
- Cruse, D. A. (1986) *Lexical Semantics*, Cambridge: CUP.
- Austin, J. L. (1962), *How to Do Things with Words*, Oxford: Clarendon Press.
- Brown, G. and G. Yule (1983), *Discourse Analysis*, Cambridge: CUP.
- Brown, p. and Levinson, S. C. (1987), 'Politeness: Some Universals' in *Language Usage*, Cambridge: CUP
- Fowler, Roger – *Literature as Social Discourse*
- Grundy, Peter (2000), *Doing Pragmatics*, London: Edward Arnold.
- Leech, G. N. (1983), *Principles of Pragmatics*, London: Longman.
- Levinson, S. C. (1983), *Pragmatics*, Cambridge: CUP.
- Mey, Jacob L. (1993), *Pragmatics: An Introduction*, Oxford: Blackwell.
[Revised edition is available and is preferred.]
- Schiffrin, D. (1994) *Approaches to Discourse*, Oxford: Blackwell.
- Searle, J. R. (1969), *Speech Acts*, Cambridge: CUP
- Sperber, D. & Wilson, D. (1986), *Relevance: Communication and Cognition*, Oxford: Basil Blackwell.
- Verschueren, Jef (1995), *Handbook of Pragmatics*, Amsterdam: John Benjamins.
- Verschueren, Jef (1999), *Understanding Pragmatics*, London: Arnold.
- Yule, George (1996), *Pragmatics*, Oxford: OUP.
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ISSN- 2319-4715

Paper 3.7: Cultural Studies

(1) Objectives

- 1) To introduce students to the newly established field of cultural studies, its concerns and approaches
- 2) To orient students towards interdisciplinary approach and analysis of cultural issues including literature and language
- 3) To steer students towards new possibilities of analysis that can relate them to their surroundings
- 4) To create awareness about the recent developments in humanities and social sciences that cover several issues from philosophical to everyday matter
- 5) To instill tolerance, sense of equality and love for humanity in students

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours). The allotment is as below:

(3) Course Content

Semester- III

Surveying the Field of Cultural Studies

Unit I 10 Clock hours

The discipline- a) Going Global

- b) Enterprise culture
- c) Genres and genealogies
- d) Problems

Unit II 10 Clock hours

Time-

- a) The past: cultural history/cultural memory
- b) The present
- c) The future: policies and prophecies

Unit III 10 Clock hours

Space

- a) Thinking globalisation
- b) The regional, national and local

Unit IV 10 Clock Hours

Identity

- a) Debating identity
- b) Multiculturalism
- c) Race

Unit V

10 Clock Hours

Sexuality and gender

a) Feminism's aftermath: gender today

b) Queer culture

Unit VI

10 Clock Hours

Media and the public sphere

a) Television

b) Popular music

c) The Internet and technoculture

Note: All these units are prescribed from Simon During's *Cultural Studies: A Critical Introduction*. Routledge, 2005

Paper 4.7: Cultural Studies

Semester- IV

Essays into Theory and Method of Cultural Studies

(Following essays that discuss certain important areas of cultural study are prescribed with the view to introduce theoretical frame and applicable methods of cultural study to students. The purpose is to make students familiar with diverse theoretical approaches and enable them to produce cultural analysis).

Unit I 15 Clock hours

The Analysis of Culture: Raymond Williams

Cultural Studies and Its Theoretical Legacies: Stuart Hall

Unit II 15 Clock hours

Disjuncture and Difference in the Global Cultural Economy: Arjun Appadurai

The Challenge of Science: Andrew Ross

Unit III 15 Clock hours

Subjects of Sex/Gender Desire- Judith Butler

A Revolution of Values- The Promise of Multicultural Change- Bell Hooks

Unit IV 15 Clock hours

Literary Theory and Third World Literature: Some Contexts- Aijaz Ahmad

Postcoloniality and the Artifice of History: Who Speaks for 'Indian' Pasts?- Dipesh Chakrabarty

Note: Raymond William's essay is prescribed from John Storey's (ed.) *Cultural Theory and Popular Culture: A Reader*. II edition, Prentice Hall, 1998, Ahmad's essay from his book *In Theory, Classes, Nations, Literatures*. London: Verso, 1992 and Chakrabarty's essay from Padmini Mongia's (ed.) *Contemporary Postcolonial Theory: A Reader*. OUP, 2000. All other essays are prescribed from Simon During's edited book, *The Cultural Studies Reader*. (Second Edition) Routledge, New York, 1993.

(4) Suggestions for Teachers

This a burgeoning field of study and covers formidable range of socio-political, economic, cultural, ecological, technological and historical issues. In the world of globalization (the world of interconnectedness and mobility) every aspect of human life has been undergoing drastic changes. Cultural studies helps to map and reassess these shifting terrains and to formulate the view of students towards the world systems. Teachers can give relevant information to students and orient them towards multidisciplinary approach. They can encourage students to read original texts prescribed, histories and critical works and develop the skill of knowing multiple

contexts that texts of cultural studies excite. Exercises, practical criticism and analytical discussions may be conducted in the classroom for effective understanding. Teachers can make use of ICT methods to create interest and promote interest for such study in students.

(5) Select Bibliography:

Standard and recognized editions of textbooks and reference books may be used as bibliography for the course contents.

Ahmad Aijaz: *In Theory, Classes, Nations, Literatures*. London: Verso, 1992

Simon Doring. *Cultural studies: A Critical Introduction*. Routledge. 2005

Simon Doring (ed.) *The Cultural Studies Reader*. (Second Edition) Routledge, 1993

Hartley John. *A Short History of Cultural Studies*. SAGE Publications. 2003

Mcrobbie Angela. *The Uses of Cultural Studies: A Textbook*. Sage Publications, 2006

Barker Chris. *Making Sense of Cultural Studies: Central Problems and Critical Debates*. Sage Publications, 2002

Barker Chris. *The SAGE Dictionary of Cultural Studies*. Sage Publications, 2004

David Morley and Kuan-Hsing Chen (Ed.) *Stuart Hall: Critical Dialogues in Cultural Studies*. Routledge, 1996.

Johnson Richard. *The Practice of Cultural Studies*. Sage Publications, 2004

Ryan Michael. *CULTURAL STUDIES: A PRACTICAL INTRODUCTION*
Wiley-Blackwell Publication, 2010

Kendal Gavin & Wickham Gary. *Understanding Culture: Cultural Studies, Order, Ordering*. Sage Publications, 2001

Giroux Henry A. *Impure Acts: The Practical Politics of Cultural Studies*. Routledge, New York. 2000

Gregg Melissa. *Cultural Studies' Affective Voices*. University of Queensland. Palgrave-Macmillan, 2006

Pickering Michael (ed.). *Research Methods for Cultural Studies*. Edinburgh University Press, 2008

Gavin Kendall and Gary Wickham. *Understanding Culture: Cultural Studies, Order, Ordering*. Sage publications, 2001

Lehtonen Mikko. *Cultural Analysis of Texts*. Translated by Aija-Leena Ahonen and Kris Clarke. Sage Publications, 2000

Francis Mulhern. *Culture /Metaculture*. Routledge, 2000

Storey John. *Cultural Theory and Popular Culture. A Reader*. The University of Georgia Press. 1993

Melissa Gregg. *Cultural Studies' Affective Voices*. PALGRAVE MACMILLAN, 2006

Mongia Padmini (ed.). *Contemporary Postcolonial Theory: A Reader*. OUP, 2000

Neil Lazarus. *Nationalism and Cultural Practice in the Postcolonial World*. Cambridge Univ. Press, 1999

Hans Schoenmakers. *The Power of Culture: A Short History of Anthropological Theory about Culture and Power*. University of Groningen.

Robert Samuels. *New Media, Cultural Studies, and Critical Theory after Postmodernism*. PALGRAVE MACMILLAN, 2009

Richard Johnson, Deborah Chambers, et al. *The Practice of Cultural Studies*. Sage publications, 2004

Barbara Sebek and Stephen Deng. *Global Traffic: Discourses and Practices of Trade in English Literature and Culture from 1550 to 1700*. PALGRAVE MACMILLAN, 2008

Tracey Skelton and Tim Allen. *Culture and Global Change*. Routledge, 1999
Raymond Williams. *Culture and Society: 1780-1950*. Anchor Books, Doubleday & Company, Inc. Garden City, New York, 1960
William S. Haney II. *Culture and Consciousness: Literature Regained*. Rosemont Publishing & Printing Corp. 2002
Bowman Paul (ed.). *Interrogating Cultural Studies: Theory, Politics and Practice*. London. Pluto Press, 2003
Storey John (ed.) *Cultural Theory and Popular Culture: A Reader*. II edition, Prentice Hall, 1998

Paper 3.8: American Literature

(1) Objectives:

- 1) To introduce students to the major literary movements in America, literary works and writers through selected texts
- 2) To enhance the literary sensibility of students by exposing them to the American writers of various times
- 3) To instil values and develop human concern in students through exposure to literary texts
- 4) To enhance literary and linguistic competence of students

(2) **Allotment of Credits:** One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours).

(3) Course Contents:

Semester-III

Unit-I: (18 clock hours)

Harriet Beecher Stowe: *Uncle Tom's Cabin*

Unit-II: (18 clock hours)

Henry David Thoreau: *Walden*

Unit-III: (12 clock hours)

Edgar Allen Poe: 'The Fall of the House of Mr. Usher'

Unit-IV: (12 clock hours)

Walt Whitman: *i*) From *The Song of Myself*, Sections: "Myself," "Leaves of Grass"

ii) "Captain! My Captain!" *iii*) "When Lilacs Last in the Dooryard Bloom'd"

Emily Dickinson: *i*) "After Great Pain a Formal Feeling Comes" *ii*) "I Heard a Fly Buzz"

iii) "This is my letter to the World"

Ralph Waldo Emerson: *i*) "The Problem" *ii*) "Each and All" *iii*) "Days"

Paper 4.8: American Literature

Semester-IV

Unit-I: (16 clock hours)

Henry James: 'The Turn of the Screw'

Ernest Hemingway: 'The Snows of Kilimanjaro'

Unit-II: (12 clock hours)

William Faulkner: *The Sound and the Fury*

Unit-III: (16 clock hours)

Eugene O' Neill: *The Hairy Ape*

Arthur Miller: *A View from the Bridge*

Unit-IV: (16 clock hours)

Robert Frost: i) "Birches" ii) "Mending Wall" iii) "After Apple Picking"

Ezra Pound: from *Hugh Selwyn Mauberley*: "E. P. Ode..." "Envoi"

Wallace Stevens: i) From *The Man with the Blue Guitar*: Section XII ii) "The Snowman" iii) "A Mythology Reflects Its Region"

Sylvia Plath: i) "Daddy" ii) "Tulips"

(4) Suggestions for Teachers:

It is important that teachers introduce students to the socio-political and historical background of the prescribed period, the tendencies and trends dominant in the period, the stylistic features of the prescribed authors and the major characteristics of their works. Such information provides students with background and necessary contexts. Teachers can encourage students to read original texts prescribed, literary histories and critical works. Exercises into literary pieces, practical criticism and analytical discussions may be conducted in the classroom for effective understanding. Teachers can make use of ICT methods to create interest and promote literary sensibility in students.

(5) References:

Standard and recognized editions of textbooks and reference books may be used as bibliography for the course contents.

(6) Select Bibliography:

Standard and recognized editions of textbooks and reference books may be used as bibliography for the course contents.

Forester, Norman, et al, eds. *American Poetry and Prose*. 3 Vols. Boston: Houghton Mifflin Company, 1970.

O'connor, William Van, ed. *Seven Modern American Novelists*. Minneapolis: University of Minnesota Press, 1959.

- Ammons, Elizabeth. *Harriet Beecher Stowe's Uncle Tom's Cabin: A Casebook*. New York: Oxford University Press, 2007.
- Tompkins, Jane. "Sentimental Power: *Uncle Tom's Cabin* and the Politics of Literary History." *Sensational Designs: The Cultural Work of American Fiction, 1790-1860*. New York: Oxford UP, 1985. 122-146.
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- Lubbock, Percy. *The Craft of Fiction*. London: Jonathan Cape, 1921. Several rpts.
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- Kartiganer, Donald M. "*The Sound and the Fury* and Faulkner's Quest for Form." *ELH* 37.4 (Dec. 1970): 613-639. Available free on JSTOR.
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- Lentricchia, Frank. *Robert Frost: Modern Poetics and the Landscapes of Self*. Durham, NC: Duke UP, 1975.
- Schulman, Grace. *Ezra Pound: A Collection of Criticism*. New York: Mcgraw-Hill, 1974.

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Paper- 3. 9: Research Methodology

(1)Objectives

1. To introduce the students to the concept of research
2. To enable them to understand the stages of research
3. To familiarize the learners to the procedures involved in research
4. To sensitize them to the requirements of cohesion and coherence in continuous composition.
5. To highlight the significance of systematic planning and execution of research activity.
6. To give the students practice in the use of various tools and techniques of research.
7. To prepare them for undertaking research.

(2) Allotment of Credits: One credit is equal to 15 clock hours and every semester is allotted four credits (60 clock hours).

(3) Course Content

Semester-III

Unit-I- Meaning and Nature of Research (15 Clock Hours)

What is research?

Objectives of Research

The fundamentals of Research

Characteristics of Research

Types of research

Qualities of a Good Researcher

Unit II: Materials and Tools of Research (15 Clock Hours)

Primary and Secondary sources Books, Anthologies, Biographies, Thesauruses, Encyclopedia, Conference proceedings, Unpublished theses, Newspaper articles, Journals, e-journals, Monographs, Translations, Web references, Library catalogues, Literature Resource Center, Govt. publications, Special libraries, Advanced study centers, Virtual libraries, Web search engines, CDs, DVDs etc.

Unit-III: Research in Literature and Language (15 Clock Hours)

Literary research and research in other Disciplines

Literary research-Interpretative, Theoretical, Biographical etc

Research methods in Linguistics

Research methods in Literature

How research in language is different from research in literature

Emerging areas of research in language and literature

Use of literary and linguistic theories in research

Unit-IV: Methods and Techniques of Research (15 Clock Hours)

Research Methods vs. Research Methodology

Variants in Methodology

Types of methods: Statistical, Sampling, Applied, Case study, Survey, Interpretative, Experimentation, Interviews, Questionnaire etc

Evaluation of different methods: Historic, Comparative, Descriptive, Scientific

Paper- 4. 9: Research Methodology

Semester-IV

Unit-I: Steps in Research Process (A) (15 Clock Hours)

Choosing a topic
Formulating the Research Problem
Defining aims and objectives
Introduction to research methodology
Defining aims and objectives
Deciding the Scope and Limitations
Developing Hypothesis

Unit-II: Steps in Research Process (B) (15 Clock Hours)

Extensive Literature Review
Preparing research Proposal
Data Collection
Analysis/interpretation of Data
Generalization and Interpretation of Data
Preparing Chapter wise Design

Unit-III: Presentation of Research (15 Clock Hours)

Format of the Thesis
Language of the thesis
Logical Writing
Language and style of the thesis
Introductions and conclusions
Presentation of findings
Suggestions for future research
Writing a Short Research Paper

Unit-IV:

a) Norms and Conventions (08 Clock Hours)

Quotations and Acknowledging the Sources
Footnotes and Endnotes, Citation
Arranging bibliography and webliography
Guarding Against Plagiarism
Using Standard Style sheets

Roles of Computer & Internet in Research

b) Practical work (07 Clock Hours)

The students should present research proposal/s with a focus on bibliographies, hypothesis, objectives, rationale etc. The teacher is expected to get the practical work done during teaching hours.

(4) Suggestions for Teachers

Since research is a do-it-yourself activity, the teacher may initially explain the basic concepts regarding research working interactively with the students. For example, this may be done by floating an idea and eliciting their responses regarding relevant aspects, thus guiding and monitoring the discussion, giving the students an opportunity to think and arrive at answers independently. The students may be given practical assignments related to research procedure. The teacher should work with the students and help them choose the topic, frame the title and the hypothesis, and in general supervise the research activity to be carried out by the students.

(5) Reading list

- Hunt, Andy (2005), *Your Research Project*, New Delhi: Foundation Books
- Abdul Rahim, F. (2005), *Thesis Writing: A Manual for Researchers* (New Delhi: New Age International)
- Gibaldi, Joseph (6thedn. 2003), *MLA Handbook for Writers of Research Papers*, New York: MLA Association
- Eliot, Simon and W. R. Owens (4thedn. 1998), *A Handbook to Literary Research*, London: Routledge & Open University
- Miller, R. H. (1995), *Handbook of Literary Research*, Methuen
- Lenburg, Jeff (2007), *Guide to Research*, Viva Books
- Oakman, Robert L. (1984), *Computer Methods for Literary Research*, Athens: University of Georgia Press
- Altick, R. D. (1963), *The Art of Literary Research*, New York: Norton
- Harner, James L. (2002), *Literary Research Guide: An Annotated Listing of Reference Sources in English Literary Studies*, New York: MLA of America
- Barker, Nancy and Nancy Hulig (2000), *A Research Guide for Under Graduate Students: English and American Literature*, New York: MLA of America
- Gupta, R. K. (1971), *American Literature Fundamentals of Research*, ASRC Hyderabad
- Mishra, D. S. (1989), *A Grammar of Literary Research*, New Delhi: Harman Publishing House
- Chaskar, A (2009), *Doing Research in Literature and Language*, V.P Pune
- Chindhade, S. and Thorat, A. (2009), *Doing Research*, Mumbai: CUP
- Rajannan, B. (1968), *Fundamentals of Research*, ASRC Hyderabad
- Bateson, F. W. (1972), *The Scholar Critic: An Introduction to Literary Research*, London: Routledge
- Adam Sirjohn (2004), *Research Methodology: Methods & Techniques*, Delhi: New Age International Ltd
- Caivary, R. & Nayak V. K. (2005), *Research Methodology*, S. Chand
- Kothari, C.R. (1985), *Research Methodology: Methods & Techniques*, Delhi : New Age International Ltd

Litosseliti, Lia (2000), Using Focus Groups in Research, British Library Cataloguing
Rahim, F. Abdul (1996), Thesis Writing-A Manual for Researchers, New Delhi: New
Age International Ltd
Rengachari, S. & Rengachari, Sulochna - Research methodology for English Literature, Bareilly :
Prakash Book Depot
Seliger (2001), Second Language Research Methods, Oxford University
Sinha, M.P. - Research Methods in English
Winkler, Anthony C. & Accuen, Jo Roy (2003), Writing the Research Paper, Thomson Heinle
Brown, James Dean (2006), Understanding Research in



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

द्वितीय वर्ष कला (S. Y. B. A.)

Modern Indian Languages Syllabus

Choice Based Credit System [CBCS]

(To be implemented from the Academic Year, 2020-21)

मराठी विषयाचा अभ्यासक्रम- जून २०२० पासून

द्वितीय वर्ष कला (S. Y. B. A.)

निवड आधारित श्रेयांक पद्धत

Choice Based Credit System [CBCS]

सत्र	विषयाचे नाव	संकेतांक
पहिले	मराठी भाषिक संज्ञापनकौशल्ये	MIL 2 (2)
दुसरे	नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी	MIL 2 (2)

द्वितीय वर्ष कला (S. Y. B. A.)

अनिवार्य अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

मराठी भाषिक संज्ञापनकौशल्ये [MIL 2 (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. प्रगत भाषिक कौशल्यांची क्षमता विकसित करणे.
२. प्रसारमाध्यमांतील संज्ञापनातील स्वरूप आणि स्थान स्पष्ट करणे.
३. व्यक्तिमत्त्व विकास आणि भाषा यांच्यातील सहसंबंध स्पष्ट करणे.
४. लोकशाहीतील जीवनव्यवहार आणि प्रसारमाध्यमे यांचे परस्पर संबंध स्पष्ट करणे.
५. प्रसारमाध्यमांसाठी लेखनक्षमता विकसित करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१. भाषा आणि व्यक्तिमत्त्व विकास : सहसंबंध २. लोकशाहीतील जीवनव्यवहार आणि प्रसारमाध्यमे	१	१५
२	प्रसारमाध्यमांसाठी लेखन १ वृत्तपत्रासाठी बातमीलेखन आणि मुद्रितशोधन २ नभोवाणीसाठी भाषणाची संहितालेखन ३ दूरचित्रवाणीसाठी माहितीपटासाठी संहितालेखन	१	१५

संदर्भ ग्रंथ :

१. भाषांतर मीमांसा, संपा. डॉ. कल्याण काळे, डॉ. अंजली सोमण
२. सायबर संस्कृती, डॉ. रमेश वरखेडे
३. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
४. ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
५. संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
६. इंटरनेट, डॉ. प्रबोध चोबे, मनोरमा प्रकाशन, मुंबई.
७. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
८. आधुनिक माहिती तंत्रज्ञानाच्या विश्वात शिकरापूर दीपक, मराठे उज्ज्वल, उत्कर्ष प्रकाशन, पुणे.
९. भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.
१०. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
११. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
१२. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
१३. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे

१४. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
१५. प्रसारमाध्यमांसाठी लेखन कौशल्य, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ नाशिक.
१६. प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ.भास्कर शेळके
१७. व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
१८. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१९. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
२०. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
२१. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक.
२२. <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
२३. <http://www.youtube.com/watch?v=oXAWMH5PDxY>

दुसरे सत्र
विषयाचे नाव

नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी [MIL 2 (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. संज्ञापनातील नवमाध्यमे आणि समाजमाध्यमांचे स्वरूप आणि स्थान स्पष्ट करणे.
२. भाषा, जीवनव्यवहार आणि नवमाध्यमे, समाजमाध्यमांचे परस्परसंबंध स्पष्ट करणे.
३. नवमाध्यमे आणि समाजमाध्यमांसाठी लेखनक्षमता विकसित करणे.
४. नवमाध्यमे आणि समाजमाध्यमांविषयक साक्षरता निर्माण करणे.
५. नवमाध्यमे आणि समाजमाध्यमांचा वापर आणि परिणाम याबद्दल चर्चा करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१. भाषा, जीवन व्यवहार आणि नवमाध्यमे, समाजमाध्यमे २. नवमाध्यमे आणि समाजमाध्यमांचे प्रकार : ब्लॉग, फेसबुक, ट्विटर. ३. नवमाध्यमे आणि समाजमाध्यमांविषयक साक्षरता, दक्षता, वापर आणि परिणाम	१	१५
२	१. वेबसाईट आणि ब्लॉग, ट्विटरसाठी लेखन २. व्यावसायिक पत्रव्यवहार	१	१५

संदर्भ ग्रंथ :

- १ सायबर संस्कृती, डॉ. रमेश वरखेडे
- २ उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
- ३ ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
- ४ संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
- ५ इंटरनेट, डॉ. प्रबोध चोबे, मनोरमा प्रकाशन, मुंबई.
- ६ व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
- ७ आधुनिक माहिती तंत्रज्ञानाच्या विश्वात, शिक्रापूरकर दीपक, मराठे उज्ज्वल, उत्कर्ष प्रकाशन, पुणे.
- ८ भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.
- ९ व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
- १० व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
- ११ व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
- १२ व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे
- १३ व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
- १४ प्रसारमाध्यमांसाठी लेखन कौशल्ये, यशवंतराव चव्हाण मुक्त विद्यापीठ नाशिक.

- १५ प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ.भास्कर शेळके
- १६ व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
- १७ व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
- १८ मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
- १९ व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
- २० भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण मुक्त विद्यापीठ, नाशिक.
- २१ <https://coe.maharashtra.gov.in/index.php?lang=mr>
- २२ https://coe.maharashtra.gov.in/index.php?option=com_content&view=article&id=116&Itemid=586&lang=mr
- २३ <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
- २४ <http://www.youtube.com/watch?v=oXAWMH5PDxY>

हिंदी पाठ्यक्रम Hindi Syllabus

अनुक्रम

बी. ए. द्वितीय वर्ष कला/बी. एस्सी. द्वितीय वर्ष विज्ञान
तृतीय एवं चतुर्थ अयन (Third & Fourth Semester)
शैक्षणिक वर्ष २०२०-२१ से

कोर्स नं.	तृतीय एवं चतुर्थ अयन	क्रेडिट	पृष्ठ क्रमांक
बी. ए. द्वितीय वर्ष कला			
MIL (Hindi)	हिंदी भाषा शिक्षण (तृतीय अयन)	२	०३
MIL (Hindi)	हिंदी भाषा शिक्षण (चतुर्थ अयन)	२	०५

बी. ए. द्वितीय वर्ष कला (शैक्षणिक वर्ष २०२०-२०२१ से)

तृतीय अयन (Third Semester)

पाठ्यचर्या : MIL (Hindi) हिंदी भाषा शिक्षण

२ कर्मांक (Credit)

उद्देश्य :

१. छात्रों में हिंदी भाषा श्रवण कौशल विकसित करना।
२. छात्रों में हिंदी भाषा संवाद कौशल विकसित करना।
३. छात्रों में हिंदी भाषा वाचन कौशल विकसित करना।
४. छात्रों में हिंदी भाषा लेखन कौशल विकसित करना।
५. हिंदी भाषा-विधि तथा भाषा-व्यवहार से अवगत करना।
६. लघुकथा सृजन कौशल विकसित करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई— I	वर्ण विचार : १) हिंदी वर्णमाला — परिचय २) लिपि — परिचय ३) वर्णों का उच्चारण और वर्गीकरण ४) स्वराघात ५) संधि : स्वर संधि, व्यंजन संधि, विसर्ग संधि।	१५ तासिकाएँ
इकाई— II	भाषा कौशल शिक्षण : लघुकथाओं द्वारा भाषा कौशल शिक्षण (श्रवण, संवाद, वाचन, लेखन) १) शिक्षा — ज्योति जैन २) पानी के पेड़ — ज्योति जैन ३) पशुभाषा — ज्योति जैन ४) अपशगुन — ज्योति जैन	१५ तासिकाएँ

	ॡ) डडतल — डॉ. लतल अगुरवल	
	ॢ) गरीब कल लंऑ डॉक्स — डॉ. लतल अगुरवल	
	ॣ) डैं ही कृषुण हूँ — डॉ. लतल अगुरवल	
	।) सतुतु की अगुन डरीकुषल — डॉ. लतल अगुरवल	

संदर्भ ग्रंथ :

१. हिंदी डलषल शलकुषण — संडल. हिंदी अधुतुतुडन डंडल, सलवलतुरीडलई डुले डुणे वलशुववलदुतुडललतु, डुणे, रलकुडडल डुरकलशन, नई दललुली।
२. हिंदी वुतुलकरण — डं. कलडतलडुरसलद गुरु, डुरकलशन संसुथलन, नई दललुली।
३. डुरडुऑऑनडुूलक हिंदी — डॉ. डलधव सुुनऑकुके, लुकडलरती डुरकलशन, नई दललुली।

बी. ए. द्वितीय वर्ष कला (शैक्षणिक वर्ष २०२०—२०२१ से)

चतुर्थ अयन (Fourth Semester)

पाठ्यचर्या : MIL (Hindi) हिंदी भाषा शिक्षण

२ कर्मांक (Credit)

उद्देश्य :

१. छात्रों में वाक्य के भेद से अवगत करना।
२. छात्रों में विशेष प्रकार के वाक्यों से परिचित करना।
३. छात्रों में हिंदी भाषा श्रवण कौशल विकसित करना।
४. छात्रों में हिंदी भाषा संवाद कौशल विकसित करना।
५. छात्रों में हिंदी भाषा वाचन कौशल विकसित करना।
६. छात्रों में हिंदी भाषा लेखन कौशल विकसित करना।
७. हिंदी भाषा—विधि तथा भाषा—व्यवहार से अवगत करना।
८. हिंदी काव्य—गीत सृजन कौशल विकसित करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई— I	वाक्य विचार : वाक्य और वाक्य के भेद १) साधारण वाक्य २) मिश्र वाक्य ३) संयुक्त वाक्य ४) संक्षिप्त वाक्य ५) विशेष प्रकार के वाक्य (विधानार्थक, प्रश्नार्थक, निषेधवाचक, आज्ञार्थक, विस्मयादिबोधक, इच्छाबोधक, संदेशसूचक, संकेतार्थक) ६) विरामचिह्न।	१५ तासिकाएँ
इकाई— II	भाषा कौशल शिक्षण : गोपालदास : 'नीरज' के काव्य—गीत (०८ गीत) द्वारा श्रवण, संवाद, वाचन, लेखन कौशल शिक्षण। १) आदमी हूँ आदमी से प्यार करता हूँ २) राधा ने माला जपी श्याम की	१५ तासिकाएँ

	३) फूलों के रंग से ४) खिलते हैं गुल यहाँ ५) जीवन की बगिया महकेगी ६) लिखे जो खत तुझे ७) आज मदहोश हुआ जारे ८) कारवाँ गुजर गया, गुबार देखते रहे।	
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संदर्भ ग्रंथ :

१. हिंदी भाषा शिक्षण — संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, राजकमल प्रकाशन, नई दिल्ली।
२. हिंदी व्याकरण — पं. कामताप्रसाद गुरु, प्रकाशन संस्थान, नई दिल्ली।
३. प्रयोजनमूलक हिंदी — डॉ. माधव सोनटक्के, लोकभारती प्रकाशन, नई दिल्ली।

Urdu Language

Total Credit : 02

Total Teaching Hours: 30

AIMS & OBJECTIVES

1. To enhance the communication skill of Urdu language among the students.
2. To improve the writing and reading skill of Urdu Language among the students.
3. To provide the basic grammar knowledge to the students.
4. To develop the skill of demonstrate and convey the information in Urdu.

UNIT	واکائ	Description	تفصیل	Teaching Hours	اوقات تدریس
I		Recognition of alphabets, words and numeric حروف تہجی ، الفاظ اور اعداد کی شناخت	Grammar: Punctuation قواعد ، رموز اوقاف Making Sentences جملہ بندی	15	
II		Comprehension : Reading Paragraph and answering the question. دہنے گئے اردو پیراگراف کو پڑھ کر سوالات کے جوابات لکھنا۔		15	

Reference Books:

- Let's Study Urdu an Introductory Course
 - Urdu in 30 Days
 - Urdu ka Asan Qaida
 - Teach yourself Urdu
 - Learn Urdu Through English
 - Learn Urdu Through Marathi
- Ali S. Asani & Syed Akbar Hyder
Dr. Anwar Ali Khan
Maulvi Musa Sulaiman Karmadi
David Mathew & Kasim Dalvi
Dr. Madani Mohiuddin Ahmad
Ameen Hazeen

Urdu Language

Total Credit : 02

Total Teaching Hours: 30

..... AIMS & OBJECTIVES

1. To enhance the reading, writing, listening and speaking skills in Urdu among the students.
2. To enhance the communication skill of Urdu language among the students.
3. To improve the appropriate style of grammar and vocabulary.
4. To provide the basic grammar knowledge to the students.

UNIT	اکائی	Description	تفصیلاً	Teaching Hours
				اوقات تدریس
I		Making sentences Simple sentence Compound sentence & Complex sentence جملہ بندی ، مفرد ، مرکب ، مخلوط جملے Communication Skill مواصلاتی صلاحیت		15
II		Grammar Noun Verb Adjective Pronoun ترجمہ Urdu to English English to Urdu	فواہ اسم فعل صفت ضمیر	15

Reference Books:

- Let's Study Urdu an Introductory Course Ali S. Asani & Syed Akbar Hyder
- Urdu in 30 Days Dr. Anwar Ali Khan
- Urdu ka Asan Qaida Maulvi Musa Sulaiman Karmadi
- Teach yourself Urdu David Mathew & Kasim Dalvi
- Learn Urdu Through English Dr. Madani Mohiuddin Ahmad
- Learn Urdu Through Marathi Ameen Hazeen

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सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

द्वितीय वर्ष कला (S. Y. B. A.)

Modern Indian Languages Syllabus

Choice Based Credit System [CBCS]

(To be implemented from the Academic Year, 2020-21)

मराठी विषयाचा अभ्यासक्रम- जून २०२० पासून

द्वितीय वर्ष कला (S. Y. B. A.)

निवड आधारित श्रेयांक पद्धत

Choice Based Credit System [CBCS]

सत्र	विषयाचे नाव	संकेतांक
पहिले	मराठी भाषिक संज्ञापनकौशल्ये	MIL 2 (2)
दुसरे	नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी	MIL 2 (2)

द्वितीय वर्ष कला (S. Y. B. A.)

अनिवार्य अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

मराठी भाषिक संज्ञापनकौशल्ये [MIL 2 (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. प्रगत भाषिक कौशल्यांची क्षमता विकसित करणे.
२. प्रसारमाध्यमांतील संज्ञापनातील स्वरूप आणि स्थान स्पष्ट करणे.
३. व्यक्तिमत्त्व विकास आणि भाषा यांच्यातील सहसंबंध स्पष्ट करणे.
४. लोकशाहीतील जीवनव्यवहार आणि प्रसारमाध्यमे यांचे परस्पर संबंध स्पष्ट करणे.
५. प्रसारमाध्यमांसाठी लेखनक्षमता विकसित करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१. भाषा आणि व्यक्तिमत्त्व विकास : सहसंबंध २. लोकशाहीतील जीवनव्यवहार आणि प्रसारमाध्यमे	१	१५
२	प्रसारमाध्यमांसाठी लेखन १ वृत्तपत्रासाठी बातमीलेखन आणि मुद्रितशोधन २ नभोवाणीसाठी भाषणाची संहितालेखन ३ दूरचित्रवाणीसाठी माहितीपटासाठी संहितालेखन	१	१५

संदर्भ ग्रंथ :

१. भाषांतर मीमांसा, संपा. डॉ. कल्याण काळे, डॉ. अंजली सोमण
२. सायबर संस्कृती, डॉ. रमेश वरखेडे
३. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
४. ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
५. संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
६. इंटरनेट, डॉ. प्रबोध चोबे, मनोरमा प्रकाशन, मुंबई.
७. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
८. आधुनिक माहिती तंत्रज्ञानाच्या विश्वात शिकरापूर दीपक, मराठे उज्ज्वल, उत्कर्ष प्रकाशन, पुणे.
९. भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.
१०. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
११. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
१२. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
१३. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे

१४. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
१५. प्रसारमाध्यमांसाठी लेखन कौशल्य, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ नाशिक.
१६. प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ.भास्कर शेळके
१७. व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
१८. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१९. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
२०. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
२१. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक.
२२. <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
२३. <http://www.youtube.com/watch?v=oXAWMH5PDxY>

दुसरे सत्र
विषयाचे नाव

नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी [MIL 2 (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. संज्ञापनातील नवमाध्यमे आणि समाजमाध्यमांचे स्वरूप आणि स्थान स्पष्ट करणे.
२. भाषा, जीवनव्यवहार आणि नवमाध्यमे, समाजमाध्यमांचे परस्परसंबंध स्पष्ट करणे.
३. नवमाध्यमे आणि समाजमाध्यमांसाठी लेखनक्षमता विकसित करणे.
४. नवमाध्यमे आणि समाजमाध्यमांविषयक साक्षरता निर्माण करणे.
५. नवमाध्यमे आणि समाजमाध्यमांचा वापर आणि परिणाम याबद्दल चर्चा करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१. भाषा, जीवन व्यवहार आणि नवमाध्यमे, समाजमाध्यमे २. नवमाध्यमे आणि समाजमाध्यमांचे प्रकार : ब्लॉग, फेसबुक, ट्विटर. ३. नवमाध्यमे आणि समाजमाध्यमांविषयक साक्षरता, दक्षता, वापर आणि परिणाम	१	१५
२	१. वेबसाईट आणि ब्लॉग, ट्विटरसाठी लेखन २. व्यावसायिक पत्रव्यवहार	१	१५

संदर्भ ग्रंथ :

- १ सायबर संस्कृती, डॉ. रमेश वरखेडे
- २ उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
- ३ ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
- ४ संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
- ५ इंटरनेट, डॉ. प्रबोध चोबे, मनोरमा प्रकाशन, मुंबई.
- ६ व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
- ७ आधुनिक माहिती तंत्रज्ञानाच्या विश्वात, शिक्रापूरकर दीपक, मराठे उज्ज्वल, उत्कर्ष प्रकाशन, पुणे.
- ८ भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.
- ९ व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
- १० व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
- ११ व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
- १२ व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे
- १३ व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
- १४ प्रसारमाध्यमांसाठी लेखन कौशल्ये, यशवंतराव चव्हाण मुक्त विद्यापीठ नाशिक.

- १५ प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ.भास्कर शेळके
- १६ व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
- १७ व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
- १८ मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
- १९ व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
- २० भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण मुक्त विद्यापीठ, नाशिक.
- २१ <https://coe.maharashtra.gov.in/index.php?lang=mr>
- २२ https://coe.maharashtra.gov.in/index.php?option=com_content&view=article&id=116&Itemid=586&lang=mr
- २३ <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
- २४ <http://www.youtube.com/watch?v=oXAWMH5PDxY>

हिंदी पाठ्यक्रम Hindi Syllabus

अनुक्रम

बी. ए. द्वितीय वर्ष कला/बी. एस्सी. द्वितीय वर्ष विज्ञान
तृतीय एवं चतुर्थ अयन (Third & Fourth Semester)
शैक्षणिक वर्ष २०२०-२१ से

कोर्स नं.	तृतीय एवं चतुर्थ अयन	क्रेडिट	पृष्ठ क्रमांक
बी. ए. द्वितीय वर्ष कला			
MIL (Hindi)	हिंदी भाषा शिक्षण (तृतीय अयन)	२	०३
MIL (Hindi)	हिंदी भाषा शिक्षण (चतुर्थ अयन)	२	०५

बी. ए. द्वितीय वर्ष कला (शैक्षणिक वर्ष २०२०-२०२१ से)

तृतीय अयन (Third Semester)

पाठ्यचर्या : MIL (Hindi) हिंदी भाषा शिक्षण

२ कर्मांक (Credit)

उद्देश्य :

१. छात्रों में हिंदी भाषा श्रवण कौशल विकसित करना।
२. छात्रों में हिंदी भाषा संवाद कौशल विकसित करना।
३. छात्रों में हिंदी भाषा वाचन कौशल विकसित करना।
४. छात्रों में हिंदी भाषा लेखन कौशल विकसित करना।
५. हिंदी भाषा-विधि तथा भाषा-व्यवहार से अवगत करना।
६. लघुकथा सृजन कौशल विकसित करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई— I	वर्ण विचार : १) हिंदी वर्णमाला — परिचय २) लिपि — परिचय ३) वर्णों का उच्चारण और वर्गीकरण ४) स्वराघात ५) संधि : स्वर संधि, व्यंजन संधि, विसर्ग संधि।	१५ तासिकाएँ
इकाई— II	भाषा कौशल शिक्षण : लघुकथाओं द्वारा भाषा कौशल शिक्षण (श्रवण, संवाद, वाचन, लेखन) १) शिक्षा — ज्योति जैन २) पानी के पेड़ — ज्योति जैन ३) पशुभाषा — ज्योति जैन ४) अपशगुन — ज्योति जैन	१५ तासिकाएँ

	ॡ) डडतल — डॉ. लतल अगुरवल	
	ॢ) गरीब कल लंऑ डॉक्स — डॉ. लतल अगुरवल	
	ॣ) डैं ही कृषुण हूँ — डॉ. लतल अगुरवल	
	।) सतुतु की अगुन डरीकुषल — डॉ. लतल अगुरवल	

संदर्भ ग्रंथ :

१. हिंदी डलषल शलकुषण — संडल. हिंदी अधुतुतुडन डंडल, सलवलतुरीडलई डुले डुणे वलशुववलदुतुडलडुतु, डुणे, रलकुडडल डुरकलशन, नई दललुली।
२. हिंदी वुतुलकरण — डं. कलडतलडुरसलद गुरु, डुरकलशन संसुथलन, नई दललुली।
३. डुरडुऑऑनडुूलक हिंदी — डॉ. डलधव सुुनऑकुके, लुकडलरती डुरकलशन, नई दललुली।

बी. ए. द्वितीय वर्ष कला (शैक्षणिक वर्ष २०२०—२०२१ से)

चतुर्थ अयन (Fourth Semester)

पाठ्यचर्या : MIL (Hindi) हिंदी भाषा शिक्षण

२ कर्मांक (Credit)

उद्देश्य :

१. छात्रों में वाक्य के भेद से अवगत करना।
२. छात्रों में विशेष प्रकार के वाक्यों से परिचित करना।
३. छात्रों में हिंदी भाषा श्रवण कौशल विकसित करना।
४. छात्रों में हिंदी भाषा संवाद कौशल विकसित करना।
५. छात्रों में हिंदी भाषा वाचन कौशल विकसित करना।
६. छात्रों में हिंदी भाषा लेखन कौशल विकसित करना।
७. हिंदी भाषा—विधि तथा भाषा—व्यवहार से अवगत करना।
८. हिंदी काव्य—गीत सृजन कौशल विकसित करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई— I	वाक्य विचार : वाक्य और वाक्य के भेद १) साधारण वाक्य २) मिश्र वाक्य ३) संयुक्त वाक्य ४) संक्षिप्त वाक्य ५) विशेष प्रकार के वाक्य (विधानार्थक, प्रश्नार्थक, निषेधवाचक, आज्ञार्थक, विस्मयादिबोधक, इच्छाबोधक, संदेशसूचक, संकेतार्थक) ६) विरामचिह्न।	१५ तासिकाएँ
इकाई— II	भाषा कौशल शिक्षण : गोपालदास : 'नीरज' के काव्य—गीत (०८ गीत) द्वारा श्रवण, संवाद, वाचन, लेखन कौशल शिक्षण। १) आदमी हूँ आदमी से प्यार करता हूँ २) राधा ने माला जपी श्याम की	१५ तासिकाएँ

	३) फूलों के रंग से ४) खिलते हैं गुल यहाँ ५) जीवन की बगिया महकेगी ६) लिखे जो खत तुझे ७) आज मदहोश हुआ जारे ८) कारवाँ गुजर गया, गुबार देखते रहे।	
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संदर्भ ग्रंथ :

१. हिंदी भाषा शिक्षण — संपा. हिंदी अध्ययन मंडल, सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे, राजकमल प्रकाशन, नई दिल्ली।
२. हिंदी व्याकरण — पं. कामताप्रसाद गुरु, प्रकाशन संस्थान, नई दिल्ली।
३. प्रयोजनमूलक हिंदी — डॉ. माधव सोनटक्के, लोकभारती प्रकाशन, नई दिल्ली।

Urdu Language

Total Credit : 02

Total Teaching Hours: 30

AIMS & OBJECTIVES

1. To enhance the communication skill of Urdu language among the students.
2. To improve the writing and reading skill of Urdu Language among the students.
3. To provide the basic grammar knowledge to the students.
4. To develop the skill of demonstrate and convey the information in Urdu.

UNIT	واکائ	Description	تفصیل	Teaching Hours	اوقات تدریس
I		Recognition of alphabets, words and numeric حروف تہجی ، الفاظ اور اعداد کی شناخت	Grammar: Punctuation قواعد ، رموز اوقاف Making Sentences جملہ بندی	15	
II		Comprehension : Reading Paragraph and answering the question. دہنے گئے اردو پیراگراف کو پڑھ کر سوالات کے جوابات لکھنا۔		15	

Reference Books:

- Let's Study Urdu an Introductory Course
 - Urdu in 30 Days
 - Urdu ka Asan Qaida
 - Teach yourself Urdu
 - Learn Urdu Through English
 - Learn Urdu Through Marathi
- Ali S. Asani & Syed Akbar Hyder
Dr. Anwar Ali Khan
Maulvi Musa Sulaiman Karmadi
David Mathew & Kasim Dalvi
Dr. Madani Mohiuddin Ahmad
Ameen Hazeen

Urdu Language

Total Credit : 02

Total Teaching Hours: 30

..... AIMS & OBJECTIVES

1. To enhance the reading, writing, listening and speaking skills in Urdu among the students.
2. To enhance the communication skill of Urdu language among the students.
3. To improve the appropriate style of grammar and vocabulary.
4. To provide the basic grammar knowledge to the students.

UNIT	اکائی	Description	تفصیلاً	Teaching Hours
				اوقات تدریس
I		Making sentences Simple sentence Compound sentence & Complex sentence جملہ بندی ، مفرد ، مرکب ، مخلوط جملے Communication Skill مواصلاتی صلاحیت		15
II		Grammar Noun Verb Adjective Pronoun ترجمہ Urdu to English English to Urdu	فواہ اسم فعل صفت ضمیر	15

Reference Books:

- Let's Study Urdu an Introductory Course Ali S. Asani & Syed Akbar Hyder
- Urdu in 30 Days Dr. Anwar Ali Khan
- Urdu ka Asan Qaida Maulvi Musa Sulaiman Karmadi
- Teach yourself Urdu David Mathew & Kasim Dalvi
- Learn Urdu Through English Dr. Madani Mohiuddin Ahmad
- Learn Urdu Through Marathi Ameen Hazeen

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S. Y. B. A.

Compulsory English (Core Course-CC)

(Choice Based Credit System-70:30-Pattern)

(w. e. f- 2020-2021)

(03 Credit Course)

Preamble:

The course aims at contributing to the overall personality development of the students. They have to be good human beings before anything else. This laudable aim involves instilling essential human values like tolerance, understanding, sympathy, respecting the differences, living in harmony with nature, protecting the environment etc. In our prose and poetry selections we have kept these considerations in mind. We offer an adequate mix of British, American, Indian and other writers and poets because we want our students to be responsive to an era of globalization but at the same time they have to be rooted in Indian culture and ethos.

Our students have to develop into responsible citizens of the world. They have to become confident and face the challenges of life successfully. Effective use of language is necessary for success in all walks of life. Hence we have focused on enhancing the linguistic skills of the students by concentrating on essential aspects of grammar and enrichment of vocabulary. Apart from the professional and technical qualifications of the employees, the present day employers generally look for certain soft skills which relate to some positive personality traits, attitudes and social skills. Hence the course includes units on some essential soft skills. The course is thus a value oriented and a skill-based course.

Objectives:

- a) To expose students to the best examples of literature in English and to contribute to their emotional quotient as well as independent thinking.
 - b) To instill universal human values through best pieces of literature in English
 - c) To develop effective communication skills by developing ability to use right words in the right context.
 - d) To enhance employability of the students by developing their basic soft skills
 - e) To revise and reinforce the learning of some important areas of grammar for better linguistic competence.
- **Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. **(3x15=45+3=48)**. It is equally applicable to all papers/courses.
 - **Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-III & IV will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.
 - **The Internal** Examination for 30 marks will be conducted at college level.
 - a) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
 - b) A Mid-semester Written Test for 20 marks

Semester-III

Prescribed Text: *Panorama: Values and Skills through Literature* (Board of Editors- Orient BlackSwan)

Unit-I- Prose 12 Clock Hours

1. A **Simple Philosophy- Seathl**
2. The Homecoming- **Rabindranath Tagore**
3. The Verger- **Somerset Maugham**

Unit-II- Poetry 12 Clock Hours

1. The Palanquin Bearers- **Sarojini Naidu**
2. On the Grasshopper and the Cricket- **John Keats**
3. Pied Beauty- **George Manley Hopkins**

Unit-III- Grammar 10 Clock Hours

1. The Passive Voice
2. Direct and Indirect Speech
3. Negative Sentences

Unit-IV- Vocabulary 06 Clock Hours

1. One-word substitutes
2. Idioms
3. Suffixes and prefixes

Unit-V- Soft Skills 05 Clock Hours

1. Leadership skills
2. Teamwork skills

Semester-IV

Prescribed Text: *Panorama: Values and Skills through Literature* (Board of Editors- Orient BlackSwan)

Unit-I- Prose 12 Clock Hours

1. **The Chicago Speech- Swami Vivekananda**
2. The Lottery Ticket- **Anton Chekhov**
3. The Open Window- **Saki (H. H. Munro)**

Unit-II- Poetry 12 Clock Hours

1. On Another's Sorrow- **William Blake**
2. Laugh and Be Merry- **John Masefield**
3. The Rock and the Bubble- **Louisa May Alcott**

Unit-III- Grammar

10 Clock Hours

1. Question tags
2. Simple, Compound and Complex sentences
3. Degrees of Comparison

Unit-IV- Vocabulary

06 Clock Hours

1. Collocations: Words that go together
2. Phrasal Verbs
3. Commonly Confused Words

Unit-V- Soft Skills

05 Clock Hours

1. Problem-solving skills
2. Time management

S. Y. B. A.

Skill Enhancement Course-SEC-1A

(Old General English-G-2)

(Choice Based Credit System-70:30-Pattern)

(w. e. f- 2020-2021)

(03 Credit Course)

Title of the Paper: Advanced Study of English Language

Prescribed Text: *Linguistics: An Introduction-* (Ed. Board of Editors, Orient BlackSwan)

Preamble:

Language is basically a skill-based subject. The present course is a skill enhancement course. Effective use of language involves multiple skills, namely listening, speaking, reading and writing. In order to acquire these skills and become efficient users of language our students need to be conversant with different aspects of language. Thus the students need to know phonological aspects of language like correct pronunciation, stress, tone groups, intonation patterns etc. The basics of morphology acquaint students with the structure of words and word formation processes. Morphology combined with lexical semantics contributes to the enrichment of vocabulary and helps the students to use right words in a right place in their communication. English in India is a second language and in a second language learning situation, developing insight into the process of sentence formation is very important. Syntax part of the course takes care of this crucial aspect in the development of language skills. Mere correctness of language is not enough. We have to use language appropriately in a given context. Grounding in pragmatics contributes to the language skills of students by helping them produce contextually appropriate utterances. The sociolinguistics part of the course focuses on language variation because language is not a monolithic phenomenon. Awareness of diversity in language use can make the learner a better user of language. The course thus enhances the linguistic and communicative skills of the students.

Objectives of the Course:

- a) To familiarize students with the various components of language.
 - b) To develop overall linguistic competence of the students.
 - c) To introduce students to some advanced areas of language study.
 - d) To prepare students to go for detailed study and understanding of language.
 - e) To enhance communicative skills of students by developing insight into the working of language
- **Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours

allotted to internal evaluation. (3x15=45+3=48). It is applicable to all other papers/courses.

- **Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-III & IV will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.
- **The Internal Examination** for 30 marks will be conducted at college level.
 - c) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
 - d) A Mid-semester Written Test for 20 marks

Semester-III

Course Content-

1. Phonetics and Phonology part from- **Linguistics: An Introduction**
2. Morphology part from- **Linguistics: An Introduction**
3. Sociolinguistics part from- **Linguistics: An Introduction**

(Following topics from **chapter – 1, 2, 3 and 4 of the prescribed book**)

1. Phonology:

15 Clock Hours

1. Organs of speech, speech mechanisms,
2. Description and classification of consonants and vowels,
3. Concept of syllable,
4. Word accent, sentence accent,
5. Tone groups, placement of nuclear/tonic accent,
6. Concept of intonation, uses/types of tones

2. Morphology:

15 Clock Hours

1. What is morphology?
2. Concept of morpheme, allomorph, zero allomorph, types of morphemes (free and - bound), Prefixes and Suffixes (class-changing and class-maintaining),
3. Inflectional and Derivational suffixes, borrowings

3. Sociolinguistics:

15 Clock Hours

1. National varieties of English: British, American and Indian
2. Regional and social dialects, standard dialect, concept of register, formal and informal styles
3. Pidgins and Creoles, code-switching and code mixing

Semester-IV

Prescribed Text: *Linguistics: An Introduction-* (Ed. Board of Editors, Orient BlackSwan

Course Content-

1. Syntax part from- **Linguistics: An Introduction**
2. Semantics part from- **Linguistics: An Introduction**
3. Pragmatics part from- **Linguistics: An Introduction**

(Following topics from **chapter – 5, 6 and 7 of the prescribed book**)

1. Syntax: **15 Clock Hours**

1. Concept of Phrase, Phrase structure rules/ types of Phrases: Noun phrase, Adjective phrase, Adverb phrase, Prepositional phrase and Verb phrase.
2. Concept of Clause, Parts of Clauses: Subjects and objects, complements and Adverbials, Concept of Subject –verb Concord, Clause patterns.
3. Types of Sentences: Structural Classification - Simple Sentence, Compound Sentence and Complex sentence
4. Types of Sentences: Functional Classification - (affirmatives/interrogatives/imperatives) Wh –questions, Yes-No Questions, Tag Questions, Negative Sentences, Do-support, Imperatives

2. Semantics: (Introductory) **15 Clock Hours**

1. What is Semantics? Difference between Denotative and Connotative meaning
2. Lexical relations: Synonymy, Antonymy, Homonymy, Homography and Homophony, Polysemy, Difference between Homonymy and Polysemy, Superordinate terms and Hyponymy, Metonymy.

3. Pragmatics: (Introductory) **15 Clock Hours**

1. What is Pragmatics?
2. Speech Acts: Types
 - a. Austin’s typology - locutionary, illocutionary, perlocutionary.
 - b. Searle’s typology – the six types
 - c. Direct and Indirect Speech Acts
3. The Co-operative Principle and Its Maxims
4. The Politeness Principle and Its Maxims

Reference Books:

1. Study of Language: An Introduction – George Yule, (CUP, 1985)
2. English Grammar for Today: A New Introduction – Margaret Deuchar, Geoffrey Leech, Robert Hoogenraad (Palgrave Macmillan, 1982)
3. Semantics – F.R. Palmer (CUP, 1981)
4. Pragmatics - George Yule, (OUP, 2000)
5. Modern Linguistics: An Introduction - Verma and Krishnaswamy (OUP, 1989)
6. Pragmatics and Discourse: A Resource Book for Students - Joan Cutting, (Routledge, 2002)
7. Structure and Meaning in English – Graeme Kennedy (Pearson, 2011)
8. Making Sense of English: A Textbook of Sounds, Words and Grammar – M.A. Yadugiri (New Delhi: Viva Books Pvt. Ltd., 2006)

S. Y. B. A.

Discipline Specific Course (DSC-1A)

(Old Special Paper-I)

(Choice Based Credit System-70:30-Pattern)

(w. e. f- 2020-2021)

(3 Credit Course)

Title of the Paper: Appreciating Drama

Preamble:

Drama is an age-old form of literature. Moreover, it is a performing art form. It has been undergoing several transformations in its form and performance till date. In this sense, the world of drama has been exploring and exposing very many distinguishing theoretical, literary and theatrical dimensions. At the backdrop of the very dynamics of drama, the syllabus prescribed under this paper attempts to give justice to the multi-dimensional aspects of drama. The course contents and the evaluation patterns are radically designed to keep pace with the age of technology and to empower the learners for futuristic academic avenues.

Objectives:

1. To introduce Drama as a major form of literature
 2. To introduce minor forms of Drama
 3. To acquaint and enlighten students regarding the literary and the performing dimensions of drama
 4. To acquaint and familiarize the students with the elements and the types of Drama
 5. To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world
 6. To develop interest among the students to appreciate and analyze drama independently
 7. To enhance students' awareness regarding aesthetics of Drama and to empower them to evaluate drama independently
- **45 clock hours to be equally shared for teaching both the units.**

Semester-III

Course content-

UNIT-I- Theory of Drama:

1. Drama, the Literary Form
2. Drama, the Performing Art Form
3. Elements of Drama:
 - i) Literary Elements: (Theme, Plot, Characters, Diction, Conflict, Setting etc.)
 - ii) Theatrical Elements: (Stage directions, Light effects, Music, Costumes, Stage property, Makeup etc.)
4. Types of Drama: (Tragedy, Comedy, Tragicomedy, Problem play, Absurd drama)
5. An Introduction to Minor Forms of Drama: (e.g. One-act-play, Skit, Street play, a short Radio play, Pantomime etc.)

UNIT-II- A Midsummer Night's Dream by William Shakespeare

- **45 clock hours to be equally shared for teaching both the units.**

Semester-IV

Title of the Paper: Appreciating Drama

UNIT-I- Arms and the Man by George Bernard Shaw

UNIT-II- The Fire and the Rain by Girish Karnad

- **45 clock hours to be equally shared for teaching both the units.**

Select Bibliography:

1. Abrams M.H. 1957. A Glossary of Literary Terms. Madras: Macmillan India Press.
2. Anandlal. 2004. Ed. The Oxford Companion to Indian Theatre. New Delhi: Oxford University Press.
3. Berthold M. 1999. The History of World Theatre. New York: Continuum.
4. Briggs J. & Jefferson N.C. 2003. Encyclopedia of Stage Lighting. : McFarland
5. Brown J.R. 1972. Theatre Language. London: The Penguin Press.
6. Craig E.G. 1911. On the Art of the Theatre. London: William Heinemann Ltd.
7. Crook T. 1999. Radio Drama. Routledge; 1st Edition
8. Dharwadkar A. 2005. Theatres of Independence. New Delhi: Oxford

University Press

9. Hughes M. 2013. A History of Pantomime
10. Jagadale U.S. 2014. Communication in Drama: A Pragmatic Approach. PartridgeIndia.
11. Mamet D. 1994. Goldberg Street: Short Plays and Monologues. Grove Press
12. Pease A. 1998. Body Language. London: Sheldon Press.
13. Srampickal J. 1994. Voice to the Voiceless: the Power of People's Theatre in India. London: Hurst & Company.
14. Stanislavski C. 1981. Creating a Role. London: Methuen Publishing Ltd.
15. Zuber O. 1980. Ed. The Languages of Theatre. Oxford: Pergamon Press

EVALUATION PATTERN

Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. **(3x15=45+3=48)**. It is applicable to all other papers/courses.

The Internal Examination for 30 marks will be conducted in two parts.

1) Practical Examination for 10 marks:

The practical examination aims at testing practical applications of the course contents. Hence, the evaluation pattern has to be a practical one. The following choice-based modes of evaluation can be considered in this concern.

(Modes of evaluation: Dramatic performances, Group discussions, Seminars, Project presentations, Library work, Oral examination etc.)

In Semester-III, the practical examination aims at testing practical applications of Unit-I: 'Theory of Drama' on the basis of the above-mentioned choices of evaluation modes.

In Semester-IV, the practical examination aims at testing practical applications of Unit-I: **Arms and the Man** on the basis of the above-mentioned choices of evaluation modes.

2) A Mid-semester Written Test for 20 marks:

Being a written test, it aims at testing the theoretical subject knowledge of the students, on the basis of the semester-wise syllabus given below.

For Semester-III the syllabus for the test will be **Unit-I: 'Theory of Drama'**.

For Semester-IV the syllabus for the test will be **Unit-I: Arms and the Man**.

S. Y. B. A

Discipline Specific Course (DSC-2A)

(Old Special Paper-II)

(Choice Based Credit System-70:30-Pattern)

(w. e. f- 2020-2021)

(03 Credit Course)

Title of the Paper: Appreciating Poetry

Rationale:

Poetry has been the oldest form of literature and continues to be an important part of art and culture. It conveys a thought, describes a scene, or narrates a story in a concentrated, lyrical arrangement of words. It can be structured with rhyming lines and meter or can also be freeform that follows no formal structure. Poetry on the level of content offers a huge variety of aesthetic and worldly experiences. It offers new perspectives to look at the usual matters. The present course is designed in line with such liberating and enriching nature of poetry. This is an introductory course and it is intended that students learn the basics of poetry through its theory and the practical application of some of the terms related to poetry. Given its elementary nature this course cannot afford to be ambitious in its scope and selection of poems. Poems are not necessarily selected from different nationalities and cultures and no specific theme is maintained in the selection of poems. However it is seen in the selection that students get exposed to a variety of experiences through poems of different mold and that their aesthetic and human sensibilities get enriched.

Objectives:

1. To acquaint students with the terminology in poetry criticism (i.e. the terms used in appreciation and critical analysis of poems)
 2. To encourage students to make a detailed study of a few sample masterpieces of English poetry
 3. To enhance students awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate poetry independently
- **Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. **(3x15=45+3=48)**. It is applicable to all other papers/courses.
 - **Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-III & IV will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.

- **The Internal** Examination for 30 marks will be conducted at college level.
 - e) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
 - f) A Mid-semester Written Test for 20 marks

Semester-III

Course Content-

Prescribed Text: *Mirage: An Anthology of English Poetry* Ed. Board of Editors, Orient Blackswan

A) Theory of Poetry 20 Clock Hours

- (a) What is poetry? Significant development in the art of poetry during major periods
- (b) Elements of poetry: Rhythm, Meter, Sound Structure, Stanza Forms,
- (c) Figures of Speech, Symbols, Imagery, Simile, Metaphor, Personification and other Poetic Devices like Repetition and Contrast.
- (d) Types of Poetry: Elegy, Sonnet, Dramatic Monologue, Lyric, Ode, Ballad

B) Poems: 25 Clock Hours

1. The Nightingale- **Philip Sidney**
2. Sonnet 3- **William Shakespeare**
3. The Sun Rising- **John Donne**
4. London- **William Blake**
5. Ode on a Grecian Urn- **John Keats**
6. To a Skylark- **P. B. Shelley**

Semester-IV

Prescribed Text: *Mirage: An Anthology of English Poetry* Ed. Board of Editors, Orient Blackswan

Poems: 45 Clock Hours

1. My Last Duchess- **Robert Browning**
2. Sailing to Byzantium- **W. B. Yeats**
3. Futility- **Wilfred Owen**
4. A Bird Came Down the Walk- **Emily Dickinson**
5. Talking in Their Sleep- **Edith M. Thomas**
6. What Is Life- **John Clare**
7. Sympathy- **Paul Laurence Dunbar**
8. The Awakening- **James Weldon Johnson**
9. The Wind- **Amy Lowell**
10. Freedom- **Rabindranath Tagore**
11. Caged Bird- **Maya Angelou**
12. Failure of Communication- **Judith Wright**

Select Bibliography:

1. Abrams M.H. 1957. *A Glossary of Literary Terms*. Madras: Macmillan India Press.
2. Drew Elizabeth. 1959. *Poetry- A Modern Guide to Its Understanding and Enjoyment*. Dell Publishing Co.
3. Lennard John. 2005. *The Poetry Handbook: A Guide to Reading Poetry for Pleasure and Practical Criticism*. OUP.
4. Moon Brian. 2001. *Studying Poetry: Activities, Resources and Texts*. NCTE.
5. Oliver Mary. 1994. *A Poetry Handbook*. Harcourt Brace & Company.
6. Williams Rhian. 2009. *The Poetry Tool Kit: The Essential Guide to Studying Poetry*. Bloomsbury
7. Wolosky Shira. 2001. *The Art of Poetry: How to Read Poem*. OUP.

(S.Y.B.A)

Skill Enhancement Course-(SEC-2A)
(w.e.f-2020- 2021)

“Mastering Communication Skills”

[Two Credit Course (2x15=30 Hours)]

Objectives:

1. Enhancing the skill of using English for everyday communication
2. To acquaint the students with the verbal and nonverbal communication
3. To create opportunities to access exposure of speaking in various contexts
4. **To acquaint and familiarize the students with soft skills**
5. To develop interest among the students to interact in English

Suggestions to Teachers:

1. It is a learner-centric course.
2. The course aims at developing skill among the students.
3. Learning can be facilitated through interactive and informal guiding sessions.
4. Participation and up-gradation of the students' performance needs to be encouraged.
5. Practicals, Exercises, Activity monitoring, Projects, Seminars, Presentations, Group Discussions are some of the activities that the teachers are expected to encourage.
6. Relevant and innovative ideas of both the students and the teachers are always appreciable for a successful completion of this course
7. The concerned faculty/teachers have to maintain the record of the students (Given in the Evaluation pattern) as the credits to the students need to be given on the basis of preserved record.

SEMESTER-III

Course content:

- A) Introducing Yourself and Others
- B) Joining and Leaving Conversation
- C) Accepting/Declining Invitations
- D) Asking/Giving/Refusing Permission
- E) Digital Literacy for effective communication
- F) Project Presentation

SEMESTER-IV

Course content:

- A) Asking/Giving/Refusing Information
 - B) Agreeing/Partial Agreeing/Disagreeing
 - C) Complaining and Apologizing
 - D) Vocabulary Building
 - E) Delivering a Speech
 - F) CALL and MALL for effective communication (CALL-Computer-assisted Language Learning & MALL- Mobile-assisted Language Learning)
-

EVALUATION PATTERN

At the end of both the semesters, an activity-based evaluation of the skill development is to be conducted using ANY ONE of the following evaluation modes.

1. Submission of a Project
2. Seminar
3. Group Discussion
4. Mock Interviews
5. Presentations
6. Any other mode of evaluation relevant to the course contents

University of Pune

Board of Studies in Economics

S.Y.BA. Economics Revised Syllabus (*NEW*)

From - 2014-15

Code No.	Title of the paper
G.2	Modern Banking
S. 1	Micro Economics
S. 2	Macro Economics

Revised Syllabus Sub- Committee.

Sr. no	Name	Designation
1	Dr. Suhas Avhad	Chairman
2	Dr.Nilesh Dangat	Co-ordinator
3	Dr.Rajendra Shinde	Member
4	Dr.Sudhakar Pagar	Member
5	Dr. R.K. Datir	Member
6	Dr. R.G Rasal	Member
7	Dr. R.G. Kolhe	Member

University of Pune
S.Y.B.A. Economics Revised Syllabus
G-2, Modern Banking
From : June – 2014

PREAMBLE

To create the awareness among the students of Modern Banking System. Banking constitutes important components towards understanding of economics. Clear understanding of the operations of banking their interaction with the rest of the economy is essential to realize how monetary forces operate through a multitude of channels- market, non-market, institutions and among others, the state.

First Term

Chapter No.	Title of the Chapter	Lectures
1	Evolution of Modern Banking 1.1 Meaning & Definition of Bank. 1.2 Banking in Europe, USA & Asia. 1.3 Evolution of Banking in India. 1.4 Structure of Indian Banking System	12
2	Functions of Commercial Banks 2.1 Primary Functions-Accepting Deposits, Granting Loans & Advances. 2.2 Secondary Functions-Agency Functions, General Utility Functions 2.3 Methods of Remittances.	12
3	Principles of Commercial Banks 3.1 Liquidity, Profitability and Safety- Meaning & Concept. 3.2 Multiple Credit Creation-Process & Limitations. 3.3 Components of Balance Sheet of Commercial Banks	12

4	<p>Operation & Types of Accounts</p> <p>4.1 Opening and operating of Deposit Account.</p> <p>4.2 Closure and Transfer of Accounts</p> <p>4.3 Types of Account Holders - Individual & Institutional</p> <p>4.4 No Frills Account, Escrow Account</p>	12
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Second Term

5	<p>Negotiable Instruments</p> <p>5.1 Promissory Note, Bill of Exchange and Cheque - meaning, Definition & Characteristics</p> <p>5.2 Types of Cheque – Bearer, Order & Crossed</p> <p>5.3 Types of Crossing- General & Special</p> <p>5.4 Endorsement- Definition, Types & Effects</p>	12
6	<p>New Technology in Banking</p> <p>6.1 E-Banking – Need and Importance</p> <p>6.2 Meaning, concept and operation of -</p> <p style="padding-left: 20px;">6.2.1 Automated Teller machine- ATM</p> <p style="padding-left: 20px;">6.2.2 Credit Card</p> <p style="padding-left: 20px;">6.2.3 Debit Card</p> <p style="padding-left: 20px;">6.2.4 Tele Banking</p> <p style="padding-left: 20px;">6.2.5 Mobile Banking</p> <p style="padding-left: 20px;">6.2.6 Net Banking</p> <p style="padding-left: 20px;">6.2.7 Society for worldwide Interbank Financial Telecommunication</p> <p style="padding-left: 20px;">6.2.8 Core Banking</p> <p style="padding-left: 20px;">6.2.9 RTGS</p>	12
7	<p>Reserve Bank of India</p> <p>7.1 Functions</p> <p>7.2 Money Measures- M0, M1, M2, M3, M4</p> <p>7.3 Monetary policy- Meaning & objectives</p>	12

	7.4 Instruments of Credit Control	
8	Co- operative banking in India 8.1 Structure of Co-operative banking in India 8.2 97 th Constitutional Amendment in co-operative law 8.3 NABARD- objectives, Functions & working 8.4 Challenges before co-operative Banking	12

BASIC READING LIST

- Day, A.C.L. (1960), Outline of Monetary Economics, Oxford University Press, Oxford.
- De Kock, M.H. (1960), Central Banking, Staples Press, London.
- Due, J.F. (1963), Government Finance, Irwin, Homewood.
- Government of India, Economic Survey (Annual), New Delhi.
- Halm, G.N. (1955), Monetary Theory, Asia Publishing House, New Delhi.
- Harris, C.L. (1961), Money and Banking, Allyn and Bacon, London.
- Laliwala, J.I. (1984), The Theory of Inflation, Vani Educational Book, New Delhi.
- Mishra, S.S. (1981), Money, Inflation and Economic Growth, Oxford & IBH Publishing Company, New Delhi.
- Reserve Bank of India (1983), The Reserve Bank of India: Functions and Working, Bombay.
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- Reserve Bank of India, Report on Currency and Finance (Annual).
- Datir R.K. (2011), Bhartatil Bank Vayvasay Aani Sahakar, Nirali Prakashan, Pune.
- Rajesh R., Sivaganasithi (2009), Banking Theory – Law & Practice, The Mc Graw – Hill Companies, New Delhi.
- Datir , Lomate, Ushir (2012), Bank Vayvasaychi Multatve, Nirali Prakashan, Pune.
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University of Pune
S.Y.B.A. Economics Revised Syllabus
S-1, Micro Economics
From : June – 2014

Preamble

As a foundation course, in this Paper, student is expected to understand the behavior of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuation in a market. The chapter incorporated in this Paper deal with the nature and scope of economics, the theory of consumer behavior, analysis of production function and equilibrium of a producer, the price formation in different markets structures and the equilibrium of a firm and industry. In addition, the principles of factor pricing and commodity pricing as also the problems of investment and welfare economics have been included.

First Term

Chapter No.	Title of the Chapter	Lectures
1	Introduction 1.1 Micro Economics – Meaning, Nature Scope, importance & limitations,. 1.2 Basic Economic Problems. 1.3 Tools of Economic Analysis – Functional relationships, Schedules, Graphs & Equations. 1.4 Variable – Dependent and Independent variable- Exogenous & Endogenous.	10
2	Demand Analysis 2.1 Utility – Meaning, Concept & Assumptions 2.2 Cardinal Utility- Law of Diminishing Marginal Utility. 2.3 Ordinal Utility – Indifference curve - Concept and Properties, Consumer Equilibrium 2.4 Demand- concept & law 2.5 Elasticity of Demand 2.5.1 Price Elasticity-Definition, Types, Determinants, Importance. 2.5.2 Income Elasticity - Types & Importance, 2.5.3 Cross Elasticity- concept	18

3	Supply Analysis 3.1 Meaning, Concept & Determinates. 3.2 Law of Supply. 3.3 Elasticity of Supply.	08
4	Theory of Production 4.1 Production function. 4.2 The law of Variable Proportions. 4.3 Law of returns to scale. 4.4 Revenue concept-Total, Average & Marginal Revenue. 4.5 Cost concepts: Fixed & Variable Cost, Opportunity cost, Average & Marginal cost, Total cost.	12

Second Term

5	Market Structure 5.1 Meaning & Classification 5.2 Perfect Competition: Concept- Characteristics, price determination in short run and long run, equilibrium of the firm and industry 5.3 Monopoly- Concept, Characteristics and short and long run Equilibrium. Price discrimination 5.4 Monopolistic Competition : Concept, Characteristics, short & long run Equilibrium, Selling cost- concept 5.5 Oligopoly – Concept, Characteristics 5.6 Duopoly – Concept, Characteristics	20
6	Factor Pricing 6.1 The Marginal Productivity Theory of Distribution. 6.2 Rent – Ricardian Theory of Rent, Modern Theory of Rent, Quasi Rent 6.3 Wages –Modern Theory of Wages, Collective Bargaining , Supply curve of Labour	20

	6.4 Interest- Loanable Funds Theory , Keynesian Liquidity preference theory 6.5 Profit – Risk and Uncertainty Theory , Innovation Theory	
7	Welfare Economics 7.1 Definition and meaning 7.2 Social Welfare Function. 7.3 Pigovian Welfare Economics 7.4 Thought of Amartya Sen on Welfare Economics.	08

Basic Reading List

- Bach. G.L. (1977), Economics, Prentice Hall of India, New Delhi.
- Gauld. J.P. and Edward P.L. (1996), Microeconomic Theory, Richard. Irwin, Homewood.
- Henderson J. and R.E. Quandt (1980), Microeconomic Theory : A Mathematical Approach, McGraw Hill, New Delhi.
- Heathfield and Wibe (1987), An Introduction to Cost and Production Functions, Macmillan, London.
- Koutsoyiannis, A. (1990) Modern Microeconomics, Macmillan.
- Lipsey, R.G. and K.A. Chrystal (1999) Principles of Economics (9th Edition), Oxford University Press, Oxford.
- Mansfield, E. (1997) Microeconomics (9th Edition), W.W. Norton and Company, New York.
- Ray, N.C. (1975), An Introduction to Microeconomics, Macmillan Company of India Ltd., Delhi.
- D.N. Dwivedi, Micro Economic Theory and Applications, Pearson education.
- G.S. Maddala And Ellen, Micro Economics Theory and Application, Tata McGraw Hill.
- R.K. Datir & Other, Sukshma Arthashastra, Nirali Prakashan, Pune.
- Jhingan M.L., Micro Economic Theory, Virinda Publication, Delhi.

University of Pune
S.Y.B.A. Economics Revised Syllabus
S-2, Macro Economics
From : June 2014

PREAMBLE

On account of the growing influence and involvement of the State in economic fields, macroeconomics has become a major area of economic analysis in terms of theoretical, empirical as well as policy-making issues. Macroeconomics has an extensive, substantive as well as methodological content. It deals with the functioning of the economy as a whole, the objective of the course is to familiarize the students the basic concept of Macro Economics and application. Macro economics has an extensive, substantive as well as methodological content. It deals with the functioning of the economy as a whole, including how the economy's total output of goods and services and employment of resources is determined and what causes these totals to fluctuate. The Paper entitled Macroeconomics is designed to make an undergraduate student aware of the basic theoretical framework underlying the field of macroeconomics.

First Term

Chapter No.	Title of the Chapter	Lectures
1	Introduction 1.1 Meaning, Nature, Scope, Importance and Limitation of Macroeconomics 1.2 Difference between Micro and Macro Economics	08
2	National Income 2.1 Concepts: National Income, Gross National Product, Net National Product, Per Capita Income, Disposable Income. 2.2 Importance of National Income. 2.3 Methods of National Income Measurement 2.4 Difficulties in Measurement of National Income 2.5 Circular Flow of National Income	14

3	Theory of Employment 3.1 Say's Law of Market 3.2 Classical Theory of Employment 3.3 Criticism by Keynes on Classical Theory 3.4 Keynesian Theory of Employment	12
4	Consumption and Investment 4.1 Meaning of Consumption Function 4.2 Average and Marginal Propensity to Consume 4.3 Psychological Law of Consumption 4.4 Factors influencing Consumption Function 4.5 Saving- concept & Function 4.6 Investment- Meaning & Types 4.7 Investment Multiplier- Concept and Limitations 4.8 Principle of Acceleration - Concept	14

Second Term

5	Value of Money 5.1 Money- Definition and Functions 5.2 Quantity Theory of Money 5.3 Cash balance approach	12
6	Inflation and Deflation: 6.1 Inflation - Meaning and Causes 6.2 Demand Pull and Cost Push Inflation 6.3 Effects of Inflation 6.4 Measures to control Inflation 6.5 Deflation- Meaning, Causes and Consequences	12
7	Business Cycles 7.1 Meaning and Features of Business Cycle 7.2 Phases of Business Cycle 7.3 Causes and Effects of Business Cycle. 7.4 Control of Business Cycles- Monetary and Fiscal Controls	12

8	<p>Macroeconomic Objectives and Policies</p> <p>8.1 Macroeconomic Objectives</p> <p>8.2 Monetary Policy- Meaning and Definitions, Instruments, Advantages and Limitations</p> <p>8.3 Fiscal Policy- Meaning and Definitions, Instruments and Advantages</p>	12
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Basic Reading List

- Ackey, G (1976) Macro Economics Theory and Policy, Macmillan Publishing Company, New York
- Ahuja H. L. (2002) Macroeconomics Theory and Policy, Chand and Co. Ltd New Delhi.
- D'souza Errol (2008) Macroeconomics : Person Publication, New Delhi.
- Gupta S.B. (1994) Monetary Economics, S. Chand and Co. Delhi
- Jingan M.L. (2002) Macro Economic Theory, Vrinda Publication, Delhi
- Vaish M. C. (2002) Macro Economic Theory, Vikas Publishing House, N. Delhi
- Shapiro E (1996) Macro Economic Analysis; Galgotia Publication, New Delhi

ADDITIONAL READING LIST

- Dillard, D. (1960), The Economics of John Maynard Keynes, Crossby Lockwood and Sons, London.
- Day A.C.L. (1960) Outline of Monetary Economics, Oxford University Press, Oxford
- Higgins, B. (1963), Economic Development: Principles, Problems and Policies, Central Book Depot, Allahbad.
- Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, Macmillan, London.
- Kindleberger, C.P. (1958), Economic Development, McGraw-Hill Book Company, New York.
- Datir , Lomate, Ushir (2012), Sthul Arthashastra, Nirali Prakashan, Pune.
- Lucas, R. (1981), Studies in Business Cycle Theory, MIT Press, Cambridge, Massachusetts.

University of Pune

S.Y.B.A Political Science

G-2 General Paper

POLITICAL THEORY & CONCEPTS

(80-20 Pattern to be implemented from 2014-2015)

Course Objectives:

This is an introductory paper to the concepts, ideas and theories in political theory. It seeks to explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically. The different ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the differences in their perspectives and in order to understand their continuity and change. Furthermore there is a need to emphasize the continuing relevance of these concepts today and explain how an idea and theory of yesteryears gains prominence in contemporary political theory.

Term-I

Unit: 1 - Introducing Political Theory

- a) Definitions, Nature & Scope
- b) Traditions of Political Theory: Liberal & Conservative

Unit: 2 - State

- a) Definitions Meaning and Elements
- b) Perspectives on State (Liberal, Marxist)

Unit: 3 - Power & Authority

- a) Conceptions of Power, Power as Exploitation, Authority, Hegemony, Foucault on Power
- b) Authority: Meaning, Nature & its forms

Unit-4 - Right and Justice

- a) Meaning, Nature & Kinds of Rights
- b) Dimensions of Justice (Social, Economic Political)

Term-II

Unit: 5 – Liberty and Equality

- a) Liberty: Meaning, Nature, Classification: Negative & Positive Liberty**
- b) Equality: Meaning, Nature, Types of Equality: Equality OF Opportunity; political Equality, Affirmative Action**

Unit: 6 – Democracy

- a) The Concept of Democracy, Direct Participatory & Liberal Democracy**
- b) Perspectives on Democracy, Merits and demerits**

Unit: 7 – Sovereignty

- a) Meaning & Characteristics of sovereignty**
- b) Theory of Popular Sovereignty**

Unit 8: Globalisation

- a) Definition, Meaning**
- b) Impact of Globalisation**

Readings:

Lodhi Kaniz Fatema, Political Theory

Chavan Shankar Political Theory , Pratima Prakshan ,Pune.

Benke Suvarna, Rajkiya Siddhant, Prashant Publication, Jalgaon

Bhargava Rajeev & Ashok Acharya (eds), Political Theory: An Introduction. Pearson Longman, 2008. (English Medium)

Bhargava Rajeev & Ashok Acharya (eds), Political Theory: An Introduction. Pearson Longman, 2008. (Marathi Medium)

Gauba O.P, An Introduction to Political Theory, New Delhi, Macmillan, 1981.

Sir E. Barker, Principles of Social and Political Theory, Calcutta, Oxford University Press, 1976.

N. P. Barry, Introduction to Modern Political Theory, London, Macmillan, 1995.

S. Benhabib and D. Cornell, Feminism as Critique, Cambridge, Polity Press, 1987. Political Science 7

S. I. Benn and R. S. Peters, Social Principles and the Democratic State, London, George & Allen, 1959. A. Brecht, Political Theory: The Foundations of Twentieth Century Political Thought, Bombay, The Times of India Press, 1965.

M. Carnoy, The State and Political Theory, Princeton NJ, Princeton University Press, 1984.

- G. Catlin, A Study of the Principles of Politics, London and New York, Oxford University Press, 1930.**
- D. Coole, Women in Political Theory: From Ancient Misogyny to Contemporary Feminism, New York, Harvester Wheatsheaf, 1993.**
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- R. Dahl, Modern Political Analysis, Englewood Cliffs NJ, Prentice Hall, 1963.**
- , A Preface to Democratic Theory, Chicago, University of Chicago Press, 1965.**
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- D. Easton, The Political System: An Inquiry into the State of Political Science, New York, Wiley, 1953.**
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- B. Goodwin, Using Political Ideas, Chichester, John Wiley and Sons, 1992.**
- N. J. Hirschman, and C. D. Stefano (eds.), Revisioning the Political: Feminist Reconstructions of Traditional Concepts in Western Political Theory, Westview Press, Harper Collins, 1996.**
- D. Heater, Citizenship: The Civic Ideal in World History, Politics and Education, London, Orient Longman, 1990.**
- D. Held, Models of Democracy, Cambridge, Polity Press, 1987.**
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- Political Science 8**
- B. Hindess, Discourses on Power: From Hobbes to Foucault, Cambridge, Basil Blackwell, 1996.**
- P. Kennedy, The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500-2000, London, Fontana, 1988.**
- H. J. Laski, A Grammar of Politics, London, Allen and Unwin, 1948.**
- P. Laslett and W. G. Runciman (eds.), Philosophy, Politics and Society, Series 1-5, Oxford, Blackwell, 1956-79.**
- J. Lively, Democracy, Cambridge, Cambridge University Press, 1975.**
- R. M. MacIver, The Modern State, Oxford, Oxford University Press, 1926.**
- C. B. Macpherson, Democratic Theory: Essays in Retrieval, Oxford, The Clarendon Press, 1977.**
- G. McLellan, D. Held and S. Hall (eds.), The Idea of the Modern State, Mitton Keynes, Open University Press, 1984.**
- R. Miliband, Marxism and Politics, Oxford, Oxford University Press, 1977.**
- D. Miller, Social Justice, Oxford, The Clarendon Press, 1976.**
- (ed.), Liberty, Oxford, Oxford University Press, 1991.**
- , Citizenship and National Identities, Cambridge, Polity Press, 2000.**
- S. M. Okin, Justice, Gender and the Family, New York, Basic Books, 1989.**

- E. Owens, The Future of Freedom in the Developing World: Economic Development and Political Reform, New York, Pergamon Press, 1987.**
- C. Pateman, Participation and Democratic Theory, Cambridge, Cambridge University Press, 1970.**
- , **The Sexual Contract, Cambridge, Polity Press, 1988.**
- , **The Disorder of Women, Cambridge, Polity Press, 1989.**
- R. Plant, Modern Political Thought, Oxford, Blackwell, 1991.**
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- Political Science 9**
- , **The State: its Nature, Development and Prospects, Cambridge, Polity Press, 1990.**
- S. Ramaswamy, Political Theory: Ideas and Concepts, Delhi, Macmillan, 2002.**
- A. Ryan, The Idea of Freedom, Oxford, Oxford University Press, 1979.**
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- G. Sartori, The Theory of Democracy Revisited: Vol 1: The Contemporary Debate and**
- Vol II: The Classical Issues, Chatham NJ, Chatham House Publishers, 1987.**
- R. Singh, Reason, Revolution and Political Theory, New Delhi, Peoples' Publishing House, 1967.**
- T. A. Spragens, The Dilemma of Contemporary Political Theory, New York, Durellan, 1973.**
- L. Strauss, What is Political Philosophy and other Studies? Glencoe, The Free Press, 1959.**
- , **“Epilogue” in Essays on the Scientific Study of Politics, ed., by H. Storing, New York, Holt, 1962.**
- C. Tilly, The Formation of National States in Western Europe, Princeton NJ, Princeton University Press, 1975.**
- R. M. Titmuss, Essays on the Welfare State, London, George Allen and Unwin, 1956.**
- F. Thakurdas, Essays on Political Theory, New Delhi, Gitanjali, 1982.**
- S. P. Varma, Modern Political Theory, New Delhi, Vikas, 1983.**
- J. Waldron (ed.), Theories of Rights, New Delhi, Oxford University Press, 1984.**
- I. Wallerstein, The Modern World System (3 Vols., 1974, 1980, 1989), New York, Academic Press, 1974.**
- S. Wasby, Political Science: The Discipline and its Dimensions, Calcutta, Scientific Book Agency, 1970.**
- S. Wolin, ‘Political Theory as a Vocation’, American Political Science Review, 1969, LXII, pp. 1062-82.**
- S. Wolin, “Political Theory: From Vocation to Invocation”, in: Vocations of Political Theory, (eds.), J.A. Frank and J. Tambornino, Minneapolis, London, University of Minnesota Press, 2000.**
- Abbas, Political Theory, Pearson 2011.**

General Paper G-2 (OR)

GOVERNMENT AND POLITICS OF U.K., U.S.A

(80-20 Pattern to be implemented from 2014-2015)

Course Objectives:

This paper studies the major constitutions of the World by adopting a comparative approach. The constitutional and legal provisions, the ideological basis, the institutional arrangement and their social and economic background are to be explained, analyzed and evaluated critically. The historical backgrounds to individual constitutions are to be emphasized to gain an understanding of its evolution. The comparative perspective enables the student to understand the differences and similarities between the various constitutional arrangements. Furthermore the political institutions are to be studied in light of the political process to gain an understanding of the dynamics of actual politics and policy making.

Term-I

Weightage

Unit: 1 - Constitutions

12

Nature and Evolution (U.S.A, U.K)

Unit: 2 - Legislature

12

Parliament (UK): Structure, powers & Role
Congress (USA): Structure, powers & Role

Unit: 3- Executive

12

Prime Minister & Cabinet (U.K),
President and Cabinet (U.S.A)

Unit: 4- Judiciary

12

Nature, Power & Functions of Judiciary (U.K & U.S.A)

Term-II

Unit: 5- Political Parties

12

Political Parties: Relation between political parties & government.
Two party system, features and role of parties in UK, USA

Unit: 6- Interest groups

12

Interest groups: their roles and performance in UK and USA

Unit: 7- State Governments

12

State Governments in UK and USA

Unit: 8- social movements

12

Social Movements: Human Rights, Women's Movement,
Ethnic Movements

Readings:

- Palshikar Suhas & Yashwant Sumant, 1988, Government of USA, Nirali, Pune **(Marathi book)**.
- Bhole B, 2004, Government & Politics: Comparative Study, Pimpalpure Pub. Nagpur **(Marathi book)**.
- G. Almond et.al., Comparative Politics Today: A World View, 7th edn., New York, London, Harper/Collins, 2000.
- W. Bagehot, The English Constitution, London, Fontana, 1963.
- S. Beer, Britain Against Itself, London, Faber and Faber, 1982.
- A. H. Birch, British System of Government, 4th edn., London, George Allen and Unwin, 1980.
- H. Finer, Theory and Practice of Modern Government, London, Methuen, 1969.
- J. Flammang et.al., American Politics in a Changing World, Pacific Groove California, Brooks Cole, 1990.
- E. S. Griffith, The American System of Government, 6th edn, London, Methuen, 1983.
- G. Jones (ed.), West European Prime Ministers, London, Frank Cass, 1991.
- D. Kavangh, British Politics: Continuity and Change, Oxford, Oxford University Press, 1985.
- H.J. Laski, American Democracy: A Commentary and An Interpretation, London, Unwin, 1948.
- C. Leys, Politics in Britain: An Introduction, London, Heinemann, 1983.
- R. Neustadt, Presidential Power and the Modern Presidents, New York, The Free Press, 1991.
- H. G. Nicolas, The Nature of American Politics, 2nd edn., Oxford, The Clarendon Press, 1986.
- R. Rose, Politics in England: An Interpretation for the 1980s, Boston, Little Brown, 1980.
- A. de Tocqueville (1886), Democracy in America, 2 Vols., Bombay, Popular, 1964.
- K. C. Wheare, Federal Government, 4th edn., Oxford and New York, Oxford University Press, 1963.
- J. Wilson, American Government, 4th edn., Boston Massachusetts, Houghton Mifflin, 1997.

University of Pune
S.Y.B.A Political Science
Special Paper-I

WESTERN POLITICAL THOUGHT

(80-20 Pattern to be implemented from 2014-2015)

Course Objectives:

This paper studies the classical tradition in political theory from Plato to Marx with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions. The texts are to be interpreted both in the historical and philosophical perspectives to understand the universality of the enterprise of political theorizing. The limitations of the classical tradition, namely its neglect of women's concerns and issues and the non-European world are critically examined. The legacy of the thinkers is explained with the view to establish the continuity and change within the Western political tradition.

Term-I

Weight age

Unit: 1 - Plato

12

- a) Ideal State & Philosopher King
- b) Views on Education
- c) Views on Justice & Communism

Unit: 2 - Aristotle

12

- a) Views on State
- b) Views on Property, Views on Slavery
- c) Views on Revolution

Unit: 3 - Machiavelli

12

- a) Views on Human Nature
- b) Views on Religion & Morality
- c) Theory of Statecraft

Unit: 4 - J.S.Mil

12

- a) Views on Utilitarianism
- b) Views on Liberty
- c) Views on Representative Government & State

Term-II

Unit: 5 - Karl Marx

12

- a) Historical Materialism
- b) Theory of Class & Struggle
- c) Theory of State & Revolution

Unit: 6 - Hobbes

12

- a) State of Nature
- b) Views on Human Nature
- c) Theory of Social Contract

Unit: 7 – John Locke	12
a) Theory of Social Contract	
b) Views on natural Rights	
c) Views on civil society & State	
Unit: 8 - Rousseau	12
a) State of Nature & Views on Human Nature	
b) Theory of General Will	
c) Theory of Social Contract	

Readings:

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- A. Avineri, The Social and Political Thought of K. Marx, New Delhi, S. Chand and Co., 1979.
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- R. G. Mulgan, Aristotle's Political Theory: An Introduction for Students of Political Theory, Oxford, The Clarendon Press, 1977.
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J. Tully, *A Discourse on Property: John Locke and his Adversaries*, Cambridge, Cambridge University Press, 1980.

N. Warburton, J. Pike and D. Matravers, *Reading Political Philosophy: Machiavelli to Mill*, London, Routledge in association with Open University, 2000

University of Pune
S.Y.B.A Political Science
Special Paper-II

POLITICAL SOCIOLOGY

(80-20 Pattern to be implemented from 2014-2015)

Section I

1. Definition, Nature and Scope of Political Sociology

2. Intellectual Foundation of Political Sociology

a) Marx b) Max Weber c) Behavioral Approach

3. Political Culture.

a) Meaning and Nature
b) Types of Political Culture

4. Political Socialization

a) Process and Agencies of Socialization

Section II

5. Political Ideology

a) Meaning and Nature

6. Political Participation

a) Meaning and Nature
b) Levels of Participation
c) Agencies of Recruitment

7. Legitimacy and Influence

a) Meaning and Nature
b) Types

8. Political Change, Political Development.

a. Meaning and Nature
b. Types of Political Change
c) Concept of Political Development

Readings

1. Awari Vilas, Devare Suresh Adhunik Rajakiya Vishleshan, Dimond pune.
2. Chavan Shankar Rajkiya Tatvapranali, Pratima Pub. Pune.
3. Rush M. and P. Althof : An Introduction to Poitical Sociology, Flecher, London.
4. Varma S. P.: Modern Political Theory, Vikas Publication, New Delhi.
5. Bottomere T. B. : Political Sociology, B1 Publication, Bombay.

6. Nash Kate : Contemporary Political Sociology, Blackwell Publishers, UK.
7. Coser Lewis (ed.) Political Sociology, Selected Essays, Harper and Row, New York, 1967.
8. Wasburn P. C.: Politics and Society, Prentice Hall, 1982.
9. Samir Das : Political Sociology, Pearson, 2012.



SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

S.Y.B.A. Political Science Syllabus
(CREDIT & SEMESTER SYSTEM)

**Revised Syllabus will be implemented with effect from the
academic year 2020-2021**

Savitribai Phule Pune University
POLITICAL SCIENCE
Syllabus of S.Y.B.A
(CBCS pattern to be implemented from 2020-2021)

PAPER NO.	PAPER TITLE
CORE COURSES (C.C.):	
Semester III CC-1 C (3)	AN INTRODUCTION TO POLITICAL SCIENCE
And	
Semester IV CC-1 D (3)	AN INTRODUCTION TO POLITICAL SCIENCE
OR	
Semester III CC-1 C (3)	AN INTRODUCTION TO POLITICAL IDEOLOGIES
And	
Semester IV CC-1 D (3)	AN INTRODUCTION TO POLITICAL IDEOLOGIES
DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE)	
Semester III DSE-1A (3)	WESTERN POLITICAL THOUGHT
And	
Semester IV DSE-1B (3)	WESTERN POLITICAL THOUGHT
AND	
Semester III DSE-2A (3)	POLITICAL JOURNALISM
And	
Semester IV DSE-2B (3)	POLITICAL JOURNALISM
SKILL ENHANCEMENT COURSE (SEC) (Value / Skill Based Course)	
Semester III SEC 2A (2)	BASICS OF INDIAN CONSTITUTION
Semester IV SEC 2B (2)	BASICS OF INDIAN CONSTITUTION

Savitribai Phule Pune University, Pune
S. Y. B. A. Political Science
(CBCS pattern to be implemented from 2020-2021)
Core Course (C.C.)
AN INTRODUCTION TO POLITICAL SCIENCE

Objectives:

This course is designed to acquaint students with the –

1. Important sub themes of Political Science as a discipline
2. Approaches to study Political Science
3. Basic Concepts and Values in Political Science

	SEMESTER III CC-I C (3)	PERIOD
Unit 1: The Study of Political Science		12
a) Definition		
b) Nature		
c) Scope		
Unit 2: Approaches to Study Political Science		11
a) Normative		
b) Empirical		
c) Feminist		
Unit 3: Basic Concepts		11
a) The State		
b) The Market		
c) The Civil Society		
Unit 4: Democracy		11
a) Representative		
b) Deliberative		
c) Participatory		
	SEMESTER IV CC-I D (3)	
Unit 5: Basic Political Values		12
a) Liberty		
b) Equality		
c) Justice		

Unit 6: Rights	11
a) Definition and Meaning	
b) Types	
c) Challenges	
Unit 7: Ideologies	11
a) Nationalism	
b) Socialism	
c) Fascism	
Unit 8: International Organisations	11
a) United Nations – Structures, Functions and Challenges	
b) Regional – EU, SAARC, OPEC, NATO	
c) MNCs	

Readings:

1. आवारी विलास, २०१९, *राज्यशास्त्र: बदलते प्रवाह व भूमिका*, कानपूर, गरिमा प्रकाशन.
2. Bhargava Rajeev and Ashok Acharya (eds.), 2008, *Political Theory*, Delhi, Pearson .
3. भार्गव राजीव आणि अशोक आचार्य (संपा), बनसोडे हेमंत (अनु.), *राजकीय सिद्धान्त*, नवी दिल्ली, पियरसन प्रकाशन.
4. Christiano Thomas and John Christman (eds.), 2009, *Contemporary Debates in Political Philosophy*, Malden, MA, Wiley-Blackwell.
5. Daniel R Brower, 2005, *The World Since 1945: A Brief History*, Pearson Prentice Hall .
6. गायकवाड संजय, २०१९, *मार्क्स आंबेडकर परिप्रेक्ष्यातून शिक्षण आणि रोजगार*, पुणे, शब्दसंग प्रकाशन.
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8. Goodin Robert, Philip Pettit and Thomas Pogge (eds.), 2007, *A Companion to Contemporary Political Philosophy*, Oxford, Blackwell.
9. Greenstein Fred I. and Pelsby Nelson W, 1975, *Handbook of Political Science*, Addison Wesley Longman.
10. Gupta Sachdeo and Singh S K, 1987, *Political Theory and Ideology*, Delhi, Ajanta Prakashan.
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16. पाटीलबी. बी., २०००, *राजकीय संकल्पना*, कोल्हापूर, फडके प्रकाशन.

17. पेंडसे अरुणा, सहस्रबुद्धे उत्तरा, २००८, *आंतरराष्ट्रीय संबंध: शीतयुद्धोत्तर आणि जागतिकीकरणाचे राजकारण*, Mumbai, Orient Longman Pvt Ltd.
18. रायपूरकर व्ही. आर., २००६, *आंतरराष्ट्रीय संबंध*, नागपुर, श्री मंगेश प्रकाशन.
19. रेगे मे. पु., २००५, *स्वातंत्र्य, समता आणि न्याय*, मुंबई, शांता रेगे.
20. Sheldon Garrett Ward, 2005, *Encyclopaedia of Political Thought*, New Delhi.
21. Varma S. P., 2002, *Modern Political Theory*, New Delhi, Vikas Publication.

Savitribai Phule Pune University, Pune
S. Y. B. A. Political Science
(CBCS pattern to be implemented from 2020-2021)
Core Course (C.C.)
AN INTRODUCTION TO POLITICAL IDEOLOGIES

Objectives:

This course is designed to acquaint students with the –

1. Role of different political ideologies and their impact in politics
2. Close link between an idea and its actual realization in public policy
3. Legacy of all the major ideologies

SEMESTER III CC-1 C (3)	PERIOD
Unit 1: Ideology	12
a) Origin, Meaning, Definition	
b) Nature	
c) Scope	
Unit 2: Nationalism	11
a) Meaning, Definitions and Elements	
b) Progressive and Reactionary	
c) Internationalism	
Unit 3: Democratic Socialism	11
a) Meaning and Nature	
b) Features	
c) Achievements and Limitations	
Unit 4: Fascism	11
a) Principles	
b) Factors responsible for the rise of Fascism	
c) Evaluation	
SEMESTER IV CC-1 D (3)	
Unit 5: Marxism	12
a) Historical Materialism	
b) Marxian State	
c) Neo Marxism	

Unit 6: Phule-Ambekarism	11
a) Equality	
b) Cast & Religion	
c) Democracy	
Unit 7: Gandhism	11
a) Truth and Non-Violence	
b) Theory of Gram Swaraj	
c) Satyagraha	
Unit 8: Feminism	11
a) Meaning and Nature	
b) Liberal Feminism	
c) Feminism in India : Caste and Patriarchy	

Readings:

1. D. Bell, 1960, *The End of Ideology*, New York, The Free Press.
2. देवरे सुरेश, २०२०, राजकीय विचार प्रणाली, (Semester 3, e-Book), Amazon Asia Pacific Hoardings Pvt. Ltd.
3. देवरे सुरेश, २०२०, राजकीय विचार प्रणाली, (Semester 4, e-Book), Amazon Asia Pacific Hoardings Pvt. Ltd.
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10. R. N. Berki, 1975, *Socialism*, London, John Dent and Sons.
11. R. N. Iyer, 1973, *The Moral and Political Thought of Mahatma Gandhi*, New York, Oxford University Press.
12. Sayyad Yasinbhai Gulabbhai, 2018, *Modern Political Theory*, Kanpur, International Publication.
13. Sir I. Berlin, 1981, "Nationalism: Past Neglect and Present Power" in H. Hardy (ed.) *Against the Current*, Oxford, Oxford University Press.
14. तनपुरे संभाजी आणि भुमकार हनुमंत, २०१७, राजकीय विचार प्रणाली, औरंगाबाद, चिन्मय प्रकाशन.
15. The Liberal Tradition in China, 1983, *Hong Kong and New York*, Chinese University, Hong Kong Press.

Savitribai Phule Pune University, Pune
S. Y. B. A. Political Science
(CBCS pattern to be implemented from 2020-2021)
DISCIPLINE SPECIFIC ELECTIVE COURSE
WESTERN POLITICAL THOUGHT

Objectives:

This course is designed to acquaint students with the –

1. Major traditions of thought that have shaped political discourse in different parts of the world.
2. The great diversity of social contexts and philosophical visions.
3. The history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life.

SEMESTER III DSE-1A (3)	PERIOD
Unit 1: Plato	12
a) Ideal State	
b) View on Education	
c) Theory of Justice	
Unit 2: Aristotle	11
a) Classification of the State	
b) Views on Slavery	
c) Theory of Revolution	
Unit 3: Machiavelli	11
a) Human Nature	
b) Attitude towards Religion and Morality	
c) Views on State	
Unit 4: Locke	11
a) State of Nature	
b) Natural Rights	
c) Theory of Social Contract	
SEMESTER IV DSE-1B (3)	
Unit 5: Rousseau	12
a) State of Nature	
b) General Will	
c) Theory of Social Contract	

Unit 6: Hegel	11
a) Idealism	
b) Theory of State	
c) Views on Freedom	
Unit 7: J. S. Mill	11
a) Views on Liberty	
b) Representative Government	
c) Views on Utilitarianism	
Unit 8: Karl Marx	11
a) Historical Materialism	
b) Class Struggle	
c) Theory of State and Revolution	

Readings:

1. Adams Ian and R.W.Dyson, 2004, *Fifty Great Political Thinkers*, London , Rutledge.
2. भोळे भास्कर, १९९५, *पाश्चिमात्य राजकीय विचारवंत*, नागपुर, पिंपळापुरे.
3. Deo Vijay, SharadGosavi&SanjyotApte, 2011, *Western Political Thought*,Pune , Diamond Publication.
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5. देवरेसुरेश, २०२०, *पाश्चिमात्यराजकीयविचार(सेमेस्टर-४, ईपुस्तक)*, अमेझॉनएशिया-पॅसिफिक होल्लिंग्ज प्रायव्हेट लिमिटेड.
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11. Sabine G.H. 1971, *A History of Political Theory*, Calcutta, Oxford & I.B.H.
12. साकळकर ई. आणि जैन अशोक, १९९०, *पाश्चिमात्यराजकीयविचार*, पुणे, सेठ प्रकाशन.
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Savitribai Phule Pune University, Pune
S. Y. B. A. Political Science
(CBCS pattern to be implemented from 2020-2021)
DISCIPLINE SPECIFIC ELECTIVE COURSE
POLITICAL JOURNALISM

Objectives:

This course is designed to acquaint students with the –

1. Complex relationship between the communication, media and power politics.
2. Critical appraisal of practices of political image management, campaigns, propaganda and censorship.
3. Indian context of political Journalism

SEMESTER III DSE-2A (3)	PERIOD
Unit 1: An introduction to Political Journalism	12
a) Definition and Meaning	
b) Nature	
c) Scope	
Unit 2: Agencies of Political Journalism	11
a) Print	
b) Electronic	
c) Web	
Unit 3: History of Political Journalism	11
a) Pre-Independence	
b) Post-Independence	
c) World History	
Unit 4: Methods of Political Journalism	11
a) Reporting of Political Events	
b) Political Interview	
c) Commentary of Legislation	

SEMESTER IV
DSE-2B (3)

Unit 5: Indian Political Process & Journalism	12
a) Role of Social Media in Political Process	
b) Election and Media: Loksabha and Maharashtra Vidhansabha 2014 and 2019 General Elections	
c) Political Parties and Social Media	
Unit 6: Mediatisation of Politics	11
a) Definition and Meaning	
b) Practices	
c) Mediums	
Unit 7: Media & Public Opinion	11
a) Definition and Meaning	
b) Practices	
c) Mediums	
Unit 8: Challenges before Political Journalism	11
a) Increase of Paid News	
b) Party Spirited News Papers & Commercialization	
c) Media Saturation	

Readings:

1. आमलेखी, २०२०, प्रोपगंडा, पुणे, मनोविकास प्रकाशन.
2. BorhadeShekhar, 2019, *India & USA's Strategic Dilemma in a Fractured World Order*, Ahmednagar, Suvarnshilp Publications,.
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5. चतुर्वेदी एन. पी., २००५, *जनसंचार एवम् पत्रकारिता*, जयपूर, पोइंतर पब्लिशिंग.
6. Hacker, K and Van Djik J, 2000, *Digital Democracy: Issues of Theory and Practice*, Thousand Oaks, Sage.
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8. Kamath M. V., 2002, *Professional Journalism*, New Delhi, Vikas Publishing House Pvt.Ltd..
9. कुलकर्णी प्रकाश, १९८९, *माध्यम*, पुणे, श्रीविद्या प्रकाशन.
10. पवार श्रीराम, २०१७, *धुमाळी*, पुणे, सकाळ प्रकाशन.
11. पवार श्रीराम, २०१८, *जगाच्या अंगणात*, पुणे, सकाळ प्रकाशन.
12. पवार श्रीराम, २०१८, *राजपाठ*, पुणे, सकाळ प्रकाशन.
13. पवार श्रीराम, २०१९, *मोदीपर्व*, पुणे, सकाळ प्रकाशन.
14. सरदेसाई राजदीप, २०१५, २०१४ *देशाचा चेहरा बदलणारी निवडणूक*, मुंबई, अक्षर प्रकाशन.
15. SardesaiRajdeep, 2020, *How Modi Won India*, Noida, Harper Collins India.
16. R. Ramkrishnan, 1994, *Press & Politics in an Indian State*, Hyderabad, Delta Publishing House.

17. Reese, S.D., Gandy, O.H. Grant, A.E., 2001, *Framing Public Life – Perspectives on Media and Our Understanding of the Social World*, LEA, Mahwah.
18. Roy Barun, 2001, *Beginners Guide to Journalism*, Mumbai, PustakMahal.
19. Trent, J.S. &Friedenburg R. V., 1995, *Political Campaign Communication*, Westport, Praeger.

SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

S.Y.B.A. Political Science Syllabus
(CREDIT & SEMESTER SYSTEM)

**Extra Credit syllabus will be implemented with effect from the
academic year 2020-2021 at College Centers**

SKILL ENHANCEMENT COURSE (SEC)
(Value/Skill Based Course)

Savitribai Phule Pune University
Political Science
Syllabus for S. Y. B. A. (Extra Credit)
BASICS OF INDIAN CONSTITUTION

Objectives:

1. To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government.
2. To familiarize students with the working of the Constitution of India.

SEMESTER III
SEC-2A (2)

UNIT – I

1. Making of the Indian Constitution

- a) Historical Background
- b) Constituent Assembly
- c) Preamble
- d) Salient Features

UNIT - II

2. Fundamental Rights

Major Fundamental Rights-

- a) Right to Equality
- b) Right to Liberty
- c) Right to Freedom of Religion
- d) Cultural and Educational Rights

References:

1. Austin Granville, 1999, *The Indian Constitution: Cornerstone of a Nation*, Oxford, Oxford University Press.
2. Austin Granville, 2003, *Working a Democratic Constitution: The Indian Experience*, Delhi, Oxford University Press.
3. आवटे श्रीरंजन आणि राही श्रुती गणेश , २०१९ , *आपलं आयकार्ड* ,पुणे ,द युनिक अॅकॅडमी पब्लिकेशन .
4. Basu D.D., 2018, *Introduction to the Constitution of India*, New York, LexisNexis.
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6. भोळे भा.ल., २०१५, *भारतीयगणराज्याचे शासन आणि राजकारण*, नागपूर, पिंपळापुरे प्रकाशन.
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8. जाधवतुकाराम आणि विशरापूरकरमहेश, २०१२, भारतीयराज्यघटनावघटनात्मक प्रक्रिया, पुणे, द युनिक अॅकॅडमी पब्लिकेशन.
9. देवरे सुरेश, २०२०, भारतीय राज्यघटनेची ओळखअमेझॉन एशिया पॉसिफिक (पुस्तक-ई, २/१-सेमेस्टर), .होल्डींगज प्रायव्हेट लिमिटेड
10. Jha Rajesh, 2011, *Fundamentals of Indian Political System*, Delhi, Pearson.
11. कांबळेबाळ, वकीलअलिम आणिवदेवरेपी .डी., २०१२, भारताचीराज्यघटना, राजकारणवकायदा, पुणे, डायमंड प्रकाशन.
12. साठे सत्यरंजन, १९९८, भारताच्याराज्यघटनेची५० वर्षे, पुणे, कॉन्टिनेंटल प्रकाशन.
13. व्होरा राजेंद्र आणि पळशीकर सुहास, २०१०, भारतीयलोकशाही: अर्थ आणि व्यवहार, पुणे, डायमंड प्रकाशन.

Savitribai Phule Pune University
Political Science
Syllabus for S. Y. B. A. (Extra Credit)
BASICS OF INDIAN CONSTITUTION

Objectives: This paper focuses in detail on the political processes and the actual functioning of the political system. It emphasizes on local influences that derive from social stratification of castes and jatis, from language, religion, ethic and economic determinants and critically assesses its impact on the political processes.

SEMESTER – IV
SEC 2B (2)

UNIT – I

1. Fundamental Duties

- a) Concept of Fundamental Duties
- b) Nature of Fundamental Duties
- c) Importance of Fundamental Duties

UNIT – II

2. Directive Principles of State Policy

- a) Concept of Directive Principles of State Policy
- b) Nature of Directive Principles of State Policy
- c) Significance of Directive Principles of State Policy

References:

1. Austin Granville, 1999, *The Indian Constitution: Cornerstone of a Nation*, Oxford, Oxford University Press.
2. Austin Granville, 2003, *Working a Democratic Constitution: The Indian Experience*, Delhi, Oxford University Press.
3. आवटे श्रीरंजन आणि राही श्रुती गणेश , २०१९ , *आपलं आयकार्ड* , पुणे , द युनिक अॅकॅडमी पब्लिकेशन .
4. Basu D.D., 2018, *Introduction to the Constitution of India*, New York, LexisNexis.
5. Brass Paul, 1994, *The Politics of Indian Since Independence*, Cambridge, Cambridge University Press,
6. भोळे भा.ल., २०१५, *भारतीयगणराज्याचे शासन आणि राजकारण*, नागपूर, पिंपळापुरे प्रकाशन.
7. चपळगावकरनरेंद्र, २००२, *राज्यघटनेचे अर्धशतक*, मुंबई, मौज प्रकाशन.
8. जाधवतुकाराम आणि विशरापूरकरमहेश, २०१२ , *भारतीयराज्यघटनावघटनात्मक प्रक्रिया* , पुणे , द युनिक अॅकॅडमी पब्लिकेशन.

9. देवरे सुरेश , २०२०, भारतीय राज्यघटनेची ओळखक अमेझॉन एशिया पॉसिफि (पुस्तक-ई , २/१-सेमेस्टर) ,
.होल्डींगज प्रायव्हेट लिमि
10. Jha Rajesh, 2011, *Fundamentals of Indian Political System*, Delhi, Pearson.
11. कांबळे बाळ, वकील अलिम आणि वदेवरेपी .डी., २०१२, *भारताची राज्यघटना , राजकारण व कायदा*,
पुणे, डायमंड प्रकाशन.
12. साठे सत्यरंजन, १९९८ , *भारताच्या राज्यघटनेची ५० वर्षे*, पुणे , कॉन्टिनेंटल प्रकाशन.
13. व्होरा राजेंद्र आणि पळशीकर सुहास , २०१० , *भारतीय लोकशाही: अर्थ आणि व्यवहार* , पुणे , डायमंड
प्रकाशन.



S.Y.B.A. Public Administration Syllabus
(CREDIT & SEMESTER SYSTEM)

**Revised Syllabus will be implemented with effect from the
academic year 2020-2021**

Savitribai Phule Pune University
PUBLIC ADMINISTRATION
Syllabus of S.Y.B.A
(CBCS pattern to be implemented from 2020-2021)

PAPER NO.	PAPER TITLE
CORE COURSES (C.C.):	
Semester III CC-1 C (3)	DISTRICT ADMINISTRATION
And	
Semester IV CC-1 D (3)	DISTRICT ADMINISTRATION
DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE)	
Semester III DSE-1A (3)	PERSONEL ADMINISTRATION
And	
Semester IV DSE-1B (3)	PERSONEL ADMINISTRATION
AND	
Semester III DSE-2A (3)	DEVELOPMENT ADMINISTRATION
And	
Semester IV DSE-2B (3)	DEVELOPMENT ADMINISTRATION
SKILL ENHANCEMENT COURSE (SEC) (Value / Skill Based Course)	
Semester III SEC 2A (2)	BASICS OF INDIAN CONSTITUTION
Semester IV SEC 2B (2)	BASICS OF INDIAN CONSTITUTION

Savitribai Phule Pune University, Pune
S. Y. B. A. Public Administration
(CBCS pattern to be implemented from 2020-2021)
CORE COURSE (C.C.)
DISTRICT ADMINISTRATION

Objectives

1. To introduce the students to the concept of District Administration.
2. To make students aware of the changes related to the District Administration.

EMESTER –III CC-1C (3)	PERIOD
Unit 1: District Administration	12
a) Evolution of District Administration	
b) Meaning and Importance of District Administration	
c) Elements of District Administration	
Unit 2: District Collector	11
a) Powers and Functions	
b) Changing Role	
Unit 3: Law and Order	11
c) Meaning and Principles	
d) Agencies of Law and Order	
Unit 4: Revenue Administration	11
a) Sub Divisional Officer	
b) Tahashildar	
c) Circle Inspector	
d) Talathi	
SEMESTER – IV CC-1D (3)	
Unit 5: District Police Administration	12
a) District Superintendent Police – Powers, Functions & Role	
b) Local Crime Branch (L. C. B.)	
c) Police Patil	
d) Police Public Relations	
Unit 6: Subordinate Judiciary in India	11
a) District, Session and Taluka Court: Composition and Functions	

- b) District Consumer Courts
- c) Problems and Reforms of Subordinate Judiciary in India

Unit 7: District Prison Administration **11**
a) Structure and Functions
b) Problems and Reforms

Unit 8: Agencies at District Level **11**
a) District Planning Committee
b) District Disaster Management Authority
c) District Rural Development Agency

Readings

1. Arora R. K. and Goyal Rajani, 2009, *Indian Public Administration*, New Delhi, VishwaPrakasahn.
2. अरोडा रमेश आणि चतुर्वेदीगीता, २००७, *भारतमेंराज्यप्रशासन*, जयपूर, आरबीएसएपब्लिशर्स.
3. Battacharya M., Dayal Ishwar and Mathur Kuldeep, 1976, *District Administration*, New Delhi, McMillan.
4. इंगळे उत्तम, २०१२, *महाराष्ट्रातीलपोलीसजनतासंबंध*, परभणी, प्रतिभाप्रकाशन.
5. Khera S.S, 1974, *District Administration in India*, New York, Asia Publishing House.
6. कटारिया सुरेंद्र, २००७, *राज्यप्रशासन*, नईदिल्ली, मलिकएण्डकंपनी.
7. लोणारकर प्रवीण, २०२०, *महाराष्ट्र आणि जिल्हा प्रशासन*, लातूर, अरुणा प्रकाशन.
8. वाघमारे आणि गजभारे, २०१८, *महाराष्ट्र आणि जिल्हा प्रशासन*, लातूर, अरुणा प्रकाशन.

Savitribai Phule Pune University, Pune
S. Y. B. A. Public Administration
(CBCS pattern to be implemented from 2020-2021)
DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE)
PERSONNEL ADMINISTRATION

Objectives

1. To acquaint students with basic ideas and concepts in Personnel Administration.
2. To make students aware of the various changes and issues in Personnel Administration.

SEMESTER – III DSE-1A (3)	PERIOD
Unit 1: Personnel Administration	12
a) Meaning, Nature and Scope	
b) Characteristics of Public Personnel Administration in India	
c) Functions and Significance	
Unit 2: Civil Service	11
a) Meaning, Features and Functions	
b) Classification of Civil Services System	
Unit 3: Recruitment and Training	11
a) Recruitment: Meaning, Importance and Types	
b) Methods of Recruitment: Spoils and Merit System	
c) Training: Meaning, Objectives and Types	
Unit 4: Promotion and Retirement	11
a) Meaning, Principles of Promotion	
b) Meaning, Needs and Benefits of Retirement	
SEMESTER -IV DSE-1B (3)	
Unit 5: Problems of Personnel Administration	12
a) Human Resource Development	
b) Performance Appraisal	
c) Stress Management and Motivation	
Unit 6: Rights of Employees	11
a) Right to form Association	
b) Right to Strike	
Unit 7: Issues in Personnel Administration	11
a) Discipline	
b) Accountability	
c) Corruption	
Unit 8: Public Personnel Grievances & Redress Mechanisms	11
a) Whitley Council	
b) Staff Council	

c) Administrative Tribunals

Readings

1. Avasthi and Maheshwari, 2006, *Public Administration*, Agra, Laxmi Narayan Agarwal Publications.
2. Awari Vilas, 2020, *Public Administration*, Kanpur, Garima Prakashan.
3. बंग के.आर., २०१३, *कर्मचारीवित्तप्रशासन*, औरंगाबाद, विद्याबुक्स.
4. Fadia B.L., 2009, *Public Administration in India*, Agra, Sahitya Bhawan Publications.
5. Goel S.L., 2008, *Personnel Administration*, New Delhi, Deep & Deep Publication.
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8. Rudrabasavaraj M.N., 1984, *Dynamic Personnel Administration*, Bombay, Himalaya Publishing House.
9. Maheshwari S. R., 2006, *Indian Administration*, New Delhi, Orient Longman.
10. Sahib Singh and Swinder Singh, 2013, *Public Personnel and Financial Administration*, Jalandhar, New Academic Publishers.
11. पाटील बी. बी., २०१८, *लोकप्रशासन*, कोल्हापूर, फडके प्रकाशन.
12. पोहेकर प्रीती, २०१९, *लोकप्रशासनाची तत्वे*, पुणे, निराली प्रकाशन.

Savitribai Phule Pune University, Pune
S. Y. B. A. Public Administration
(CBCS pattern to be implemented from 2020-2021)
DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE)
DEVELOPMENT ADMINISTRATION

Objectives

1. To acquaint students with the basic concepts and ideas of Development Administration
2. To give them an understanding of importance, relevance and new trends of Development Administration

SEMESTER – III	PERIOD
DSE-2A (3)	
Unit 1: Introduction	12
a) Development Administration- Meaning, Nature	
b) Scope and Importance	
c) Features of Development Administration	
Unit 2: Origin and Development of Development Administration	11
a) Evolution	
b) Rigg’s Model of Development Administration	
Unit 3: Approaches to the Study of Development Administration	11
a) Ecological Approach	
b) Participatory Approach	
Unit 4: New Trends in Development Administration	11
a) E- Governance – Concept and Importance	
b) Public Private Partnership	
SEMESTER – IV	
DSE-2B (3)	
Unit 5: Bureaucracy in Development Administration	12
a) Meaning	
b) Characteristics of Bureaucracy	
c) Role of Bureaucracy in Development Administration	
Unit 6: Non-Governmental Agencies and Voluntary Organizations	11
a) Meaning and Nature	
b) Role	
Unit 7: New Perspectives of Development	11 20

- a) Human Development Indicators
- b) Sustainable Development Goals

Unit 8: Issues in Development Administration

11

- a) Globalization and Development
- b) Gender Parity in Development

Readings:

1. Awari Vilas, 2020, *Public Administration*, Kanpur, Garima Prakashan.
2. बंगके.आर., २०११, *विकासप्रशासन*, औरंगाबाद, विद्याबुक्सपब्लिशर्स.
3. Basu Rumki, 2011, *Public Administration: Concepts and Theories*, New Delhi, Sterling Publishers.
4. Bhattacharya Mohit, 2006, *Social Theory, Development Administration, and Development Ethics*, New Delhi, Jawahar Publishers & Distributors.
5. Chakraborty Bidyut, 2018, *Public Administration in the Globalizing World*, New Delhi, Sage Publishers.
6. Chatterji S.K., 1981, *Development Administration with Special reference to India*, New Delhi, Surjit Publication.
7. Goel S.L., 2003, *Advanced Public Administration*, New Delhi, Deep and Deep Publications.
8. Goel S. L., 2009, *Development Administration: Potentialities and Prospects*, New Delhi, Deep and Deep Publications.
9. काणेपी. सी., १९९२, *लोकप्रशासन*, नागपूर, विद्याप्रकाशन.
10. Maheshwari S.R., 2017, *Administrative Theories*, New Delhi, Allied Publishers.
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12. Sapru R.K., 2002, *Development Administration*, New Delhi, Sterling Publishers Limited.
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14. Sharma R.D., 1992, *Development Administration: Theory and Practice*, Delhi, R. D. Publishers and Distributors.
15. Tyagi A.R., 1990, *Public Administration*, New Delhi, Atmaram & Sons.

SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

S.Y.B.A. Public Administration Syllabus
(CREDIT & SEMESTER SYSTEM)

**Extra Credit syllabus will be implemented with effect from the
academic year 2020-2021 at College Centers**

SKILL ENHANCEMENT COURSE (SEC)

(Value/Skill Based Course)

Savitribai Phule Pune University
Public Administration
Syllabus for S.Y.B.A. (Extra Credit)
BASICS OF INDIAN CONSTITUTION

Objectives:

1. To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government.
2. To familiarize students with the working of the Constitution of India.

SEMESTER III
SEC-2A (2)

UNIT – I

1. Making of the Indian Constitution

- a) Historical Background
- b) Constituent Assembly
- c) Preamble
- d) Salient Features

UNIT - II

2. Fundamental Rights

Major Fundamental Rights-

- a) Right to Equality
- b) Right to Liberty
- c) Right to Freedom of Religion
- d) Cultural and Educational Rights

References:

1. Austin Granville, 1999, *The Indian Constitution: Cornerstone of a Nation*, Oxford, Oxford University Press.
2. Austin Granville, 2003, *Working a Democratic Constitution: The Indian Experience*, Delhi, Oxford University Press.
3. आवटे श्रीरंजन आणि राही श्रुती गणेश , २०१९ , *आपलं आयकार्ड* , पुणे , द युनिक अॅकॅडमी पब्लिकेशन .
4. Basu D.D., 2018, *Introduction to the Constitution of India*, New York, LexisNexis.
5. Brass Paul, 1994, *The Politics of Indian Since Independence*, Cambridge, Cambridge University Press,
6. भोळे भा.ल., २०१५, *भारतीयगणराज्याचे शासन आणि राजकारण*, नागपूर, पिंपळापुरे प्रकाशन.
7. चपळगावकरनरेंद्र, २००२, *राज्यघटनेचे अर्धशतक*, मुंबई, मौज प्रकाशन.

8. जाधवतुकाराम आणि विशरापूरकरमहेश, २०१२, भारतीयराज्यघटनावघटनात्मक प्रक्रिया, पुणे, द युनिक अॅकॅडमी पब्लिकेशन.
9. देवरे सुरेश, २०२०, भारतीय राज्यघटनेची ओळखअमेझॉन एशिया पॉसिफिक (पुस्तक-ई, २/१-सेमेस्टर), .होल्डींगज प्रायव्हेट लिमिटेड
10. Jha Rajesh, 2011, *Fundamentals of Indian Political System*, Delhi, Pearson.
11. कांबळेबाळ, वकीलअलिम आणिवदेवरेपी .डी., २०१२, भारताचीराज्यघटना, राजकारणवकायदा, पुणे, डायमंड प्रकाशन.
12. साठे सत्यरंजन, १९९८, भारताच्याराज्यघटनेची५० वर्षे, पुणे, कॉन्टिनेंटल प्रकाशन.
13. व्होरा राजेंद्र आणि पळशीकर सुहास, २०१०, भारतीयलोकशाही: अर्थ आणि व्यवहार, पुणे, डायमंड प्रकाशन.

Savitribai Phule Pune University
Public Administration
Syllabus for S.Y.B.A. (Extra Credit)
BASICS OF INDIAN CONSTITUTION

Objectives: This paper focuses in detail on the political processes and the actual functioning of the political system. It emphasizes on local influences that derive from social stratification of castes and jatis, from language, religion, ethic and economic determinants and critically assesses its impact on the political processes.

SEMESTER – IV
SEC 2B (2)

UNIT – I

1. Fundamental Duties

- a) Concept of Fundamental Duties
- b) Nature of Fundamental Duties
- c) Importance of Fundamental Duties

UNIT – II

2. Directive Principles of State Policy

- a) Concept of Directive Principles of State Policy
- b) Nature of Directive Principles of State Policy
- c) Significance of Directive Principles of State Policy

References:

1. Austin Granville, 1999, *The Indian Constitution: Cornerstone of a Nation*, Oxford, Oxford University Press.
2. Austin Granville, 2003, *Working a Democratic Constitution: The Indian Experience*, Delhi, Oxford University Press.
3. आवटे श्रीरंजन आणि राही श्रुती गणेश , २०१९ , *आपलं आयकार्ड* , पुणे , द युनिक अॅकॅडमी पब्लिकेशन .
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5. Brass Paul, 1994, *The Politics of Indian Since Independence*, Cambridge, Cambridge University Press,
6. भोळे भा.ल., २०१५, *भारतीय गणराज्याचे शासन आणि राजकारण*, नागपूर, पिंपळापुरे प्रकाशन.
7. चपळगावकर नरेंद्र, २००२, *राज्यघटनेचे अर्धशतक*, मुंबई, मौज प्रकाशन.
8. जाधव तुकाराम आणि विशरापूरकर महेश, २०१२ , *भारतीय राज्य घटना व घटनात्मक प्रक्रिया* , पुणे , द युनिक अॅकॅडमी पब्लिकेशन.

9. देवरे सुरेश , २०२०, भारतीय राज्यघटनेची ओळखक अमेझॉन एशिया पॉसिफि (पुस्तक-ई , २/१-सेमेस्टर) ,
.होल्डींगज प्रायव्हेट लिमि
10. Jha Rajesh, 2011, *Fundamentals of Indian Political System*, Delhi, Pearson.
11. कांबळे बाळ, वकील अलिम आणि व देव रेपी .डी., २०१२, *भारताची राज्यघटना , राजकारण व कायदा*, पुणे,
डायमंड प्रकाशन.
12. साठे सत्यरंजन, १९९८ , *भारताच्या राज्य घटनेची ५० वर्षे*, पुणे , कॉन्टिनेंटल प्रकाशन.
13. व्होरा राजेंद्र आणि पळशीकर सुहास , २०१० , *भारतीय लोकशाही: अर्थ आणि व्यवहार* , पुणे , डायमंड
प्रकाशन.



SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

S.Y.B.A. Economics Syllabus

(Choice Based Credit System and Semester System)

**Revised Syllabus will be implemented with effect from the
academic year 2020-2021**

Paper	Semester	Title of the Paper
G -2	III & IV	Financial System
S -1	III & IV	Micro Economics
S -2	III & IV	Macro Economics

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
Choice Based Credit System (CBCS) Course Structure

Faculty of Humanities

B.A. Second Year Syllabus

Semester Pattern Effective from 2020-21

Subject: **Economics**

Semester	Core Course	Paper No	Name of Paper	Lectures / week	Total No. of Lectures	CA Marks	ESE Marks	Total	Credits
Semester III	Economics DSE – 1A	S1	Micro Economics - I	4	55	30	70	100	3
	Economics DSE – 2A	S2	Macro Economics- I	4	55	30	70	100	3
	Economics CC-1C	G2	Financial System - I	4	55	30	70	100	3
	SEC-I SEC -2A		Basic Concept of Research Methodology - I	3	45	15	35	50	2
	Total				15	210	105	245	350
Semester IV	Economics DSE – 1B	S1	Micro Economics- II	4	55	30	70	100	3
	Economics DSE – 2B	S2	Macro Economics- II	4	55	30	70	100	3
	Economics CC -1D	G2	Financial System- II	4	55	30	70	100	3
	SEC-II SEC -2B		Basic Concept of Research Methodology - II	3	45	15	35	50	2
	Total				15	210	105	245	350
Grand Total (Sem. III & IV)				30	420	210	490	700	22

SEC = Skill Enhancement Course
CC - Core Course
CA - Continuous Assessment
ESE -End Of Semester Examination

S.Y.B.A. Economics (Revised Syllabus)
Choice Based Credit System (CBCS)

G -2. Financial System

Preamble:

A financial system is a network of financial institutions, financial markets, financial instruments and financial services to facilitate the transfer of funds. It serves as a backbone of any economy. This paper aims to provide knowledge about the financial system in the country. It also aims to introduce international financial institutions operating in the global economy. The present era is the one with huge changes, development and challenges in every sector. This paper on financial system will also highlight some of the important changes taking place in the Indian financial sector.

Objectives (Course Outcomes) of the Paper:

- To understand fundamentals of modern financial system.
- To understand the recent trends and developments in banking system.
- To understand the role of the Reserve Bank of India in Indian financial system.
- To provide the knowledge of various financial and non-financial institutions.
- To provide the students the intricacies of Indian financial system for better financial decision making.

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations

Semester III
CC-1C - Financial System I

Unit	Name and Contents	Number of Lectures
1	Indian Financial System	
1.1	Introduction: Meaning, Nature, Role and Importance of Indian Financial System.	12
1.2	Structure of Indian Financial System.	
1.3	Characteristics and Functions of Components of Indian Financial System.	
2	Banking in India	
2.1	Commercial Banks (Public Sector Banks, Private Sector Banks, Foreign Banks): Management, Organization and Functions.	10
2.2	Regional Rural Banks and Co-operative Banks: Evolution, Management and Organization, Loan Management , Functions, Problems and Measures to solve the problem.	
3	Financial Markets in India	
3.1	Classification of Financial Market.	12
3.2	Indian Money Market: Features, Functions and Instruments.	
3.3	Indian Capital Market: Features, Functions and Instruments.	
3.4	Foreign Exchange Market: Role and Importance.	
4	Important Financial Institutions	
4.1	Meaning and Importance of Financial Institutions.	14
4.2	Stock Markets: NSE and BSE: Meaning & Functions.	
4.3	Non-Banking Financial Intermediaries: Meaning and Functions.	
4.4	Role and Functions of Financial Institutions in India with reference to UTI, LIC, GIC	

Semester IV
CC -1D - Financial System II

Unit	Name and Contents	Number of Lectures
1	Reserve Bank of India	12
1.1	Structure and Role of RBI in Indian Economy	
1.2	Major Functions of RBI.	
1.3	Monetary Policy: Tools and their Limitations.	
2	Other Financial Regulators in India	10
2.1	SEBI: Role and Functions.	
2.2	IRDA: Role and Functions.	
3	International Financial Institution	14
3.1	Role, Structure, Objectives and Functions of IMF.	
3.2	Role, Structure, Objectives and Functions of World Bank.	
3.3	Role, Structure, Objectives and Functions of Asian Development Bank.	
3.4	Role, Structure, Objectives and Functions of BRICS Bank.	
4	Recent Developments in Indian Financial Sector	12
4.1	Objectives and Outcomes of Changing Landscape of Banking Sector in India.	
4.2	Insolvency and Bankruptcy Code.	
4.3	Alternate Source of Finance.	
4.4	Risk Management in Banking Sector.	

Basic Reading List:

1. The Indian Financial System, Markets, Institutions and Services, Bharati V.Pathak, Kindle Edition.
2. Indian Financial System, Jaydeb Sarkhel, Seikh Salim, McGraw-Hill India Pvt. Ltd. Chennai, 2018.
3. Indian Banking, R. Parmehwaram & S. Natrajan , S. Chand Publishing, Delhi.

4. Non-Banking Financial Companies in India: Functioning & Reforms, Jafor Ali Akhan, New Century Publications, 2010
5. Indian Financial Markets, Ajay Shah, Michael Gorham and Susan Thomas, Elsevier, 2008.
6. The Story of the Reserve Bank of India, Rahul Bajoria, Kindle Editon.

Advanced Reading List:

1. Securities Market and Products: Mr. Sunder Sankaran, Taxman Publication Pvt. Ltd New Delhi.
2. Financial System & Economic Reforms: P. Mohan Rao, Deep & Deep Publication Pvt. Ltd. New Delhi 2008.
3. Indian Banking Towards 21st Century : Chawla A.S. & others, Deep & Deep Publications, New Delhi.
4. Black Money & Indian Economy: Bhadane J R, International Publications, 2018.
5. Financial Institutions And Markets: Jitendra Mahakund and L.M. Bhole, McGraw Hill India, 2017.

S.Y.B.A. Economics (Revised Syllabus)
Choice Based Credit System (CBCS)

S -1. Micro Economics

Preamble

As a foundation course, in this Paper, student is expected to understand the definition, nature and scope of economics, method and approaches to the study of Economics. The chapters incorporated in this Paper deal with the theory of consumer's behavior, theory of demand and supply, analysis of production function, cost and revenue analysis, market structures and the equilibrium of a firm and industry. In addition, the principles of factor pricing and commodity pricing and welfare economics have been included.

Objectives of the Paper:

- To develop an understanding about subject matter of Economics.
- To impart knowledge of microeconomics.
- To clarify micro economic concepts
- To analyze and interpret charts, graphs and figures
- To develop an understanding of basic theories of micro economics and their application.
- To demonstrate that the theories discussed in class will usually be applied to real-life situations.
- To help the students to prepare for varied competitive examinations

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations

Semester III		
DSE – 1A - Micro Economics I		
Unit	Name and Contents	Number of Lectures
Unit 1	Introduction	10
1.1	Meaning, Nature, Scope, Importance of Micro economics	
1.2	Basic Economic Problems	
1.3	Tools of economic analysis- Functional Relationship, Schedules, Graphs and Equations.	
1.4	Variables- Dependent and Independent Variable, Endogenous and Exogenous	
Unit 2	Theory of Consumer Behavior	14
2.1	Utility – Meaning and Types Cardinal Approach: Law of Diminishing Marginal Utility, Law of Equi-Marginal Utility, Consumer’s Equilibrium	
2.2	Ordinal Approach: Indifference Curve Analysis- Meaning and Definition, Characteristics of Indifference Curve, Consumer’s Equilibrium	
Unit 3	Theory of Demand	12
3.1	Meaning of Demand, Determinants of Demand	
3.2	The Law of Demand & Its Exceptions, Market Demand	
3.3	Elasticity of Demand –Meaning and Types 3.3.1 Price Elasticity of Demand: Meaning, Types, Methods of Measurement 3.3.2 Income Elasticity of Demand: Meaning and Types 3.3.3 Cross Elasticity of Demand: Meaning and Types	
Unit 4	Supply and Production Analysis	12
4.1	Meaning, Definition and Determinants of Supply	
4.2	The Law of Supply	
4.3	Elasticity of Supply: Meaning and Types	
4.4	The Production Function: Meaning and Definition	
4.5	Total, Average and Marginal Production	

4.6	The Law of Variable Proportions	
4.7	The Law of Returns to Scale	
Semester IV DSE – 1B - Micro Economics II		
Unit 1	Cost and Revenue Analysis	8
1.1	Cost Concepts : Fixed Costs, Variable Costs, Total Cost, Average Cost, Marginal Cost, Economic Cost and Accounting Cost, Opportunity Cost	
1.2	Short-Run and Long Run Costs curves	
1.3	Revenue Concept: Total Revenue, Average Revenue & Marginal Revenue	
Unit 2	Market Structure	16
2.1	Meaning & Classifications of Market Structure	
2.2	Perfect Competition: Meaning, Characteristics, Equilibrium of Firm and Industry in Short Run and Long Run	
2.3	Monopoly: Meaning, Characteristics, Short and Long Run Equilibrium. Price Discrimination	
2.4	Monopolistic Competition: Meaning, Characteristics, Short & Long Run Equilibrium of firm and Industry, Selling cost- Meaning	
2.5	Oligopoly: Meaning and Characteristics	
2.6	Duopoly: Meaning and Characteristics	
Unit 3	Factor Pricing	16
3.1	Marginal Productivity Theory Of Distribution	
3.2	Rent: Ricardian Theory of Rent, Modern Theory of Rent, Quasi Rent	
3.3	Wages: Modern Theory of Wages, Supply Curve of Labour	
3.4	Interest: Keynesian Liquidity Preference Theory, Loanable Fund Theory	
3.5	Profit: Risk and Uncertainty Theory , Innovation Theory	
Unit 4	Introduction to Welfare Economics	08
4.1	Welfare Economics : Definition and Meaning	
4.2	Pigovian Welfare Economics	
4.3	Thought of Amartya Sen on Welfare Economics	

Reference Books:

1. Mansfield, E., Microeconomics, W.W. Norton and Company, New York.
2. Koutsoyiannis, A., Modern microeconomics, Macmillan, London.
3. Lipsey & Cristal, Introduction to Positive Economics, Oxford Press.
4. Jack Hirshlifer, Price Theory and Applications, Prentice Hall of India Pvt. Ltd. Delhi
5. Ahuja H.L. : Modern Micro Economics, S. Chand & Company Ltd New Delhi
6. Jhingan M.L., Micro Economic Theory, Virinda Publication, Delhi.
7. K.K. Dewett, Modern Economics Theory, S. Chand Publications, New Delhi.
8. KPM Sundaram and E.N.Sundaram, Micro Economics, S.Chand Publication, New Delhi.
9. Seth M.L. : Micro Economics, Lakshmi NarainAgrawal Publisher

S.Y.B.A. Economics (Revised Syllabus)

Choice Based Credit System (CBCS)

S -2. Macro Economics

Preamble -

Macroeconomics is the branch of economics that deals with the functioning of an economy as a whole. Macroeconomic analysis involves theoretical, empirical as well as policy-related aspects. The theoretical aspect of macroeconomics involves the conceptual as well as theoretical framework of macroeconomics. It deals with various macroeconomic concepts as well as various macroeconomic theories. The theoretical framework of macroeconomics focuses on functioning of an economy in its totality, determination of the level of national income and employment in an economy, role of aggregate demand as well as aggregate supply, role of money, determination of value of money, determination of general price level as well as rate of inflation and business cycles. The empirical aspect of macroeconomics applies macroeconomic theories to the study of real economies and tests the validity of macroeconomic theories. The policy-related aspect focuses on the role of fiscal and monetary policy in achieving macroeconomic objectives with the help of various policy instruments.

This curriculum integrates conceptual, theoretical, empirical and policy-related aspects of macroeconomics. This curriculum introduces the undergraduate students to the field of macroeconomics and enables them to learn the functioning of the economy in a systematic manner.

Objectives –

- To introduce students to the historical background of the emergence of macroeconomics
- To familiarize students with the differences between microeconomics and macroeconomics
- To familiarize students with various concepts of national income
- To familiarize students with keynesian macroeconomic theoretical framework of consumption and investment functions
- To introduce students to the role of money in an economy.
- To introduce students to the conceptual and theoretical frameworks of inflation, deflation and stagflation, Business Cycle .

- To familiarize students with the conceptual and theoretical framework of business cycles
- To introduce students to the role of monetary and fiscal policies in fulfilling the macroeconomic objectives of stability, full employment and growth.
- To introduce students to the various instruments of monetary and fiscal policies

Method of Teaching:

- Classroom lectures, Use of ICT, You Tube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations

Semester III DSE – 2A - Macro Economics I		
Unit	Name and Contents of the Chapter	Number of Lectures
Unit 1	Introduction	12
1.1	Meaning, Nature and Scope of Macro Economics	
1.2	Importance and Limitations of Macro Economics	
1.3	The difference between Micro Economics and Macro Economics	
Unit 2	National Income	12
2.1	Meaning and Importance of National Income	
2.2	Various Concepts of National Income – GDP, GNP, NNP, PCI, Personal Income , Disposable Income	
2.3	Methods of National Income Measurement Difficulties in the Measurement of National Income	
2.4	Circular Flow of National Income	
Unit 3	Theory of Employment and Output	12
3.1	Classical Theory of Employment , Say’s Law of Market.	
3.2	Keynes’ Criticism on Classical Theory	
3.3	Keynesian Theory of Employment – Aggregate Supply Price and	

	Aggregate Demand Price, Employment Determination	
Unit 4	Consumption and Investment	12
4.1	Consumption Function – Meaning, Various Concepts - APC, MPC, Psychological Law of Consumption, Factors Influencing Consumption Function	
4.2	Saving - APS, MPS. Investment – Meaning, Types, Marginal Efficiency of Capital	
4.3	The Concept of Multiplier; The Principle of Acceleration	
Semester IV DSE – 2B - Macro Economics II		
Unit 1	Money	12
1.1	Money – Meaning and Functions	
1.2	Value of Money – Meaning, Quantity Theory of Money, Cash Balance Approach	
1.3	Supply of Money – Various Measures of RBI	
Unit 2	Inflation	12
2.1	Inflation – Meaning , Types, Causes – Demand Pull and Cost Push Inflation, Effects	
2.2	Measures to Control Inflation	
2.3	Deflation – Meaning, Causes and Effects	
2.4	Philips Curve, Stagflation – Meaning	
Unit 3	Business Cycles	12
3.1	Meaning, Features and Phases of Business Cycle	
3.2	Causes and Effects of Business Cycle	
3.3	Keynes’ Theory of Business Cycle	
3.4	Control of Business Cycles – Monetary and Fiscal Controls	

Unit 4	Macroeconomic Policies	12
4.1	Objectives of Macroeconomic Policies	
4.2	Monetary Policy - Meaning, Instruments, Advantages and Limitations	
4.3	Fiscal Policy - Meaning, Instruments, Advantages and Limitations	

Basic Reading List –

1. David Colander, Macro Economics, McGraw Hill Education Private Limited (Latest Edition)
2. D. N. Dwivedi, Macro Economics: Theory and Policy, McGraw Hill Education Private Limited (Latest Edition)
3. H. L. Ahuja, Macro Economics: Theory and Policy, S. Chand & Company Limited. (Latest Edition)
4. M. L. Jhingan, Macro Economic Theory, Vrinda Publications Private Limited (Latest Edition)
5. Wavare Anil Kumar & V.Kumbhar ,(2019)Macro Economics,Ruby Publisher, Kolhapur, MS, India.
6. N. Gregory Mankiw, Principles of Macroeconomics, Cengage Learning (Latest Edition)
7. Olivier Blanchard & David Johnson, Macroeconomics, Pearson (Latest Edition)
8. Rudiger Dornbusch, Stanley Fischer & Richard Startz, Macroeconomics, Tata McGraw Hill Education Private Limited (Latest Edition)
9. Sampat Mukherjee, Macroeconomics: A Global Text, New Central Book Agency Private Limited (Latest Edition)
10. Stephen Williamson, Macroeconomics, Pearson (Latest Edition)
11. Kute Santosh & Rithe M. , Macro Economics, Prashant Publication,Jalgaon,MS,India
12. श्रीधर देशपांडे आणि विनायक देशपांडे, समष्टी अर्थशास्त्रीय विश्लेषण, हिमालय पब्लिशिंग हाउस(Latest Edition)

Advanced Reading List

1. Ben Fine & Ourania Dimakou, Macroeconomics: A Critical Companion, Pluto Press (Latest Edition)
2. Brian Snowdon & Howard Vane (2003), The Development of Modern Macroeconomics: A Rough Guide, in Macroeconomics: A Reader, (Ed.) Brian Snowdon and Howard Vane, Routledge

3. Brian Snowdon & Howard Vane, *Macroeconomics: A Reader*, Routledge (Latest Edition)
4. Brian Snowdon & Howard Vane, *Modern Macroeconomics: Its Origins, Developments and Current State*, Edward Elgar (Latest Edition)
4. David Romer, *Advanced Macroeconomics*, McGraw-Hill (Latest Edition)
5. Dilip Nachane, *Critique of the New Consensus Macroeconomics and Implications for India*, Springer (Latest Edition)
6. John McDonald, *Rethinking Macroeconomics: An Introduction*, Routledge (Latest Edition)
7. Michel De Vroey, *A History of Macroeconomics: From Keynes to Lucas and Beyond*, Cambridge University Press (Latest Edition)
8. N. Gregory Mankiw, *Macroeconomics*, Worth Publishers (Latest Edition)
9. Roger Backhouse, *Interpreting Macroeconomics: Explorations in the History of Macroeconomic Thought*, Routledge (Latest Edition)
10. Sampat Mukherjee, *Analytical Macroeconomics: From Keynes to Mankiw*, New Central Book Agency Private Limited

SKILL DEVELOPMENT ACTIVITIES

(Any Three of the following)

(**IMPORTANT NOTES** - At the end of the course three point/ activities each should be selected for each semester (III & IV semester) from the different points given in the appendix.

The important questions and issue in your area should be considered and the issue / activities related to the subject should be given to the student accordingly . Such as Agriculture Sector ,farmers ,Cooperative Sector ,Small Scale Industries etc.)

1. Prepare a chart showing the steps of research.
2. Prepare a chart showing the sampling technique
3. Prepare Charts showing sources of primary data.
4. Prepare a chart showing sources of secondary data.
5. Construct a questionnaire to measure student's attitude towards the purchase of two wheelers / readymade garments etc.
6. Collect the data related to any schemes of your locality and present in front of the students.
7. Construct a questionnaire for collection of primary data on any Social issue.

Savitribai Phule Pune University
Skill Enhancement Course (SEC):
SYBA (Economics)
Basic Concept of Research Methodology

Credits: 02

Periods: 45

Marks: 50

	<p>Course outline: The course will be given in the form of lectures and practical work .Lectures will focus on research, especially with regard to sampling methods, data collection and data preparation. The course will focus on the practical implementation of diverse sample techniques. Students are expected to collect and classify the data.</p> <p>Aims and objectives of course:</p> <ul style="list-style-type: none">• To develop the understanding of the basic concept of research.• To develop the understanding of the basic framework of sampling and data collection..• To develop the understanding of various sampling methods and techniques.• To identify various sources of information for data collection.• To develop the understanding of the conducting survey on various issues. <p>Learning outcomes of course : On completion of the course, the student shall be able to</p> <ul style="list-style-type: none">• Demonstrate his/her understanding of sampling methods and the ability to use collection of data• Identify the appropriate sample techniques for different kinds of research questions• Identify the appropriate source of data in relation to the collection of research data.• Able to classify and present the collected data in the form of graph, bar diagram, chart etc	
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Semester III
Skill Enhancement Course (SEC): I

SYBA (Economics) - SEC -2A
Basic Concept of Research Methodology

Unit	Name and Contents	Number of Lectures
Unit 1	Introduction Of Research	10
1.1	Meaning and Definition of Research	
1.2	Types Of Research i)Basic or Pure or Fundamental Research ii)Applied Research iii)Action Research	
1.3	Importance Of Economics Research	
Unit 2	Research Design	10
2.1	Meaning of Research Design	
2.2	Need of Research Design	
2.3	Types of Research Design i)Exploratory Design ii)Descriptive Design iii)Experimental Design	
2.4	Concepts of Hypothesis and Importance	
Unit 3	Data Collection	10
3.1	Meanings and Definition of Data Collection	
3.2	Primary Data	
3.3	Secondary Data Sources	
SKILL DEVELOPMENT ACTIVITIES	SKILL DEVELOPMENT ACTIVITIES Continuous Assessment - (C. A.): To compete any Three Skill Development Activities from the prescribed syllabus, each activity for 05 marks	15
SEMESTER- IV SEC -2B - Skill Enhancement Course (SEC)-II		
Unit 1	Data Analysis	8
1.1	Meaning and Definition of Data Analysis	
1.2	Nature And Importance	
1.3	1.3.1 Graphs	
	1.3.2 Tabulations	

Unit 2	Measures of Central Tendencies	8
2.1	Definition of Mean	
2.2	Definition of Medium	
2.3	Definition of Mode	
2.4	Meaning of Dispersion Definition -Range, Median Deviation, Quartile Derivation, Standard Derivation	
2.5	Concept of Percentages	
2.6	Concepts:- i) Frequency Distribution ii)Cumulative Frequency iii) Class Boundaries iv) Midpoint v) Class Width	
Unit 3	Research Report	14
3.1	Meanings And Objective of Research Report	
3.2	Concepts Of Case Study	
3.3	Characteristics of Good Research Report Writing	
3.4	Objective of Research Report	
3.5	Types Of Research Report	
3.6	Concepts of i)Appendices ii) Review Of Literature iii)Bibliography And References iv)Recommendation v)Hypothesis Testing	
SKILL DEVELOPMENT ACTIVITIES	SKILL DEVELOPMENT ACTIVITIES Continuous Assessment - (C. A.): To compete any Three Skill Development Activities from the prescribed syllabus, each activity for 05 marks	15

Recommended Books:

1. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition, Pitman.
2. M.R. Spiegel (2003), Theory and Problems of Probability and Statistics (Schaum Series).
3. Cochran, William, G. (2008), Sampling Techniques, Third Edition, Wiley-India, ISBN 978 -81-265-1524-0.Reprint: 2008.
4. Bethlehem, J. (2009), Applied Survey Methods: A Statistical Perspective, Wiley.
5. Khandare V.B. and S.Yadav (2015) ,Statistical Methods,Chinmay Publication,Aurangabad.

6. Uwe Flick (2012), *Introducing Research Methodology: A Beginner's Guide to Doing a Research Project*, Sage Publications.
7. S.P.Gupta (2012), *Statistical Methods*, 42nd edition, Sultan chand and sons.
8. Ranjit Kumar (2014), *Research Methodology: A Step-by-Step Guide for Beginners*, 4th Edition, Sage Publications.



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०२० पासून

द्वितीय वर्ष कला (S. Y. B. A.) मराठी

निवड आधारित श्रेयांक पद्धत

Choice Based Credit System [CBCS]

सत्र	विषयाचे नाव	संकेतांक	पूर्वीचे नाव
पहिले	भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कादंबरी	[CC - 1 C (3)]	नियमित अभ्यासक्रम G2
दुसरे	भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : ललितगद्य	[CC - 1 D (3)]	
पहिले	व्यावहारिक व उपयोजित मराठी - भाग ३	[CC - 1 C (3)]	पर्यायी अभ्यासक्रम G2
दुसरे	व्यावहारिक व उपयोजित मराठी - भाग ४	[CC - 1 D (3)]	
पहिले	आधुनिक मराठी साहित्य : प्रकाशवाटा	[DSE 1 A (3)]	S1
दुसरे	मध्ययुगीन मराठी साहित्य : निवडक मध्ययुगीन गद्य, पद्य	[DSE 1 B (3)]	
पहिले	साहित्यविचार	[DSE 2 A (3)]	S2
दुसरे	साहित्य समीक्षा	[DSE 2 B (3)]	
पहिले	प्रकाशनव्यवहार आणि संपादन	SEC 2 A (2)	DSE विषयांशी निगडित अनिवार्य
दुसरे	उपयोजित लेखनकौशल्ये	SEC 2 B (2)	

द्वितीय वर्ष कला (S. Y. B. A.)

नियमित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कादंबरी [CC – 1 C (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. कादंबरी या साहित्यप्रकाराचे स्वरूप, घटक, प्रकार आणि वाटचाल समजून घेणे.
२. नेमेलेल्या कादंबरीचे आकलन, आस्वाद आणि विश्लेषण करणे.
३. भाषिक कौशल्यविकास करणे.

घटक		तपशील	श्रेयांक	तासिका
१	अ	१ संगणक आणि मोबाईलवर युनिकोडमधून मराठी मुद्रण. २ कळफलक प्रकार : इनस्क्रिप्ट, फोनेटिक ३ मराठी टंकलेखन आणि युनिकोडचा वापर : गुगल इनपुट, मायक्रोसॉफ्ट इनपुट व इतर साधने	१	१५
	ब	१ कादंबरी : स्वरूप आणि घटक २ कादंबरी : प्रकार आणि वाटचाल		
२		अभ्यासपुस्तक रारंग ढांग – प्रभाकर पेंढारकर मौज प्रकाशन गृह, मुंबई	२	३०

संदर्भ ग्रंथ :

१. साहित्य अध्यापन आणि प्रकार, संपादक श्री. पु. भागवत आणि इतर.
२. आधुनिक मराठी वाङ्मयाचा इतिहास, खंड ४, ५, ६, संपादक रा. श्री. जोग.
३. आधुनिक मराठी वाङ्मयाचा इतिहास, अ. ना. देशपांडे
४. मराठी कादंबरी : समाजशास्त्रीय समीक्षा, डॉ. रवींद्र ठाकूर
५. मराठी कादंबरीतील प्रादेशिकता, डॉ. भास्कर शेळके
६. मराठी ग्रामीण कादंबरी, डॉ. रवींद्र ठाकूर
७. मराठी कादंबरीचे पहिले शतक, कुसुमावती देशपांडे
८. कादंबरी आणि मराठी कादंबरी, उषा हस्तक
९. मराठी कादंबरी आस्वादयात्रा, संपादक विजया राजाध्यक्ष
१०. मराठी कादंबरी : तंत्र आणि विकास, प्रा. वा. बापट, ना. वा. गोडबोले
११. मराठी प्रादेशिक कादंबरी : तंत्र आणि स्वरूप, डॉ. मदन कुलकर्णी
१२. मराठी कादंबरी : चिंतन आणि समीक्षा, डॉ. चंद्रकांत बांदिवडेकर
१३. कादंबरी : सार आणि विस्तार, डॉ. महेंद्र कदम

१४. कादंबरीविषयी, हरिश्चंद्र थोरात
१५. मराठी कादंबरी : परंपरा आणि चिकित्सा, राजेंद्र सलालकर
१६. मराठी कादंबरी आशय आणि आविष्कार, दत्ता घोलप
१७. सायबर संस्कृती, डॉ. रमेश वरखेडे
१८. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
१९. ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
२०. <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
२१. <http://www.youtube.com/watch?v=oXAWMH5PDxY>

दुसरे सत्र
विषयाचे नाव

भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : ललितगद्य [CC – 1 D (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. ललितगद्य या साहित्यप्रकाराचे स्वरूप, घटक, प्रकार आणि वाटचाल समजून घेणे.
२. नेमलेल्या अभ्यासपुस्तकातील ललितगद्याचे आकलन, आस्वाद आणि विश्लेषण करणे.
३. भाषिक कौशल्यविकास करणे.

घटक		तपशील	श्रेयांक	तासिका
१	अ	गुगल साधनांचा अध्ययनातील वापर : गुगल फॉर्म, गुगल क्लासरूम, यु ट्यूब.	१	१५
	ब	१ ललितगद्य : स्वरूप आणि घटक २ ललितगद्य : प्रकार आणि वाटचाल		
२		अभ्यासपुस्तक साहित्यरंग संपादक प्रा. डॉ. शिरीष लांडगे, प्रा. डॉ. दिलीप पवार, प्रा. डॉ. जया कदम अक्षर वाङ्मय प्रकाशन, पुणे	२	३०

संदर्भ ग्रंथ :

१. लघुनिबंध ते मुक्तछंद, वि. शं. चौगुले
२. ग्रंथ संवाद, वि. शं. चौगुले
३. मराठी लघुनिबंधाचा इतिहास, डॉ. आनंद यादव
४. निबंध : शास्त्र व कला, डॉ. प्र. न. जोशी
५. मराठी निबंध, प्रा. म. वि. फाटक
६. प्रतिभा साधन, ना. सी. फडके
७. प्रदक्षिणा खंड १ आणि २
८. आधुनिक मराठी वाङ्मयाचा इतिहास, म.सा.प.,पुणे.
९. मराठी प्रवासवर्णनाची वाटचाल, नीला पांढरे
१०. प्रवासवर्णन, वसंत सावंत
११. सायबर संस्कृती, डॉ. रमेश वरखेडे
१२. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
१३. ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
१४. <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
१५. <http://www.youtube.com/watch?v=oXAWMH5PDxY>

प्रश्नपत्रिकेचे स्वरूप

- भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कादंबरी [CC – 1 C (3)] (सत्र १)
- भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : ललितगद्य [CC – 1 D (3)] (सत्र २)

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	५ पैकी ३ प्रश्नांची उत्तरे प्रत्येकी ५० शब्दांपर्यंत लिहा. (घटक १ व २)	१५
प्रश्न २ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ उपप्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक २)	२०
प्रश्न ४ था	२ पैकी १ प्रश्नाचे उत्तर ३०० शब्दांपर्यंत लिहा. (घटक २)	१५
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
(घटक १)		
१	अभ्यासेतर-अभ्यासपूरक उपक्रम : जिल्हा ते आंतरराष्ट्रीय स्तरावरील यशस्वी सहभाग / साहित्यविषयक विशेष योगदान / अभ्याससहल / क्षेत्रभेट / अहवाल लेखन	१०
२	प्रकल्प कार्य / सादरीकरण / स्वाध्याय / चर्चासत्र / गटचर्चा / अभिवाचन	
चाचणी (घटक २)		२०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

द्वितीय वर्ष कला (S. Y. B. A.)

पर्यायी अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

व्यावहारिक व उपयोजित मराठी - भाग ३ [CC – 1 C (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. उपयोजित व सर्जनशील लेखनाची क्षमता विकसित करणे.
२. मराठी भाषेची कार्यालयीन, व्यावसायिक कामकाजातील गरज, स्वरूप आणि उपयोजन यांची माहिती करून घेणे.
३. कार्यालयीन, व्यावसायिक भाषा व्यवहारासाठी आवश्यक लेखनकौशल्ये प्राप्त करणे.
४. नवसमाजमाध्यमांतील विविध भाषिक आविष्कारांचे स्वरूप समजून घेणे.

घटक	तपशील	श्रेयांक	तासिका
१	भाषा आणि जीवनव्यवहार भाषा म्हणजे काय? परिभाषेची आवश्यकता, विविध शब्दकोशांची ओळख, शास्त्रीय, व्यवहार, साहित्य, कार्यालयीन भाषा.	१	१५
२	कार्यालयीन लेखन : औपचारिक : माहितीपत्रक, परिपत्रक, सूचना पत्रक इ. अनौपचारिक : ट्विटर, व्हाट्सअप, चित्रफिती इत्यादी	१	१५
३	स्वपरिचय, अर्ज लेखन, जाहिरात लेखन	१	१५

दुसरे सत्र
विषयाचे नाव

व्यावहारिक व उपयोजित मराठी - भाग ४ [CC – 1 D (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. उपयोजित व सर्जनशील लेखनाची क्षमता विकसित करणे.
२. संगणकाची भाषा आणि त्यातील विविध भाषिक आविष्कारांचे स्वरूप समजून घेणे.
३. विविध कोशांसाठी नोंदलेखन क्षमता विकसित करणे.

घटक	तपशील	श्रेयांक	तासिका
१	इतिवृत्त आणि टिप्पणी लेखन	१	१५
२	संगणक आणि मराठी : मुक्तस्रोत साधनांचा वापर, युनिकोड टंक ओळख, वर्ड एक्सेल, पॉवर पॉईंट.	१	१५
३	विश्वकोश, ज्ञानकोश, विकिपीडिया लेखन : नोंद म्हणजे काय? नोंदीची उदाहरणे, नोंदीची भाषांतरे, प्रत्यक्ष नोंदलेखन	१	१५

संदर्भ ग्रंथ :

१. संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
२. इंटरनेट, डॉ. प्रबोध चोबे, मनोरमा प्रकाशन, मुंबई.
३. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
४. आधुनिक माहिती तंत्रज्ञानाच्या विश्वात, दीपक शिक्रापूरकर, उज्ज्वल मराठे, उत्कर्ष प्रकाशन, पुणे.
५. भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.
६. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
७. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
८. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
९. प्रसारमाध्यमांसाठी लेखन कौशल्य, यशवंतराव चव्हाण मुक्त विद्यापीठ नाशिक.
१०. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे
११. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
१२. प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ. भास्कर शेळके
१३. व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
१४. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१५. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
१६. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
१७. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण मुक्त विद्यापीठ, नाशिक.
१८. सायबर संस्कृती, डॉ. रमेश वरखेडे
१९. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
२०. ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
२१. <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>

प्रश्नपत्रिकेचे स्वरूप

- व्यावहारिक व उपयोजित मराठी - भाग ३ [CC – 1 C (3)] (सत्र १)
- व्यावहारिक व उपयोजित मराठी - भाग ४ [CC – 1 D (3)] (सत्र २)

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	६ पैकी ४ प्रश्नांची उत्तरे लिहा. (घटक २ व ३)	२०
प्रश्न २ रा	३ पैकी २ उपप्रश्नांची उत्तरे लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ उपप्रश्नांची उत्तरे लिहा. (घटक २ आणि ३)	२०
प्रश्न ४ था	२ पैकी १ उपप्रश्नाचे उत्तर लिहा. (घटक २ आणि ३)	१०
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
चाचणी (घटक २ आणि ३)		२०
(घटक-१)		
१	अभ्यासेतर - अभ्यासपूरक उपक्रम : जिल्हा ते आंतरराष्ट्रीय स्तरावरील यशस्वी सहभाग / साहित्यविषयक विशेष योगदान / अभ्याससहल / क्षेत्रभेट / अहवाल लेखन	१०
२	प्रकल्प कार्य / सादरीकरण / स्वाध्याय / चर्चासत्र / गटचर्चा / अभिवाचन	
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

द्वितीय वर्ष कला (S. Y. B. A.)

पहिले सत्र

विषयाचे नाव

आधुनिक मराठी साहित्य : प्रकाशवाटा [DSE 1 A (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. आत्मचरित्र या साहित्यप्रकाराचे स्वरूप, संकल्पना समजावून घेणे.
२. आत्मचरित्र या साहित्यप्रकाराच्या प्रेरणा आणि वाटचाल यांची ओळख करून घेणे.
३. ललित गद्यातील अन्य साहित्यप्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण समजावून घेणे.
४. नेमलेल्या या आत्मचरित्राचे आकलन, आस्वाद आणि विश्लेषण करणे.

घटक	तपशील	श्रेयांक	तासिका
१	आत्मचरित्र : संकल्पना, स्वरूप; प्रेरणा आणि वाटचाल अन्य साहित्यप्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण	१	१५
२	अभ्यासपुस्तक प्रकाशवाटा - डॉ. प्रकाश आमटे समकालीन प्रकाशन, पुणे	२	३०

संदर्भ ग्रंथ:

१. चरित्र - आत्मचरित्र, अ. म. जोशी
२. चरित्र - आत्मचरित्र, सदा कऱ्हाडे
३. आत्मचरित्र मीमांसा, आनंद यादव
४. मराठीतील आत्मचरित्रपर लेखन, ऊषा हस्तक
५. मराठी वाङ्मय कोश, खंड ४, संपादक, विजया राजाध्यक्ष
६. आत्मचरित्र, मराठी विश्वकोश, खंड २
७. २० व्या शतकातील मराठी आत्मचरित्र, उषा हस्तक

दुसरे सत्र
विषयाचे नाव

मध्ययुगीन मराठी साहित्य: निवडक मध्ययुगीन गद्य, पद्य [DSE 1 B (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. मध्ययुगीन गद्य – पद्य साहित्यप्रकारांची ओळख करून घेणे.
२. नेमलेल्या अभ्यासपुस्तकातील मध्ययुगीन गद्य - पद्यांचे आकलन, आस्वाद आणि विश्लेषण करणे.

घटक	तपशील	श्रेयांक	तासिका
१	मध्ययुगीन गद्य : महानुभावीय गद्य, बखर, ऐतिहासिक पत्रे; स्वरूप आणि विशेष मध्ययुगीन पद्य : अभंग, भारूड, गवळण, पोवाडा, लावणी; स्वरूप आणि विशेष	१	१५
२	अभ्यासपुस्तक निवडक मध्ययुगीन गद्य, पद्य संपादक प्रा. डॉ. शिरीष लांडगे, प्रा. डॉ. प्रभाकर देसाई, प्रा. डॉ. प्रकाश शेवाळे प्रशांत पब्लिकेशन्स, जळगाव	२	३०

संदर्भ ग्रंथ

१. पाच संतकवी, शं.गो.तुळपुळे
२. महाराष्ट्र सारस्वत, वि.ल.भावे,शं.गो.तुळपुळे
३. संत कवी आणि कवयित्री : एक अनुबंध, सुहासिनी इर्लेकर
४. संत साहित्य दर्शन, उषा देशमुख
५. प्राचीन मराठी वाङ्मयाचा इतिहास, ल. रा. नासिराबादकर
६. संत वचनमृत, रा. द. रानडे
७. ज्ञानेश्वरांची जीवननिष्ठा, गं. बा. सरदार
८. संत नामदेव, हे. वि. इनामदार
९. प्राचीन मराठी वाङ्मयाचा इतिहास, अ. ना. देशपांडे
१०. संत वाङ्मयाची सामाजिक फलश्रुती, गं. बा. सरदार
११. श्री एकनाथ: वाङ्मय आणि कार्य, न. र. फाटक
१२. तुकाराम दर्शन, सदानंद मोरे
१३. संतसाहित्य आकलन आणि अध्यापन, संपादक वसंत आबाजी डहाके आणि इतर, महाराष्ट्र राज्य माध्य. व उच्च माध्य. शिक्षण मंडळ, पुणे.
१४. नामदेव गाथा, ह. श्री. शेणोलीकर, साहित्य अकादेमी
१५. महानुभाव आणि वारकरी साहित्य, सुग्राम पुल्ले
१६. महानुभाव आणि वारकरी साहित्याचे अंतरंग, सुग्राम पुल्ले
१७. साहित्याची सामाजिकता, डॉ.सतीश बडवे,शब्दालय प्रकाशन,श्रीरामपूर,अहमदनगर.
१८. मध्ययुगीन साहित्याविषयी, डॉ.सतीश बडवे, मीरा बुक्स व पब्लिकेशन,औरंगाबाद.
१९. संत साहित्य समीक्षेचे बीजप्रवाह, डॉ.सतीश बडवे, गुरुकुल प्रतिष्ठान,पुणे.

२०. मराठी संत कवयित्रींचा इतिहास, डॉ. विद्यासागर पटांगणकर
२१. वारकरी संप्रदाय : साहित्य व तत्त्वज्ञान, डॉ. विद्यासागर पटांगणकर
२२. मध्ययुगीन मराठी वाङ्मयाचा इतिहास, डॉ. विद्यासागर पटांगणकर
२३. तुका झाला पांडुरंग, दीपक बिचे
२४. संत शिरोमणी बाबा नामदेव, दीपक बिचे

प्रश्नपत्रिकेचे स्वरूप

- आधुनिक मराठी साहित्य : प्रकाशवाटा - डॉ. प्रकाश आमटे [DSE 1 A (3)] (सत्र १)
- मध्ययुगीन मराठी साहित्य : निवडक मध्ययुगीन गद्य, पद्य [DSE 1 B (3)] (सत्र २)

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	५ पैकी ३ प्रश्नांची उत्तरे प्रत्येकी ५० शब्दांपर्यंत लिहा. (घटक १ व २)	१५
प्रश्न २ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ उपप्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक २)	२०
प्रश्न ४ था	२ पैकी १ प्रश्नाचे उत्तर ३०० शब्दांपर्यंत लिहा. (घटक २)	१५
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
(घटक-१)		
१. अभ्यासेतर-अभ्यासपूरक उपक्रम : जिल्हा ते आंतरराष्ट्रीय स्तरावरील यशस्वी सहभाग / साहित्यविषयक विशेष योगदान / अभ्याससहल / क्षेत्रभेट / अहवाल लेखन		१०
२. प्रकल्प कार्य / सादरीकरण / स्वाध्याय / चर्चासत्र / गटचर्चा / अभिवाचन		
चाचणी (घटक २ आणि ३)		२०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

द्वितीय वर्ष कला (S. Y. B. A.)

पहिले सत्र

विषयाचे नाव

साहित्यविचार [DSE 2 A (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. भारतीय आणि पाश्चात्य साहित्यविचाराच्या आधारे साहित्याची संकल्पना, स्वरूप आणि प्रयोजनविचार समजावून घेणे.
२. साहित्याची निर्मितीप्रक्रिया समजावून घेणे.
३. साहित्याची भाषा आणि शैली विषयक विचार समजावून घेणे.

घटक	तपशील	श्रेयांक	तासिका
१	<ul style="list-style-type: none">● साहित्याचे स्वरूप आणि प्रयोजन१. साहित्याची संकल्पना (भारतीय, पाश्चात्यांच्या व्याख्या), साहित्यातील अनुभवाचे विशेष : वास्तव आणि कल्पित यांचा संबंध, संवेदनात्मकता, भावनात्मकता, वैचारिकता, सेन्द्रीयत्व, सूचकता, विशिष्ट आणि विश्वात्मकता२. प्रयोजन म्हणजे काय? मम्मटाची प्रयोजने; तसेच इच्छापूती, जिज्ञासातृप्ती, विरेचन, आत्माविष्कार, अनुभवविश्वाची समृद्धी, स्वप्नरंजन, उद्धोधन, प्रचार, मनोरंजन, आनंद या प्रयोजनांचा विचार.	१	१५
२	<ul style="list-style-type: none">● साहित्याची निर्मितीप्रक्रिया१. प्रतिभा, स्फूर्ती, कल्पना, चमत्कृती यांचे स्वरूप, संकल्पना आणि कार्य; साहित्यिकाचे व्यक्तिमत्त्व : संवेदनक्षमता, शैशववृत्ती, अनुभवसमृद्धी व विद्वत्ता, साहित्यिकाचा जीवनविषयक आणि साहित्य विषयक दृष्टिकोन.	१	१५
३	<ul style="list-style-type: none">● साहित्याची सामाजिकता व भाषा१. साहित्य आणि समाज, जीवनमूल्ये आणि साहित्य मूल्ये, साहित्यवाचनाची प्रक्रिया व आवश्यकता२. साहित्याची भाषा : शब्दार्थाचा वक्रव्यापार; वक्रोक्ती, अलंकार, प्रतिमा, प्रतीक, प्राक्कथा३. शैली विषयक स्थूल चर्चा - लेखक, आशय, साहित्यप्रकार या अनुरोधाने चर्चा	१	१५

संदर्भ साहित्य :

१. साहित्यविचार, डॉ. अ. वा. कुलकर्णी
२. साहित्यविचार, (संपा.) डॉ. द.दि. पुंडे, डॉ. स्नेहल तावरे
३. साहित्यविचार, भालचंद्र खांडेकर
४. भारतीय साहित्यविचार, डॉ. लीला गोविलकर
५. काव्यशास्त्र प्रदीप, डॉ. स. रा. गाडगीळ
६. वाङ्मयीन शैली आणि तंत्र, म. द. हातकणंगलेकर
७. साहित्य आणि सामाजिक संदर्भ – रा. ग जाधव
८. साहित्य व सामाजिक संदर्भ – डॉ. अंजली सोमण
९. कविता आणि प्रतिमा - सुधीर रसाळ
१०. साहित्यशास्त्र स्वरूप व समस्या, डॉ. वसंत पाटणकर
११. साहित्य स्वरूप आणि समीक्षा, वा. ल. कुलकर्णी
१२. पाश्चात्य साहित्यविचार, बालशंकर देशपांडे

द्वितीय सत्र

विषयाचे नाव

साहित्य समीक्षा [DSE 2 B(3)]

अभ्यासक्रमाची उद्दिष्टे :

१. साहित्य समीक्षेची संकल्पना, स्वरूप यांचा परिचय करून घेणे.
२. साहित्य आणि समीक्षा यांचे परस्पर संबंध समजावून घेणे व अभ्यासणे .
३. साहित्यप्रकारानुसार समीक्षेचे स्वरूप समजावून घेणे व अभ्यासणे .
४. ग्रंथ परिचय, परीक्षण व समीक्षण यातील फरक समजावून घेणे.

घटक	तपशील	श्रेयांक	तासिका
१	<ul style="list-style-type: none">● समीक्षा : संकल्पना आणि स्वरूप१. समीक्षा : संकल्पना, स्वरूप आणि प्रयोजन२. समीक्षा : व्याप्ती आणि प्रकार३. साहित्यविचार आणि समीक्षा यातील अनुबंध४. साहित्यव्यवहारातील समीक्षेचे स्थान व कार्य	१	१५
२	<ul style="list-style-type: none">● साहित्य आणि समीक्षा यांचे परस्पर संबंध१. साहित्यकृती आणि वाचक२. साहित्यकृती आणि समीक्षक३. समीक्षेतील साहित्याच्या आकलन, आस्वाद, विश्लेषण, अर्थनिर्णयन, मूल्यमापन आणि शब्दांकन यांचे स्थान व कार्य	१	१५
३	<ul style="list-style-type: none">● समीक्षकाचे गुण व पाळावयाची पथ्ये१. समीक्षकाचे गुण : रसिकता, प्रज्ञा, तुलनाक्षमता, चिकित्सकता, मूल्यविवेक, विश्लेषकता, व्युत्पन्नता, तुलनाक्षमता इ.२. समीक्षकाने पाळावयाची पथ्ये : समीक्षाविषयाचे अवधान व तारतम्य, निकषाचे तारतम्य, व्यक्तिनिष्ठता व वस्तुनिष्ठता यांचे तारतम्य, मांडणी व शैली यांचे तारतम्य, संगती व सुसूत्रता यांचे भान, नेमकेपणा व तार्किकता या संबंधीचा विवेक, वाङ्मयीन मूल्ये व जीवनमूल्ये यांचा परस्परसंबंध आणि त्यांच्या वापराबाबत करावयाचा विवेक.३. भाषिक, साहित्यिक, सांस्कृतिक संकेत आणि मूल्यव्यवहार४. उपयोजित समीक्षा : ग्रंथ परिचय, ग्रंथ परीक्षण, ग्रंथ समीक्षा	१	१५

संदर्भग्रंथ :

१. साहित्य : स्वरूप आणि समीक्षा, वा. ल. कुलकर्णी
२. समीक्षामीमांसा, गंगाधर पाटील
३. मराठीचे साहित्यशास्त्र, मा. गो. देशमुख
४. टीका आणि टीकाकार, वा. भा. पाठक
५. साहित्यविचार आणि सौंदर्यशास्त्र, रा. भा. पाटणकर

६. मराठी समीक्षेची वाटचाल, गो. म. कुलकर्णी
७. सौंदर्यानुभव, प्रभाकर पाध्ये
८. सौंदर्य आणि साहित्य, बा. सी. मर्ढेकर
९. साहित्यातील अधोरेखिते, म. द. हातकणंगलेकर
१०. अब्राह्मणी साहित्याचे सौंदर्यशास्त्र, शरद पाटील
११. मराठी समीक्षेची सद्यस्थिती, वसंत आबाजी डहाके
१२. मराठी समीक्षेची वाटचाल, नीला पांढरे
१३. साहित्याची भाषा, भालचंद्र नेमाडे
१४. टीकास्वयंवर, भालचंद्र नेमाडे
१५. आधुनिक समीक्षा सिद्धांत, मिलिंद मालशे, अशोक जोशी
१६. समीक्षेतील नव्या संकल्पना, संपा. मनोहर जाधव
१७. साहित्य समाज आणि संस्कृती, दिगंबर पाध्ये
१८. मराठी कादंबरीची उपयोजित समीक्षा, गोमटेश्वर पाटील, दर्या प्रकाशन, पुणे
१९. मराठी कादंबरी समाजशास्त्रीय समीक्षा, रवींद्र ठाकूर, दिलीपराज प्रकाशन, पुणे
२०. साहित्य संशोधन : वाटा आणि वळणे, डॉ. सुधाकर शेलार, अक्षरवाङ्मय प्रकाशन, पुणे.
२१. साहित्य संशोधन व समीक्षा, राजेंद्र सलालकर

प्रश्नपत्रिकेचे स्वरूप

- साहित्यविचार [DSE 2 A (3)]
- साहित्य समीक्षा [DSE 2 B (3)]

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी ५० शब्दांपर्यंत लिहा. (घटक १, २, ३)	१०
प्रश्न २ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी १५० शब्दांपर्यंत लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक २)	२०
प्रश्न ४ था	३ पैकी २ प्रश्नांची उत्तरे २०० शब्दांपर्यंत लिहा. (घटक ३)	२०
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
(घटक-१)		
१	अभ्यासेतर - अभ्यासपूरक उपक्रम : जिल्हा ते आंतरराष्ट्रीय स्तरावरील यशस्वी सहभाग / साहित्यविषयक विशेष योगदान / अभ्याससहल-क्षेत्रभेट अहवाल लेखन / प्रकल्प कार्य / सादरीकरण / स्वाध्याय / चर्चासत्र / गटचर्चा / अभिवाचन	१०
चाचणी (घटक २ आणि ३)		२०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> • अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. • विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. • विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

द्वितीय वर्ष कला (S. Y. B. A.)

कौशल्याधिष्ठित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

प्रकाशनव्यवहार आणि संपादन [SEC 2 A (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक कौशल्ये प्राप्त करणे.
२. प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे.
३. प्रकाशनव्यवहार आणि संपादन यासाठी प्रात्यक्षिकासह उपयोजनाची कौशल्ये प्राप्त करणे.
४. प्रकाशन संस्था, जाहिरात संस्था, छापखाने, वृत्तपत्र कार्यालये, वितरण संस्था, ग्रंथ विक्री दुकाने, प्लेक्स निर्मिती केंद्र, वार्ताहर यांना भेटी देऊन प्रशिक्षण घेणे.

घटक		तपशील	श्रेयांक	तासिका
	१	प्रकाशन संस्था : स्वरूप, कार्यप्रणाली, कॉपीराईट कायद्याची तोंडओळख, ग्रंथविक्री, वितरण, जाहिरात, वाचकसंवाद.		
१	२	ग्रंथनिर्मिती प्रक्रिया, ग्रंथ प्रकार : ललित, माहितीपर, शास्त्रीय, संदर्भग्रंथ इ.; ग्रंथनिर्मिती : संहिता संपादन, संपादकीय संस्कार, लेखक संवाद, मुखपृष्ठ, मुद्रणप्रत, छपाई, ग्रंथ बांधणी.	१	१५
२	१	मुद्रितशोधन : लेखनविषयक नियम, मुद्रितशोधन खुणा, विरामचिन्हे, अवतरणे, संक्षेप, मजकुराची मांडणी, चित्र रेखाटन योजना, सूची, संदर्भग्रंथसूची, परिशिष्टे, दर्शनीय स्वरूप, आकार.	१	१५

संदर्भ ग्रंथ :

- १ पॉप्युलर रीतिपुस्तक, रामदास भटकळ, मृदुला जोशी
- २ सुगम मराठी व्याकरण व लेखन - मो.रा. वाळंबे
- ३ मराठीचे व्याकरण, डॉ. लीला गोविलकर
- ४ मराठी लेखन मार्गदर्शिका, यास्मिन शेख
- ५ मुद्रित-शोधन, य. ए. धायगुडे
- ६ शुद्ध शब्दकोश, डॉ. स्नेहल तावरे
- ७ मराठी शुद्धलेखन नियमावली, डॉ. स्नेहल तावरे
- ८ मराठी लेखन कोश, अरुण फडके
- ९ शुद्धलेखन मार्गप्रदीप, अरुण फडके
- १० उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई

- ११ मराठी व्याकरण स्वरूप आणि चिकित्सा, खंडेराव कुलकर्णी
- १२ लेखनमित्र, संपादक, संकलक, संतोष शिंदे आणि लौकिका रास्ते – गोखले
- १३ प्रकाशनविश्व, संपादक मोहन वैद्य
- १४ ए डिक्शनरी ऑफ मराठी अँड इंग्लिश – मोल्स्वर्थ
<https://dsal.uchicago.edu/dictionaries/molesworth/>
- १५ भाषा संचालनालयाने प्रकाशित केलेले विषयवार कोश www.marathibhasha.org
- १६ महाराष्ट्र शब्दकोश – संपादक य . रा . दाते आणि चिं. ग. कर्वे
<https://www.transliterate.org/dictionary/mr.kosh.maharashtra/source>

दुसरे सत्र
विषयाचे नाव

उपयोजित लेखनकौशल्ये [SEC 2 B (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. जाहिरात, मुलाखतलेखन आणि संपादन यासाठी आवश्यक कौशल्ये प्राप्त करणे.
२. जाहिरात, मुलाखतलेखन आणि संपादन यासाठी आवश्यक प्रशिक्षण घेणे.
३. जाहिरात, मुलाखतलेखन आणि संपादन यासाठी प्रात्यक्षिकासह उपयोजनाची कौशल्ये प्राप्त करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१ जाहिरातलेखन : प्रयोजन, स्वरूप, प्रकार, विविध माध्यमांतील जाहिरातींचे स्थान, जाहिरात कल्पना आणि संहितालेखन, इंटरनेट (माहिती महाजाल) जाहिरात आणि संहितालेखन	१	१५
	२ मुलाखतलेखन : वृत्तपत्रे, नियतकालिके, दृकश्राव्य माध्यमांसाठी मुलाखतलेखन		
२	१ माहितीपर नोंदी : शास्त्रीय ज्ञानकोश, विविध प्रकारचे ज्ञानकोश (विकिपीडिया, विश्वकोश इ. साठी) नोंदलेखन, विविध माध्यमांसाठी नोंद लेखन, प्रात्यक्षिके इ.	१	१५

संदर्भ ग्रंथ :

१. संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
२. इंटरनेट, डॉ. प्रबोध चोबे, मनोरमा प्रकाशन, मुंबई.
३. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
४. आधुनिक माहिती तंत्रज्ञानाच्या विश्वात, शिक्रापूरकर दीपक, मराठे उज्ज्वल, उत्कर्ष प्रकाशन, पुणे.
५. भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.
६. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
७. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
८. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
९. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे
१०. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
११. प्रसारमाध्यमांसाठी लेखन कौशल्ये, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक.
१२. प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ. भास्कर शेळके
१३. व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
१४. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१५. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे

१६. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
१७. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण मुक्त विद्यापीठ, नाशिक.
१८. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
१९. साहित्य संशोधन : वाटा आणि वळणे, डॉ. सुधाकर शेलार, अक्षरवाङ्मय प्रकाशन, पुणे.
२०. जाहिरातविश्व, संपादक, नंदन दीक्षित, शब्द मल्हार प्रकाशन, प्रथम आवृत्ती, २०१९
२१. अक्षरनिष्ठांची मांदियाळी, (ग्रंथ-शोध आणि वाचन-बोध), अरुण टिकेकर, रोहन प्रकाशन, २०१२.
२२. विक्रत्यांचे अंतरंग, कि. मो. फडके, प्रथमावृत्ती, त्रिदल प्रकाशन, १९९७
२३. मुलाखतीचा मंत्र व नोकरीची हमी, भाऊसाहेब निमगिरीकर, श्रीविद्या प्रकाशन, २०१३.
२४. मुद्रणपर्व, दीपक घारे
२५. शब्दस्पर्श, दीपावली, २०१५
२६. पुस्तकांची मुखपृष्ठे आणि मांडणी, संपादक, अस्मिता मराठ
२७. शब्दस्पर्श, वार्षिक विशेषांक २०१७
२८. पुस्तकविक्रीच्या शटरमागे, संपादक, अस्मिता साठे
२९. मराठी ग्रंथप्रकाशनाची २०० वर्षे, शरद गोगटे, राजहंस प्रकाशन, २००८
३०. लेखनकला आणि लेखनव्यवसाय, वा. गो. आपटे, आनंद कार्यालय, पुणे, १९२६
३१. बखर एका प्रकाशकाची, कुलकर्णी पं. अ. , मेनका प्रकाशन, पुणे १९९२
३२. प्रकाशक रा. ज. देशमुख, प्रकाशक, सदानंद भटकळ, संपा. सदानंद भटकळ, मुकुंदराव किलोस्कर आणि जया दडकर
३३. जाहिरातीचं जग, यशोदा भागवत, मौज प्रकाशन, तिसरी आवृत्ती, २०१७
३४. दशक्रियेची चित्रकथा, संजय कृष्णाजी पाटील, साकेत प्रकाशन, पहिली आवृत्ती, २०१९
३५. अलका तू असं लिही, सौ. मालती दांडेकर, वरदा बुक्स, दुसरी आवृत्ती, १९९५
३६. प्रकाशनातील भावे प्रयोग आणि पतंगाची दोरी, ह. अ. भावे, मंदाकिनी भावे, वरदा बुक्स, पहिली आवृत्ती, २०१४
३७. डॉ. आनंदीबाई जोशी, एका लघुपटाची रोजनिशी, अंजली किर्तने, शब्द प्रकाशन, प्रथमावृत्ती मे २००१
३८. स्वातंत्र्यवीर सावरकर चित्रपटकथा व संवाद, भाग पहिला, विश्राम बेडेकर, पॉप्युलर प्रकाशन, पहिली आवृत्ती, १९९१
३९. पत्रकारितेची मूलतत्त्वे, प्रभाकर पाध्ये, अनु. प्र. ना. परांजपे, वसुधा परांजपे, मेहता पब्लिशिंग हाऊस, पुनर्मुद्रण, २०१४
४०. वृत्तपत्र व्यवसाय काल आणि आज, डॉ. सुधाकर पवार, प्रकाशक, प्रमोद पवार, प्रथमावृत्ती, मार्च १९८६
४१. गाथा कर्नाटक प्रिंटिंग प्रेसची, सदानंद भटकळ, मूळ ग्रंथ: द कर्नाटक प्रेस सागा, अनु. उषा टाकळकर, पद्मगंधा प्रकाशन, पहिली आवृत्ती, २०१०.
४२. ग्रंथालय संघटन, डॉ. रामेश्वर पवार, दिलीपराज प्रकाशन प्रा. लि, प्रथमावृत्ती २०१५.
४३. ग्रंथ महोत्सव, दिनकर पाटील, संस्कृती प्रकाशन, प्रथमावृत्ती २०११.
४४. वाचन कौशल्य, कृती, गती, आणि प्रगती, मेघमाला राजगुरू, उन्मेष प्रकाश, तृतीय आवृत्ती, मार्च २०१०.

४५. वाटा आणि मुक्काम (आशा बगे, भारत सासणे, सानिया, मिलिंद बोकील), मौज प्रकाशन, पहिली आवृत्ती २००९.
४६. वाचनसमृद्धीचे संदर्भ, नीलिमा भावे, परम मित्र पब्लिकेशन्स, आवृत्ती पहिली जून २०१९.
४७. एका ग्रंथपालाची प्रयोगशाळा, नरेंद्र लांजेवार, साकेत प्रकाशन, पहिली आवृत्ती, २०१२.
४८. वाचन का व कसे? प्रा. वा. शि. आपटे, सरिता प्रकाशन, चर्तुर्थ आवृत्ती जाने. २००९.
४९. साहित्यसूची, स्तंभलेखन विशेषांक, संपा. मोरेश्वर द. नादुरकर, १९९६.
५०. जनसंवाद आणि जनमाध्यम : सैद्धांतिक संकल्पन, श्रीपाद भालचंद्र जोशी, श्रीमंगेश प्रकाशन, २०००.
५१. राजहंस ग्रंथवेध, निमित्त विस्ताराचा रौप्यमहोत्सव, , संपा. विनया खडपेकर, जून २०१८
५२. व्यक्तिमत्त्व विकास आणि भाषा, डॉ. मधुकर मोकाशी
५३. व्यावहारिक आणि व्यावसायिक लेखन प्रणाली, डॉ. मधुकर मोकाशी
५४. <https://play.google.com/store/apps/details?id=org.mkcl.solar.itmarathi&hl>
५५. <http://www.youtube.com/watch?v=oXAWMH5PDxY>

प्रश्नपत्रिकेचे स्वरूप

- प्रकाशनव्यवहार आणि संपादन [SEC 2 A (2)]
- उपयोजित लेखनकौशल्ये [SEC 2 B (2)]

विद्यापीठ सत्र परीक्षा		
वेळ : २ तास	घटकनिहाय प्रश्न तपशील	गुण : २५
प्रश्न क्रमांक		गुण
प्रश्न १ ला	दोन पैकी एका प्रश्नाचे उत्तर लिहा. (घटक १.१)	१०
प्रश्न २ रा	दोन पैकी एका प्रश्नाचे उत्तर लिहा. (घटक १.२)	१०
प्रश्न ३ रा	दोन पैकी एका प्रश्नाचे उत्तर लिहा. (घटक २)	५
एकूण गुण		२५
अंतर्गत मूल्यमापन		
लेखी परीक्षा, गृहपाठ, चर्चासत्र सादरीकरण, समूह चर्चा, प्रकल्प कार्य, अभ्यास भेट यापैकी कोणत्याही दोन प्रकारांतून अंतर्गत मूल्यमापन करावे. (१५+१०)		२५
एकूण गुण		५०
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

University of Pune
Board of Studies in Economics
S.Y.BA. Home Economics
General Paper I
Sociology of Indian Family
Frist Term.

1. Indutrotion.	08
1.1. Meaning Nature and Scope of Sociology.	
2.2 Its importance for the Indian family life.	
2.3 Relation between Sociology and the Indian family.	
2 Family as Social Institution.	14
2.1 Meaning and nature of family.	
2.3 Social structure of the Indian family.	
2.3 Importance element of the Indian family	
2.4 Important functions of the Indian family.	
2.5 Importance in the process of socialization of the child.	
3 Family life in India	14
3.1 Meaning and Nature of family life.	
3.2 Types of family system	
3.3 Joint family- meaning nature &merit and demerit.	
3.4 Nuclear family- meaning nature &merit and demerit.	
3.5 Contributory factors for family organization.	
4 Human race.	12
4.1 Meaning and nature of Human race.	
4.2 Primary and basic development of human race.	
4.3 Role of Heredity and Environment.	
4.4 Sense or unity and togetherness; Interrelationships .	
Second Term.	
5 Marriage as an Institution.	12
5.1 Meaning and nature of Indian marriage.	
5.2 Evolution of marriage.	
5.3 Types of Marriage.	
5.4 Impotance of marriage in Indian family.	
6 Family Organisation.	14
6.1 Meaning nature and scope of family organsation.	
6.2 Disorgansation-meaning cuses and effects.	
6.3 Didintegration- meaning cuses and effects.	
6.4 Disintrgration-Rural and Urban Sector in India.	

7 Social Legislation In India.	10
7.1 Nature and Importance of social Legislation in India.	
7.2 Social Legislation about Marriage.	
7.3 Social legislation about family life in recent days.	
7.4 Social effects of social legislation in Indian .	
8. Family Welfare.	12
8.1 Meaning nature and Importance of family welfare.	
8.2 Meaning nature of child welfare services in rural & urban.	
8.3 Meaning nature of women welfare services in rural & urban.	
8.4 Role of Govt. and Voluntary agencies in the field of welfare.	

Reading Material

- (1) Marriage and Family in India—Kapadia.
- (2) Feminine Roles—K. N. Venkalarayappa.
- (3) Human Society—Kingsley Davis.
- (4) Family Socialization and Interaction Process—Parsons and Bales.
- (5) The Family—William J. Goods.
- (6) Social Anthropology—Madan and Mujumdar
- (7) Human Growth and Development-Elizabeth Harlock.
- (8) Human Development-Gorden.
- (9) The Developing Child-Bursbanc.
- (10) Children with special care, Psychology of Human Differences-Tyler
- (11) Behavioural Change-Weirkrants.
- (12) Indian Population Problems-S. N. Agarwala, Tata Mc-Graw Hill, 1979.



SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

S.Y.B.A. Home Economics Syllabus (G2)
(Choice Based Credit System and Semester System)

**Revised Syllabus will be implemented with effect from the
academic year 2020-2021**

S.Y.B.A. Home Economics G-2

Choice Based Credit System (CBCS)

G-2 Sociology of Indian family (Semester - III)

Preamble:-

As a foundation course, in this Paper, student is expected to understand the definition, nature and scope of Home economics, Method and approaches to the study of Home Economics. The chapters incorporated in this Paper deal with the study in sociology, Indian Family, Family life in India, Marriage as an Institution, Family Organization, & Family Welfare.

Objectives (Course Outcomes) of the Paper:

1. To familiarize the students to different social issues and problems.
2. To acquaint the students to the changing nature of social problems in India.
3. To enable students to analyze social issues and problems using different sociological perspectives.

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations

Chapter-wise Detailed Syllabus:-

Chapter No.	Title of the Chapter	No. of Lectures Allotted
SEMESTER III(Sociology of Indian Family)		
1	Study of Sociology:- 1.1 Meaning , definition and concept of sociology 1.2 Nature & Scope of Sociology 1.3 Subject Matter of Sociology 1.4 Features of Sociology 1.5 Importance of Sociology	16
2	Indian Family:- 2.1 Family-Definition & Concept of Family 2.2 Origin of family 2.3 Family as a Social Institution 2.4 Social Structure of the Indian Family 2.5 Function of Family 2.6 Causes of Family 2.7 Importance Elements of Indian Family	17
3	Family Life in India:- 3.1 Meaning & Nature of Family life 3.2 Types of family System 3.3 Joint Family- Meaning , Nature & Merit & Demerits 3.4 Nuclear family- Meaning nature & Merit and Demerits 3.5 Contribution Factors for Family organization	12

SEMESTER IV IV(Indian Family Welfare)

1	Marriage as an Institution:- 1.1 Meaning & Nature of Indian Marriage 1.2 Evaluation of Marriage 1.3 Types of Marriage 1.4 Importance of Marriage in Indian Family 1.5 Features of Marriage 1.6 Functions of Marriage	15
2	Family Organization:- 2.1 Meaning & Definition of Family organization 2.2 Nature of Family organization 2.3 Scope of Family organization 2.4 Disorganization – Meaning, Causes & Effects 2.5 Social Stratification – Meaning , Concept & Definition 2.6 Feature of Social Stratification	15
3	Family Welfare:- 3.1 Meaning of Family Welfare 3.2 Nature of Family Welfare 3.3 Importance of Family Welfare 3.4 Child Welfare 3.5 Women's Welfare 3.6 Role of Government and Voluntary Agencies in the Field of welfare	15

Reading Material:-

1. Marriage and Family in India—Kapadia.
2. Feminine Roles—K. N. Venkalarayappa.
3. Human Society—Kingsley Davis.
4. The Family—William J. Goods.
5. Social Anthropology—Madan and Mujumdar
6. Human Growth and Development -Elizabeth Harlock.
7. Human Development - Gorden.
8. Project Affected Persons : Problems And Remedies- Khandare V.B
9. The Developing Child - Bursbanc.
10. Behavioral Change - Weirkrants.
11. Indian Population Problems – S. N. Agarawala.

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(43) Social Work (General)

First Term

1. Introduction : Fields of Social Work

1. Definition and broad areas of fields of Social Work.

2. Fields of Social Welfare (with special reference to India) :

1. Child Welfare

2. Family Welfare

3. Tribal Welfare

4. Rural Welfare

5. Urban Welfare

6. Youth Welfare

7. Welfare of the aged

8. Labour Welfare

9. Welfare of the weaker sections

10. Correctional Welfare

11. Medical and Psychiatric Social Work.

3. The elementary knowledge, i.e. the definition, nature, scope and functions of Social Welfare in these areas is expected.

Books

(1) Field of Social Work : A. E. Fink.

(2) Methods and Fields of Social Work in India : K. K. Jacob, Asia Publishing House, Bombay.

(3) Social Work and Social Work Education : Dr. M. S. Gore, Asia Publishing House, Bombay.

(4) Social Work in India : S. K. Khindukar.

S.Y.B.A. / 401
Second Term

Population Education :

1. Concept of Population Education.

2. Population growth-Past and Present trends :

- (a) Maharashtra (b) India
- (c) World.

3. Population Dynamics :

(i) Determinants of Population growth-Fertility, Mortality, Orbirdity, Migration

(ii) Factors affecting population growth :

- (a) **Socio-cultural factors**
- (b) Economical factors
- (c) Biological factors
- (d) Psychological factors.

4. Population growth and its effect on family and Socio economic development :

- (a) **Large size family and effects on family life.**
- (b) Population growth and production
- (c) Poor standard of living and its causes
- (d) Food and housing problem
- (e) **Unemployment**
- (f) **Education**
- (g) Anti-Social mal-practice.

Reference Books

- (1) Tragedy of too many-Mr. S. L. Ogale.
- (2) India's Population Problem-Shri. S. N. Agarwala.



SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

S.Y.B.A. Social Work Syllabus
(Choice Based Credit System and Semester System)

Implemented from Academic Year, 2020-21 at College UG Centers

S.Y.B.A. Social Work

G-2 Fields of Social Work (Semester - III)

Preamble:-

As a foundation course, in this Paper, student is expected to understand the definition, nature and scope of Social Work, Method and approaches to the study of Introduction of Social work. The chapters incorporated in this Paper deal with the study of social work, Fields of social work, professional social work & Voluntary social work in India, Introduction of Population education, World & Indian population Growth and Trends, Population Control.

Objectives (Course Outcomes) of the Paper :-

1. To study the fields of social work.
2. To examine the Professional social work and voluntary social work in India.
3. To introduce the significance of population studies and explain theories and basic concepts.
4. To understand the impact of population on various institutions of society.
5. To understand the importance of population studies for policy and development.

Method of Teaching :-

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations.

Chapter-wise classification of marks:-

Chapter No.	Title of the Chapter	Distribution of Marks
Semester III (Fields of Social Work)		
Chapter 1	Introduction of Social work	18
Chapter 2	Fields of Social work	32
Chapter 3	Professional Social work & Voluntary Social work in India	20
Semester IV (Population Education)		
Chapter 1	Introduction of Population Education	25
Chapter 2	World and Indian Population	25
Chapter 3	Population Control	20

Chapter-wise Detailed Syllabus:-

Chapter No.	Title of the Chapter	No. of Lectures Allotted
SEMESTER III (Fields of Social Work)		
1	Introduction of Social Work :- 1.1 Definition and concept of Social Work 1.2 Objective of Social work 1.3 Nature & Scope of Social Work 1.4 Importance of Social Work 1.5 Characteristics of social Work 1.6 Difference Between Social Work & Social Reforms	12
2	Fields of Social work :- 2.1 Definition of Fields of social Work 2.2 Fields of Social Welfare:- a) Family Welfare- Meaning, Problems & Measures b) Child Welfare - Meaning, Problems & Measures c) Youth Welfare - Meaning, Problems & Measures	17

	<p>d) Labour Welfare - Meaning, Problems & Measures</p> <p>e) Welfare of the aged- Meaning, Problems & Measures</p> <p>f) Welfare of the Weaker Section- Meaning, Problems & Measures</p> <p>g) Tribal Welfare - Meaning, Problems & Measures</p> <p>h) Rural Welfare - Meaning, Problems & Measures</p> <p>i) Urban - Meaning, Problems & Measures</p>	
3	<p>Professional Social Work & Voluntary Social Work in India :-</p> <p>3.1 Definition Professional Social Work & Voluntary Social Work</p> <p>3.2 Characteristics of Professional Social Work & Voluntary Social Work</p> <p>3.3 Philosophy of Professional Social Work</p> <p>3.4 Principals of Group Social work</p> <p>3.5 Role of the Social Worker in a Social Group Work</p>	16
SEMESTER IV (Population Education)		
1	<p>Introduction of population Education:-</p> <p>1.1 Concept of population Education</p> <p>1.2 Objective of population Education</p> <p>1.3 Need of population Education</p> <p>1.4 Scope of population Education</p> <p>1.5 Importance of population Education</p> <p>1.6 Importance of Population education in Indian Society</p>	15
2	<p>World & Indian population:-</p> <p>2.1 World & Indian Population Growth & Present Trends</p> <p>2.2 Scope of World population</p> <p>2.3 Feature of World Population</p> <p>2.4 Scope of Indian population</p> <p>2.5 Feature of Indian Population</p> <p>2.6 Determinants of Population Growth- Fertility, Morality, Orbidity, Migration</p> <p>2.7 Factors Affecting Population Growth – Socio-Cultural Factors, Economical Factors, Biological factors, Psychological factors</p>	15

3	Population Control:- 3.1 Definition of Population Control 3.2 Source of Population Control 3.3 Measures of population Control 3.4 Features of Indian Population Policy 3.5 Five Year Plan in Population policies in India	15
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Reading Material:-

1. Fields of Social Work- A.E. Fink
2. Fundamental of Social Work- Prof. P. Y. Thote
3. Social Work in India- S. K. khindalkar
4. Professional Social work- Dr. Prajakta Taksale
5. Methods & Fields of Social Work in India – K. k. Jacob
6. Social Work & Social Work Education- Dr. M. S. Gore
-
7. India's Population Problems - Shri S. N. Agarwala
8. Population in Settlement in Geography - Dr. A. Musmade, Dr. A. Sonawane, Dr. J. More
9. Demography - Dr. Suhas Avad, Dr, Nilesh Dangat, Dr. T. G. Gite, Dr. S. S. patil
10. Population Education & Family life education - Dr. B. B. Barve
11. Human Geography – Dr. M. Husen
-



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

मराठी विषयाचा पुनर्रचित अभ्यासक्रम - जून २०२१ पासून

तृतीय वर्ष कला (T.Y.B.A.) मराठी

निवड आधारित श्रेयांक पद्धत

Choice Based Credit System [CBCS]

सत्र	विषयाचे नाव	संकेतांक	पूर्वीचे नाव
पहिले	भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : प्रवासवर्णन	[CC – 1 E (3)]	नियमित अभ्यासक्रम G3
दुसरे	भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कविता	[CC – 1 F (3)]	
पहिले	व्यावहारिक व उपयोजित मराठी : भाग ५	[CC – 1 E (3)]	पर्यायी अभ्यासक्रम G3
दुसरे	व्यावहारिक व उपयोजित मराठी : भाग ६	[CC – 1 F (3)]	
पहिले	मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास : प्रारंभ ते इ.स. १६००	[DSE 1 C (3+1)]	S3
दुसरे	मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास : इ.स. १६०१ ते इ.स. १८१७	[DSE 1 D (3+1)]	
पहिले	वर्णनात्मक भाषाविज्ञान : भाग १	[DSE 2 C (3)+1]	S4
दुसरे	वर्णनात्मक भाषाविज्ञान : भाग २	[DSE 2 D (3)+1]	
पहिले	कार्यक्रम संयोजनातील भाषिक कौशल्ये : भाग १	[SEC 2 C (2)]	DSE विषयांशी निगडीत अनिवार्य
दुसरे	कार्यक्रम संयोजनातील भाषिक कौशल्ये : भाग २	[SEC 2 D (2)]	

तृतीय वर्ष कला (T. Y. B. A.)

नियमित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : प्रवासवर्णन [CC – 1 E (3)]

अभ्यासक्रमाची उद्दिष्टे :

- मुद्रित माध्यमांसाठी लेखन कौशल्ये आत्मसात करणे.
- प्रवासवर्णन या साहित्यप्रकाराचे स्वरूप, प्रेरणा, प्रयोजने, वैशिष्ट्ये आणि वाटचाल समजून घेणे.
- नेमलेल्या प्रवासवर्णनाचे आकलन, आस्वाद आणि विश्लेषण करणे.

घटक		तपशील	श्रेयांक	तासिका
१	अ	मुद्रित माध्यमांसाठी लेखन कौशल्ये : १ वृत्तलेख : स्वरूप व वैशिष्ट्ये २ अग्रलेख : स्वरूप व वैशिष्ट्ये ३ सदर लेखन : स्वरूप व वैशिष्ट्ये ४ परीक्षण : स्वरूप व वैशिष्ट्ये	१	१५
	ब	प्रवासवर्णन साहित्यप्रकार : स्वरूप, प्रेरणा, प्रयोजने, वाटचाल आणि वैशिष्ट्ये		
२		अभ्यासपुस्तक तीन मुलांचे चार दिवस आदर्श पाटील, विकास वाळके, श्रीकृष्ण शेळके साधना प्रकाशन, पुणे	२	३०

संदर्भ ग्रंथ :

- साहित्य अध्यापन आणि प्रकार, संपादक श्री. पु. भागवत आणि इतर
- मराठी प्रवासवर्णनांची वाटचाल, डॉ. नीला पांढरे
- मराठी वाङ्मय इतिहास, खंड ४, महाराष्ट्र साहित्य परिषद, पुणे
- मराठी वाङ्मय इतिहास, खंड ७, भाग १, महाराष्ट्र साहित्य परिषद, पुणे
- आधुनिक मराठी वाङ्मयाचा इतिहास, खंड १ आणि २, अ. ना. देशपांडे
- प्रवासवर्णन एक वाङ्मयप्रकार, वसंत सावंत
- प्रदक्षिणा खंड २, वि. ह. कुलकर्णी
- अग्रलेख, गोविंद तळवलकर, प्रेस्टीज प्रकाशन, पुणे.
- मुद्रित माध्यमांसाठी लेखन कौशल्ये : पुस्तक पहिले व दुसरे, य. च. म. मु. वि. नाशिक
- आधुनिक मराठी वाङ्मय : स्वरूप, आकलन आणि आस्वाद, सांगळे संदीप
- <https://shabdakosh.marathi.gov.in/ananya-glossary>
- <https://shabdakosh.marathi.gov.in/>

दुसरे सत्र
विषयाचे नाव

भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कविता [CC – 1 F (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. मराठी साहित्य, भाषिक कौशल्यविकास आणि शासनव्यवहार यांची माहिती घेणे.
२. कविता या साहित्यप्रकाराचे स्वरूप, वाटचाल, प्रेरणा, प्रवृत्ती आणि वैशिष्ट्ये, समजून घेणे.
३. नेमलेल्या अभ्यासपुस्तकातील निवडक कवितांचे आकलन, आस्वाद आणि विश्लेषण करणे.
४. कविता या साहित्यप्रकारातील विविध आविष्कार व भाषा रूपांची अभ्यासपुस्तकातील कवितांच्या आधारे ओळख करून घेणे.

घटक		तपशील	श्रेयांक	तासिका
१	अ	मराठी साहित्य, भाषिक कौशल्यविकास आणि शासनव्यवहार १ राज्यघटनेतील भाषाविषयक तरतुदी २ मराठी राजभाषा अधिनियम ३ मराठीविषयक कार्य करणाऱ्या शासकीय संस्थांचा परिचय	१	१५
	ब	कविता : स्वरूप, वाटचाल, प्रेरणा आणि वैशिष्ट्ये		
२		संपादित अभ्यासपुस्तक रूप : कवितेचे संस्कृती प्रकाशन, पुणे	२	३०

संदर्भ ग्रंथ :

१. साहित्य अध्यापन आणि प्रकार, संपादक श्री. पु. भागवत आणि इतर
२. कवितेचा रूपशोध, म.सु. पाटील, शब्दालय प्रकाशन, पुणे.
३. कविता आणि प्रतिमा, सुधीर रसाळ, मौज प्रकाशन, मुंबई.
४. परंपरा आणि नवता, गो.वि.करंदीकर, पॉप्युलर प्रकाशन, मुंबई.
५. सुहृदगाथा, प्रस्तावना, गंगाधर पाटील
६. विद्रोही कविता, संपादक, केशव मेश्राम, कॉन्टिनेन्टल प्रकाशन, पुणे.
७. निळी पहाट, रा.ग.जाधव
८. साहित्य आणि अस्तित्वभान, दि.पु.चित्रे, शब्दालय प्रकाशन, श्रीरामपूर.
९. टीकास्वयंवर, भालचंद्र नेमाडे, साकेत प्रकाशन, औरंगाबाद.
१०. दलित कविता व दलित साहित्याचे सौंदर्यशास्त्र, म.सु.पाटील, पद्मगंधा प्रकाशन, पुणे
११. काव्यार्थ चिंतन, जी.एस.शिवरुद्रप्पा, साहित्य अकादमी
१२. कवितेचा शोध, वसंत पाटणकर, मौज प्रकाशन, मुंबई
१३. सौंदर्य आणि साहित्य, बा.सी.मर्ढेकर
१४. वाङ्मयप्रकार संकल्पना व स्वरूप, संपादक, आनंद वास्कर

१५. कविता संदर्भ आणि दृष्टिकोन, आशुतोष पाटील, अक्षर वाङ्मय प्रकाशन, पुणे
१६. कामगार कवितेतील सामाजिक जाणिवा, डॉ.दिलीप पवार,सुगावा प्रकाशन, पुणे
१७. मराठी वाङ्मयाची वाटचाल: स्वरूप व संकल्पना, शब्दालय प्रकाशन, श्रीरामपूर.
१८. कवितेचं अंतःस्वर, देवानंद सोनटक्के
१९. नव जग, नवी कविता, विश्राम गुप्ते ,संस्कृती प्रकाशन, पुणे
२०. <https://shabdakosh.marathi.gov.in/ananya-glossary>
२१. <https://shabdakosh.marathi.gov.in/>
२२. <https://director.marathi.gov.in/>
२३. <https://sahitya.marathi.gov.in/>
२४. <https://rmvs.marathi.gov.in/>
२५. <https://vishwakosh.marathi.gov.in/>
२६. <http://sahitya-akademi.gov.in/>

प्रश्नपत्रिकेचे स्वरूप

- भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : प्रवासवर्णन [CC – 1 E (3)] (सत्र १)
- भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कविता [CC – 1 F (3)] (सत्र २)

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	५ पैकी ३ प्रश्नांची उत्तरे प्रत्येकी ५० शब्दांपर्यंत लिहा. (घटक १ व २)	१५
प्रश्न २ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक २)	२०
प्रश्न ४ था	२ पैकी १ प्रश्नाचे उत्तर ३०० शब्दांपर्यंत लिहा. (घटक २)	१५
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
(घटक १)		१०
अभ्यासेतर-अभ्यासपूरक उपक्रम : महाविद्यालयातील विविध उपक्रमातील सहभाग / साहित्यविषयक विशेष योगदान / अभ्याससहल / क्षेत्रभेट / अहवाल लेखन / प्रकल्प कार्य / सादरीकरण / स्वाध्याय / चर्चासत्र / गटचर्चा /अभिवाचन (यापैकी कोणतेही एक)		
चाचणी (घटक २)		२०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

तृतीय वर्ष कला (T. Y. B. A.)

नियमित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

व्यावहारिक व उपयोजित मराठी - भाग ५ [CC – 1 E (3)]

अभ्यासक्रमाची उद्दिष्टे :

- १ संभाषणविषयक भाषिक कौशल्ये आत्मसात करणे.
- २ वृत्तपत्रविषयक भाषिक कौशल्ये आत्मसात करणे.
- ३ मराठी साहित्य, भाषिक कौशल्यविकास आणि शासनव्यवहार यांची माहिती घेणे.

घटक	तपशील	श्रेयांक	तासिका
१	विविध कार्यक्रम, स्पर्धाविषयक भाषा कौशल्ये : १ गटचर्चा २ वादविवाद ३ वक्तृत्व ४ चर्चासत्र ५ परिसंवाद	१	१५
२	वृत्तपत्रासाठी लेखन : १ सदरलेखन २ अग्रलेख ३ समीक्षणात्मक लेखन ४ सांस्कृतिक वार्ताकन ५ वृत्तपत्रविषयक पारिभाषिक संज्ञा	१	१५
३	मराठी साहित्य, भाषिक कौशल्यविकास आणि शासनव्यवहार १ राज्यघटनेतील भाषाविषयक तरतुदी २ मराठी राजभाषा अधिनियम ३ मराठीविषयक कार्य करणाऱ्या शासकीय संस्थांचा परिचय	१	१५

दुसरे सत्र
विषयाचे नाव

व्यावहारिक व उपयोजित मराठी - भाग ६ [CC – 1 F (3)]

अभ्यासक्रमाची उद्दिष्टे :

१. भाषाविषयक उपयोजित लेखन क्षमता विकसित करणे.
२. विविध माध्यमे आणि नवसमाजमाध्यमांतील विविध भाषिक आविष्कारांचे स्वरूप समजून घेणे.
३. विविध माध्यमे आणि नवसमाजमाध्यमांसाठी लेखन क्षमता विकसित करणे.

घटक	तपशील	श्रेयांक	तासिका
१	निवडक लेखन प्रकारांसाठी परीक्षण : परीक्षण : स्वरूप १ एकांकिका २ मालिका ३ लघुपट ४ चित्रपट	१	१५
२	विविध माध्यमे आणि नवसमाजमाध्यमांतील माध्यमांसाठी लेखन कौशल्ये: विविध माध्यमे आणि नवसमाजमाध्यमांतील स्वरूप आणि लेखनप्रकार १ संकेतस्थळावरील लेखन २ फेसबुकवरील लेखन ३ अनुदानी लेखन ४ ई – वृत्तपत्रासाठी लेखन ५ न्यूज पोर्टलसाठी लेखन	१	१५
३	जाहिरातीसाठी लेखन १ जाहिरात : स्वरूप, प्रकार २ जाहिरातीची भाषा आणि माध्यमे ३ जाहिरात मसुदा लेखन : जाहिरात हेतू आणि उद्देश, मथळा, उपमथळा, तपशील लेखन, घोषवाक्य इत्यादी.	१	१५

संदर्भ ग्रंथ :

१. संगणक, अच्युत गोडबोले, मौज प्रकाशन, मुंबई.
२. व्यावहारिक मराठी, डॉ. ल. रा. नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
३. आधुनिक माहिती तंत्रज्ञानाच्या विश्वात, दीपक शिक्रापूरकर, उज्ज्वल मराठे, उत्कर्ष प्रकाशन, पुणे.
४. भाषांतरमीमांसा, कल्याण काळे, अंजली सोमण.

५. व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन, पुणे.
६. व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रेय पुंडे, निराली प्रकाशन, पुणे.
७. व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर, स्नेहवर्धन प्रकाशन, पुणे.
८. प्रसारमाध्यमांसाठी लेखन कौशल्य, यशवंतराव चव्हाण मुक्त विद्यापीठ, नाशिक.
९. व्यावहारिक मराठी, डॉ. सयाजीराजे मोकाशी, डॉ. रंजना नेमाडे
१०. कहाणी वर्तमानपत्राची, चंचल सरकार अनुवाद, दिनकर गांगल, नॅशनल बुक ट्रस्ट
११. द्विभाषी व्यावहारिक शब्दकोश (इंग्लिश - मराठी) गणेश ओतुरकर
१२. व्यावहारिक मराठी भाषा, शरदिनी मोहिते
१३. भाषांतरमीमांसा, संपादक डॉ. रमेश वरखेडे, यशवंतराव चव्हाण मुक्त विद्यापीठ, नाशिक.
१४. सायबर संस्कृती, डॉ. रमेश वरखेडे
१५. प्रसार माध्यमे आणि मराठी भाषा, संपादक, डॉ. भास्कर शेळके
१६. व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
१७. मराठी भाषा उपयोजन आणि सर्जन, प्रा. सुहासकुमार बोबडे
१८. व्यावहारिक मराठी, संपादक डॉ. स्नेहल तावरे, स्नेहवर्धन प्रकाशन, पुणे.
१९. उपयोजित मराठी, संपादक डॉ. केतकी मोडक, संतोष शेणई, सुजाता शेणई
२०. व्यावहारिक व उपयोजित मराठी आणि प्रसारमाध्यमांची कार्यशैली, संपादक, डॉ. संदीप सांगळे
२१. ओळख माहिती तंत्रज्ञानाची, टिमोथी जे. ओ लिअरी
२२. <https://shabdakosh.marathi.gov.in/ananya-glossary>
२३. <https://shabdakosh.marathi.gov.in/>
२४. <https://director.marathi.gov.in/>
२५. <https://sahitya.marathi.gov.in/>
२६. <https://rmvs.marathi.gov.in/>
२७. <https://vishwakosh.marathi.gov.in/>
२८. <http://sahitya-akademi.gov.in/>

प्रश्नपत्रिकेचे स्वरूप

- व्यावहारिक व उपयोजित मराठी - भाग ५ [CC – 1 E (3)]
- व्यावहारिक व उपयोजित मराठी - भाग ६ [CC – 1 F (3)]

विद्यापीठ सत्र परीक्षा		
वेळ: ३ तास	घटकनिहाय प्रश्नतपशील	गुण: ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	६ पैकी ४ प्रश्नांची उत्तरे लिहा (घटक २ व ३)	२०
प्रश्न २ रा	३ पैकी २ उपप्रश्नांची उत्तरे लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ उपप्रश्नांची उत्तरे लिहा. (घटक २ आणि ३)	२०
प्रश्न ४ था	२ पैकी १ उपप्रश्नाचे उत्तरे लिहा. (घटक २ आणि ३)	१०
	सत्र परीक्षा एकूण गुण	७०
	अंतर्गत मूल्यमापन	
	लेखी परीक्षा (घटक १ आणि २)	२०
	घटक ३	१०
	अभ्यासेतर - अभ्यासपूरक उपक्रम : अभ्याससहल / क्षेत्र भेट / अहवाल लेखन / प्रकल्प कार्य / सादरीकरण / गृहपाठ / चर्चासत्र (यापैकी कोणतेही एक)	
	अंतर्गत मूल्यमापन एकूण गुण	३०
	सत्र परीक्षा व अंतर्गत मूल्यमापन एकूण गुण	१००
विशेष सूचना :		
<ul style="list-style-type: none"> ■ अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ■ विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार , विहित कालावधीत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ■ विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

तृतीय वर्ष कला (T. Y. B. A.)

नियमित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास : प्रारंभ ते इ.स. १६०० [DSE 1 C (3+1)]

अभ्यासक्रमाची उद्दिष्टे :

- १ वाङ्मयेतिहास संकल्पना, स्वरूप, प्रेरणा, प्रवृत्ती समजून घेणे.
- २ मध्ययुगीन कालखंडाची सामाजिक, सांस्कृतिक पार्श्वभूमी समजून घेणे.
- ३ मराठी भाषा, साहित्याची कालखंडानुरूप इतिहास समजून घेणे.

घटक	तपशील	श्रेयांक	तासिका
१	वाङ्मयेतिहास संकल्पना आणि मराठी भाषा, वाङ्मयाचा उगम १. वाङ्मयेतिहास : संकल्पना आणि स्वरूप २. मराठी वाङ्मयेतिहासाचे कालखंड : स्वरूपचर्चा मराठी भाषा व वाङ्मयाचा उगम (कोरीव लेख आणि ग्रंथ या साधनांच्या आधारे) यादव काळ आणि बहामनी काळातील वाङ्मयनिर्मिती १ या कालखंडांची सामाजिक आणि सांस्कृतिक पार्श्वभूमी २ महानुभाव वाङ्मय : प्रेरणा, प्रवृत्ती व स्वरूप	१	१५
२	३ महानुभाव वाङ्मय : गद्य ग्रंथ - लीळाचरित्र, स्मृतिस्थळ, दृष्टान्तपाठ. पद्य ग्रंथ - महदंबेचे धवळे, साती ग्रंथ. १. वारकरी वाङ्मय : प्रेरणा, प्रवृत्ती व स्वरूप (संत ज्ञानेश्वर, संत नामदेव, संतमेळा, संत एकनाथ, शेख महंमद)	१	१५
३	१. मुकुंदराज, नृसिंहसरस्वती, दासोपंत, फादर स्टीफन्स, ब्रह्मगुणदास : वाङ्मयनिर्मितीचे स्वरूप	१	१५
४	संशोधनपर प्रकल्प / क्षेत्र कार्य (घटक १, २ आणि ३)	१	१५

दुसरे सत्र
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मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास - इ.स. १६०० ते इ.स. १८१७ [DSE1 D (3+1)]

घटक	तपशील	श्रेयांक	तासिका
१	शिवकाल आणि पेशवेकाळातील वाङ्मयनिर्मिती १. या कालखंडांची सामाजिक आणि सांस्कृतिक पार्श्वभूमी २. संत तुकाराम : वाङ्मयनिर्मितीचे स्वरूप ३. संत रामदास : वाङ्मयनिर्मितीचे स्वरूप	१	१५
२	पंडित आणि शाहिरांची वाङ्मयनिर्मिती १. पंडिती वाङ्मय : स्वरूप, प्रेरणा, प्रवृत्ती, आणि वैशिष्ट्ये मुक्तेश्वर, वामनपंडित, रघुनाथपंडित, मोरोपंत २. शाहिरी वाङ्मय : स्वरूप, प्रेरणा, प्रवृत्ती आणि वैशिष्ट्ये अनंत फंदी, परशराम, राम जोशी, प्रभाकर, होनाजी बाळा	१	१५
३	बखर आणि गद्य वाङ्मयनिर्मिती १. बखर वाङ्मय : स्वरूप, प्रेरणा, प्रवृत्ती आणि वैशिष्ट्ये सभासदाची बखर, शिवछत्रपतींचे सप्तप्रकरणात्मक चरित्र, शिवदिग्विजय, पानिपतची बखर, भाऊसाहेबांची बखर. २. आज्ञापत्र	१	१५
४	संशोधनपर प्रकल्प / क्षेत्र कार्य (घटक १, २ आणि ३)	१	१५

संदर्भ ग्रंथ :

१. महाराष्ट्र सारस्वत, वि. ल. भावे
२. मराठी भाषेचा व वाङ्मयाचा इतिहास, बा. अ. भिडे
३. मराठी वाङ्मयाचा इतिहास, खंड पहिला, ल. रा. पांगारकर
४. प्राचीन मराठी वाङ्मयाचा इतिहास, भाग १, पूर्वार्ध आणि उत्तरार्ध, अ. ना. देशपांडे
५. महाराष्ट्रीयानांचे काव्यपरीक्षण, श्री. व्यं. केतकर
६. मराठी वाङ्मयाभिरुचीचे विहंगमावलोकन, जोग रा. श्री.
७. पाच भक्तीसंप्रदाय, र. रा. गोसावी
८. महाराष्ट्रातील पाच संप्रदाय, पं. रा. मोकाशी
९. नाथ संप्रदाय : उदय व विकास, प्र. न. जोशी
१०. मराठी साहित्याचे आदिबंध, उषा मा. देशमुख
११. यादवकालीन महाराष्ट्र, मु. गो. पानसे
१२. यादवकालीन मराठी, शं. गो. तुळपुळे
१३. महानुभवीय मराठी वाङ्मय, य. खु. देशपांडे
१४. महानुभाव पंथ आणि त्यांचे वाङ्मय, शं. गो. तुळपुळे
१५. श्रीचक्रधर : चरित्र, वि. भि. कोलते

१६. चक्रपाणि : आद्य मराठी वाङ्मयाची सांस्कृतिक पार्श्वभूमी, रा. चिं. ढेरे
१७. श्रीविठ्ठल : एक महासमन्वय, रा. चिं. ढेरे
१८. वारकरी पंथाचा इतिहास , शं. वा. दांडेकर
१९. वारकरी पंथ : उदय व विकास, भा. पं. बहिरट
२०. संतवाङ्मयाची सांस्कृतिक फलश्रुती, गं. बा. सरदार
२१. पाच संतकवी, शं. गो. तुळपुळे
२२. ज्ञानदेव आणि नामदेव, शं. दा. पेंडसे
२३. प्राचीन मराठी गद्य : प्रेरणा आणि प्रवृत्ती, श्री. रं. कुलकर्णी
२४. संत साहित्य : काही अनुबंध, अशोक कामत
२५. ओवी ते लावणी, श्री. रं. कुलकर्णी
२६. मध्ययुगीन मराठी वाङ्मय : एक पुनर्विचार, श्री. रं. कुलकर्णी
२७. मराठी भाषेचे मूळ, विश्वनाथ खैरे
२८. श्रीसमर्थ विरचित स्तोत्रवाङ्मय, र. रा. गोसावी
२९. रामदासांची काव्यदृष्टी : एक अभ्यास, रा. वि. चिटणीस
३०. पुन्हा तुकाराम, दिलीप चित्रे
३१. आनंदाचा डोह, रा. ग. जाधव
३२. दासबोध : वाङ्मयीन समीक्षा, रमेश तेंडुलकर
३३. टीकास्वयंवर, भालचंद्र नेमाडे
३४. तुकाराम : अंतर्बाह्य संघर्षाची अनुभवरूपे, म. सु. पाटील
३५. धर्मसंप्रदाय आणि मध्ययुगीन मराठी वाङ्मय, र. बा. मंचरकर
३६. प्राचीन मराठी वाङ्मयाचे स्वरूप, ह. श्री. शेणोलीकर
३७. मराठी संतवाणीचे मंत्राक्षरत्व, ह. श्री. शेणोलीकर
३८. मध्ययुगीन मराठी नाथसंप्रदायिक साहित्य संशोधनाच्या काही दिशा, र. रा. गोसावी
३९. तुकारामविषयक अभ्यासाचा मागोवा, मा. ना. आचार्य
४०. संत एकनाथांचा वारसा, रा. ग. जाधव
४१. संतसाहित्य : अभ्यासाच्या काही दिशा, कल्याण काळे व रा. शं. नगरकर
४२. मध्ययुगीन मराठी साहित्य : एक पुनर्विचार, श्री. रं. कुलकर्णी
४३. वाङ्मयेतिहासाची संकल्पना, द. दि. पुंडे
४४. शिवकालीन राजनीती आणि रणनीती, श्री. रं. कुलकर्णी
४५. संतसाहित्याचे समाजशास्त्रीय दृष्टिक्षेप, सदानंद मोरे
४६. तुकारामदर्शन, सदानंद मोरे
४७. महानुभाव साहित्य : शोध संचार, अविनाश आवलगावकर
४८. श्रीगोविंदप्रभुविषयक साहित्य : शोध आणि समीक्षा, अविनाश आवलगावकर
४९. लीळाचरित्र : संशोधन आणि समीक्षा, अविनाश आवलगावकर
५०. महानुभाव साहित्य : शोध आणि चिकित्सा, अविनाश आवलगावकर.
५१. प्राचीन मराठी भक्तीवाङ्मयाची स्वातंत्र्योत्तर समीक्षा, सतीश बडवे
५२. संतसाहित्याचा वाङ्मयीन अभ्यास, सुहासिनी इर्लेकर

प्रश्नपत्रिकेचे स्वरूप

- मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास : प्रारंभ ते इ.स. १६०० [DSE 1 C (3+1)]
- मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास - इ.स. १६०१ ते इ.स. १८१७ [DSE1 D (3+1)]

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी ५० शब्दांपर्यंत लिहा. (घटक १, २, ३)	१०
प्रश्न २ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक २)	२०
प्रश्न ४ था	३ पैकी २ प्रश्नांची उत्तरे २०० शब्दांपर्यंत लिहा. (घटक ३)	२०
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
लेखी परीक्षा (घटक १, २ आणि ३)		२०
संशोधनपर प्रकल्प / क्षेत्रकार्य (घटक १, २ आणि ३)		१०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

तृतीय वर्ष कला (T. Y. B. A.)

नियमित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

वर्णनात्मक भाषाविज्ञान : भाग १ [DSE 2 C (3)+1]

अभ्यासक्रमाची उद्दिष्टे :

- १ भाषा स्वरूप, वैशिष्ट्ये व कार्ये समजावून घेणे.
- २ भाषा अभ्यासाची आवश्यकता स्पष्ट करणे.
- ३ भाषा अभ्यासाच्या शाखा आणि विविध पद्धतींचा थोडक्यात परिचय करून घेणे.
- ४ वागिन्द्रियाची रचना, कार्ये आणि स्वननिर्मितीची प्रक्रिया समजावून घेणे.
- ५ स्वनविज्ञान, स्वनिमविचार आणि मराठीची स्वनिमव्यवस्था समजावून घेणे.

घटक	तपशील	श्रेयांक	तासिका
१	<p>भाषा : स्वरूप व संकल्पना</p> <p>१ भाषा : स्वरूप, वैशिष्ट्ये व कार्ये</p> <p>२ संदेशन : मानव व मानवेतर संदेशन</p> <p>३ भाषाभ्यासाच्या शाखा (ध्वनिविचार – व्याकरणविचार – अर्थविचार – शब्दसंग्रह - स्थूल परिचय)</p> <p>४ भाषेच्या अभ्यासाचे महत्त्व व भाषाभ्यासाच्या पद्धती (ऐतिहासिक, वर्णनात्मक, सामाजिक, तुलनात्मक – स्थूल परिचय)</p>	१	१५
२	<p>स्वनविचार</p> <p>१ स्वनविज्ञान : स्वरूप व संकल्पना (उच्चारणकेंद्री - संचारणकेंद्री – श्रवणकेंद्री)</p> <p>२ वागिन्द्रिय : रचना व कार्ये स्वनांची निर्मितीप्रक्रिया</p> <p>३ स्वनांचे वर्गीकरण व वर्गीकरणाची तत्त्वे (उच्चारण स्थान, उच्चारण अवयव, प्रयत्न)</p>	१	१५
३	<p>स्वनिमविचार</p> <p>१ स्वन -स्वनिम-स्वनांतर (परस्पर संबंध व प्रकार)</p> <p>२ स्वनिमनिश्चितीची तत्त्वे</p> <p>३ विनियोग संकल्पना (व्यवच्छेदक विनियोग- पूरक विनियोग - मुक्त परिवर्तन) मराठीची स्वनिमव्यवस्था (स्वरस्वनिम - अर्धस्वरस्वनिम - व्यंजन स्वनिम – खंडित व खंडाधिष्ठीत स्वनिम -बलाघात, सुरावली – नासिक्यरंजन - सीमासंधी)</p>	१	१५
४	संशोधनपर प्रकल्प / क्षेत्रकार्य (घटक १, २ आणि ३)	१	१५

दुसरे सत्र
विषयाचे नाव

वर्णनात्मक भाषाविज्ञान : भाग २ - ४ [DSE 2 D (3)+1]

अभ्यासक्रमाची उद्दिष्टे :

१. रूपविन्यास आणि मराठीची रूपव्यवस्था समजावून घेणे
२. वाक्यविन्यास आणि वाक्यव्यवस्थेचा मराठी भाषेच्यासंदर्भात परिचय करून देणे
३. अर्थविन्यास या संकल्पनेचा भाषावैज्ञानिक अंगाने परिचय करून देणे

घटक	तपशील	श्रेयांक	तासिका
१	रूपिमविचार १ रूपविन्यास (संकल्पना) २ रूपिका - रूपिम - रूपिकांतर : स्वरूप व प्रकार ३ रूपिम निश्चितीची तत्त्वे ४ विनियोग संकल्पना ५ प्रकृती आणि प्रत्यय यांचे वर्गीकरण	१	१५
२	वाक्यविचार १ वाक्यविन्यास (संकल्पना परिचय) २ घटक आणि रचना : परस्पर संबंध ३ वाक्याचे घटक (उद्देश्य, विधेय) ४ प्रथमोपस्थित संघटक संकल्पना व वाक्यविश्लेषण (शब्द - शब्दबंध - उपवाक्य - वाक्य) ५ वाक्यांचे प्रकार	१	१५
३	अर्थविचार १ अर्थ : स्वरूप व संकल्पना २ अर्थविन्यास (संकल्पना परिचय) ३ अर्थाचे वर्गीकरण (प्रकार: सांकल्पनिक अर्थ - साहचर्यपर अर्थ- शैलीगत अर्थ- भावपर अर्थ- परावर्तीत अर्थ - विषय अर्थ) ४ अर्थविन्यासाची व्यापकता (समानार्थी शब्द, अनेकार्थी शब्द - सरूपता - अर्थसमावेश - अर्थविरोध)	१	१५
४	संशोधनपर प्रकल्प / क्षेत्रकार्य (घटक १, २ आणि ३)	१	१५

संदर्भ ग्रंथ :

१. वैखरी, अशोक केळकर
२. भाषाविज्ञान : वर्णनात्मक आणि ऐतिहासिक, मिलिंद मालशे, लोकवाड.मय प्रकाशन,मुंबई.
३. मराठीचा भाषिक अभ्यास, मु.श्री.कानडे
४. वर्णनात्मक भाषाविज्ञान :स्वरूप आणि पद्धती, संपा.कल्याण काळे,डॉ.सोमण
५. आधुनिक भाषाविज्ञान, संपा. कल्याण काळे
६. अभिनव भाषाविज्ञान, डॉ.गं.ना.जोगळेकर
७. वर्णनात्मक भाषाविज्ञान, डॉ.लीला गोविलकर
८. भाषाशास्त्रविचार, डॉ. र. बा.मंचरकर
९. ध्वनिविचार, ना.गो.कालेलकर, डॉ.प्रभाकर जोशी
१०. सुलभ भाषाविज्ञान, दत्तात्रय पुंडे
११. भाषाविज्ञान परिचय, स.गं.मालशे
१२. सुबोध भाषाविज्ञान, प्र.न. जोशी
१३. आधुनिक भाषाविज्ञान : सिद्धांत,उपयोजन, मिलिंद मालशे
१४. आधुनिक भाषाविज्ञान, डॉ.मिलिंद सं. मालशे
१५. भाषाशास्त्र प्रदीप, संपा. स. गं. मालशे, द. दि. पुंडे, अंजली सोमण
१६. भाषा आणि भाषाविज्ञान, रमेश धोंगडे
१७. मराठीचे वर्णनात्मक भाषाविज्ञान, डॉ. महेंद्र कदम, स्नेहवर्धन प्रकाशन,पुणे
१८. भाषाविज्ञान परिचय, संपा. डॉ. वसंत शेकडे, संजय नगरकर व इतर, नवनरेन्द्र प्रकाशन .
१९. भाषाविज्ञान : संकल्पना व स्वरूप, डॉ.आरती कुलकर्णी

प्रश्नपत्रिकेचे स्वरूप

- वर्णनात्मक भाषाविज्ञान : भाग १ [DSE 2 C (3)+1]
- वर्णनात्मक भाषाविज्ञान : भाग २ [DSE 2 D (3)+1]

विद्यापीठ सत्र परीक्षा		
वेळ : ३ तास	घटकनिहाय प्रश्न तपशील	गुण : ७०
प्रश्न क्रमांक		गुण
प्रश्न १ ला	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी ५० शब्दांपर्यंत लिहा. (घटक १, २, ३)	१०
प्रश्न २ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक १)	२०
प्रश्न ३ रा	३ पैकी २ प्रश्नांची उत्तरे प्रत्येकी २०० शब्दांपर्यंत लिहा. (घटक २)	२०
प्रश्न ४ था	३ पैकी २ प्रश्नांची उत्तरे २०० शब्दांपर्यंत लिहा. (घटक ३)	२०
सत्र परीक्षा एकूण गुण		७०
अंतर्गत मूल्यमापन		
लेखी परीक्षा (घटक १, २ आणि ३)		२०
संशोधनपर प्रकल्प / क्षेत्र कार्य (घटक १, २ आणि ३)		१०
सत्र परीक्षा आणि अंतर्गत मूल्यमापन एकूण गुण		१००
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		

तृतीय वर्ष कला (T. Y. B. A.)

नियमित अभ्यासक्रम

पहिले सत्र

विषयाचे नाव

कार्यक्रम संयोजनातील भाषिक कौशल्ये : भाग -१ [SEC 2 C (2)]

अभ्यासक्रमाची उद्दिष्टे :

१. कार्यक्रमांचे स्वरूप आणि प्रकार समजून घेणे.
२. कार्यक्रम संयोजनातील भाषिक कौशल्ये प्राप्त करणे.

घटक	तपशील	श्रेयांक	तासिका
१	कार्यक्रमांचे स्वरूप आणि प्रकार १. कार्यक्रमांचे स्वरूप आणि प्रकार : भाषणे, चर्चासत्रे, परिषदा, गटचर्चा, बैठक, मेळावे, कला – सांस्कृतिक कार्यक्रम, जाहिरात, विपणनविषयक, आभासी २. कार्यक्रम संयोजनातील विविध घटक (आयोजक, प्रायोजक, जाहिरात, निवेदक) आणि त्यांचे कार्य	१	१५
२	कार्यक्रम संयोजनातील भाषिक कौशल्ये १. पूर्वतयारी २. कार्यक्रम संयोजनातील भाषेचे महत्त्व ३. कार्यक्रमाची योजना, आखणी आणि रूपरेषा १. कार्यक्रमपूर्व नियोजन २. कार्यक्रमातील विविध घटक ३. भाषेचा वापर : निवेदन, प्रास्ताविक, परिचय, स्वागत, मनोगत, आभार, सूत्रसंचालन. ४. कार्यक्रमपश्चात कामे	१	१५

दुसरे सत्र
विषयाचे नाव

कार्यक्रम संयोजनातील भाषिक कौशल्ये : भाग २ [SEC 2 D (2)]

अभ्यासक्रमाची उद्दिष्टे :

- १ कार्यक्रम संयोजनातील लेखन कौशल्ये संपादन करणे.
- २ कार्यक्रम संयोजनातील भाषिक कौशल्ये प्राप्त करणे.
- ३ आभासी कार्यक्रमांचे भाषिक कौशल्ये संयोजन करणे.

घटक	तपशील	श्रेयांक	तासिका
१	<p>कार्यक्रम संयोजनातील लेखन कौशल्ये</p> <ol style="list-style-type: none"> १ निमंत्रणपत्र व निमंत्रणपत्रिका लेखन २ कार्यक्रमपत्रिका लेखन ३ मानपत्र लेखन ४ बातमी लेखन ५ कार्यक्रम अहवाल लेखन 	१	१५
२	<p>कार्यक्रम संयोजन</p> <ol style="list-style-type: none"> १ कविसंमेलन २ वाचन प्रेरणा दिन ३ मराठी भाषा पंधरवाडा ४ मराठी भाषा दिन ५ व्याख्यानमाला ६ पुस्तक प्रदर्शन <p>आभासी कार्यक्रम संयोजन</p> <ol style="list-style-type: none"> १ झूम / गुगल मिट वरील व्याख्यान २ फेसबुक व यूट्यूब वरील कार्यक्रम live करणे वा अपलोड करणे. 	१	१५

संदर्भग्रंथ :

- १ व्यावहारिक मराठी, पुणे विद्यापीठ प्रकाशन.
- २ मराठी भाषेची संवाद कौशल्ये, य. च. म. मुक्त विद्यापीठ, नाशिक.
- ३ व्यक्तिमत्त्व विकासासाठी संभाषण व लेखन कौशल्ये, संपा. डॉ. पृथ्वीराज तौर, डॉ. शैलेन्द्र लेंडे, डॉ. वंदना महाजन.
- ४ व्यावहारिक व उपयोजित मराठी, संपादक संदीप सांगळे, डायमंड प्रकाशन.
- ५ कार्यक्रमाचे प्रभावी संयोजन आणि सूत्रसंचालन, जयप्रकाश बगदे, साकेत प्रकाशन
- ६ व्यावहारिक मराठी, ल रा. नासिराबादकर, फडके प्रकाशन

- ७ प्रसारमाध्यमे आणि मराठी भाषा, संपादक डॉ. भास्कर शेळके, कर्मवीर प्रकाशन पुणे
 ८ व्यावहारिक मराठी, डॉ. लीला गोविलकर, डॉ. जयश्री पाटणकर
 ९ व्यावहारिक मराठी, डॉ. कल्याण काळे, डॉ. दत्तात्रय पुंडे, निराली प्रकाशन

प्रश्नपत्रिकेचे स्वरूप

- कार्यक्रम संयोजनातील भाषिक कौशल्ये : भाग १ [SEC 2 C (2)]
- कार्यक्रम संयोजनातील भाषिक कौशल्ये : भाग २ [SEC 2 D (2)]

विद्यापीठ सत्र परीक्षा		
वेळ : २ तास	घटकनिहाय प्रश्न तपशील	गुण : २५
प्रश्न क्रमांक		गुण
प्रश्न १ ला	दोन पैकी एका प्रश्नाचे उत्तर लिहा. (घटक १)	१०
प्रश्न २ रा	दोन पैकी एका प्रश्नाचे उत्तर लिहा. (घटक २)	१०
प्रश्न ३ रा	दोन पैकी एका प्रश्नाचे उत्तर लिहा. (घटक १ आणि २)	५
एकूण गुण		२५
अंतर्गत मूल्यमापन		
लेखी परीक्षा, गृहपाठ, चर्चासत्र, सादरीकरण, समूह चर्चा, प्रकल्प कार्य, अभ्यास भेट यापैकी कोणत्याही दोन प्रकारांतून अंतर्गत मूल्यमापन करावे. (१५+१०)		२५
एकूण गुण		५०
विशेष सूचना :		
<ul style="list-style-type: none"> ● अंतर्गत मूल्यमापनाचे नियोजन महाविद्यालयाने करावे. ● विद्यार्थ्यांचे अंतर्गत मूल्यमापनविषयक लेखन / तपशील विद्यापीठाच्या निर्देशानुसार, विहित कालावधीपर्यंत महाविद्यालयाकडे जमा असणे आवश्यक आहे. ● विद्यापीठाच्या निर्देशानुसार विहित मुदतीत गुण विद्यापीठाकडे पाठवावे. 		



सावित्रीबाई फुले पुणे विश्वविद्यालय, पुणे
Savitribai Phule Pune University, Pune

हिंदी पाठ्यक्रम
Hindi Syllabus

संबंध महाविद्यालयों के लिए
For Affiliated colleges

बी. ए. तृतीय वर्ष कला
(पंचम एवं षष्ठ अयन)
Fifth & Sixth Semester

शैक्षिक वर्ष
Academic year

2021-2022

अनुक्रम
बी. ए. तृतीय वर्ष कला
पंचम एवं षष्ठ अयन (Fifth & Sixth Semester)
शैक्षिक वर्ष 2021-22 से

कोर्स नं.	पंचम एवं षष्ठ अयन	क्रेडिट	पृष्ठ क्रमांक
बी. ए. तृतीय वर्ष कला			
Core Course -1E (G-3)	कथेतर विधाएँ (पंचम अयन)	3	
Core Course -1F (G-3)	गज़ल विधा और पत्राचार (षष्ठ अयन)	3	
बी. ए. तृतीय वर्ष कला – वैकल्पिक प्रयोजनमूलक हिंदी			
Core Course -1E (G-3)	प्रयोजनमूलक हिंदी : कार्यालयीन व्यवहार (पंचम अयन)	3	
Core Course -1F (G-3)	प्रयोजनमूलक हिंदी : माध्यम लेखन (षष्ठ अयन)	3	
बी. ए. तृतीय वर्ष कला (हिंदी विशेष)			
Discipline Specific Elective DSE 1 C (S3)	हिंदी साहित्य का इतिहास (आदिकाल, भक्तिकाल, रीतिकाल का सामान्य परिचय) (पंचम अयन)	3+1	
Discipline Specific Elective 2 C (S4)	भाषाविज्ञान (सामान्य परिचय) (पंचम अयन)	3+1	
Discipline Specific Elective 1 D (S3)	हिंदी साहित्य का इतिहास (आधुनिक काल सामान्य परिचय) (षष्ठ अयन)	3+1	
Discipline Specific Elective 2 D (S4)	हिंदी भाषा और उसका विकास (षष्ठ अयन)	3+1	
बी. ए. तृतीय वर्ष कला			
Skill Enhancement Course 2 C	पटकथा लेखन (पंचम अयन)	2	
Skill Enhancement Course SEC 2 D	साहित्य और फिल्मांतरण (षष्ठ अयन)	2	

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

पंचम अयन (Fifth Semester)

पाठ्यचर्या : Core Course – 1E (G3) पाठ्यचर्या : कथेतर विधाएँ

3 कर्मांक (3 Credit)

उद्देश्य :

1. छात्रों को संस्मरण साहित्य से अवगत करना।
2. छात्रों को रेखाचित्र साहित्य से अवगत करना।
3. छात्रों को मूल्यांकन की दृष्टि का विकास करना।
4. सभा-इतिवृत्त लेखन कौशल वृद्धि का विकास करना।
5. वार्ता-लेखन कौशल दृष्टि निर्माण करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई- I	संस्मरण : 1. शरत् : एक याद – अमृतलाल नागर 2. प्रेमचंद : एक स्मरण – महादेवी वर्मा 3. हम हशमत – कृष्णा सोबती 4. त्यागमूर्ति 'निराला' – शिवपूजन सहाय	15 तासिकाएँ
इकाई- II	रेखाचित्र : 1. पीपल – सच्चिदानंद हीरानंद वात्स्यायन 'अज्ञेय' 2. डबली बाबू – विनय मोहन शर्मा 3. अमृत के स्रोत – जगदीश माथुर। 4. रजिया – रामवृक्ष 'बेनीपुरी'	15 तासिकाएँ
इकाई-III	पाठ्यपुस्तकेत्तर पाठ्यक्रम : 1. सभा-इतिवृत्तलेखन 2. वार्ता-लेखन	15 तासिकाएँ

पूर्णांक : 100

आंतरिक मूल्यांकन : 30 अंक (लघुत्तरी परीक्षा- 20 अंक, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10 अंक)

सत्रांत परीक्षा : 70 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

समय : 3 घंटे

अंक : 70

- प्रश्न 1. इकाई – I पर चार में से दो प्रश्न : 14 अंक
- प्रश्न 2. इकाई – II पर चार में से दो प्रश्न : 14 अंक
- प्रश्न 3. इकाई – I और II पर (दो + दो) चार में से दो प्रश्न : 14 अंक
- प्रश्न 4. अ) इकाई – I पर दो में से एक संदर्भ : 14 अंक
ब) इकाई – II पर दो में से एक संदर्भ :
- प्रश्न 5. क) सभा इतिवृत्तलेखन दो में से एक प्रश्न : 14 अंक
ख) वार्ता लेखन दो में से एक प्रश्न :

संदर्भ ग्रंथ :

1. पाठ्यपुस्तक : संपादन : हिंदी अध्ययन मंडल – राजकमल प्रकाशन, नई दिल्ली।
2. हिंदी रेखाचित्र – डॉ. हरवंशलाल शर्मा
3. यात्रा साहित्य का उद्भव और विकास – डॉ. सुरेंद्र माथुर
4. स्वातंत्र्योत्तर हिंदी यात्रा साहित्य – डॉ. ईरेश स्वामी

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

षष्ठ अयन (Sixth Semester)

पाठ्यचर्या : **Core Course – 1F (G3)** पाठ्यचर्या : गज़ल विधा और पत्राचार

3 कर्मांक (3 Credit)

उद्देश्य :

1. छात्रों को गज़ल साहित्य से अवगत करना।
2. छात्रों को गज़लकार के व्यक्तित्व से अवगत करना।
3. छात्रों में मूल्यांकन की दृष्टि का विकास करना।
4. छात्रों को सरकारी पत्र लेखन से अवगत करना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	<p>'साये में धूप' (गज़ल संग्रह) – दुष्यंत कुमार</p> <ol style="list-style-type: none"> 1. गज़ल : अर्थ, परिभाषा, तत्व। 2. दुष्यंत कुमार का साहित्यिक परिचय। <p>गज़ल रचनाएँ : (साये में धूप)</p> <ol style="list-style-type: none"> 1. कहाँ तो तय था चिरागाँ हरेक घर के लिए, कहाँ चिराग मयस्सर नहीं शहर के लिए... 2. कैसे मंजर सामने आने लगे हैं, गाते-गाते लोग चिल्लाने लगे हैं... 3. इस नदी की धार में ठंडी हवा आती तो है, नाव जर्जर ही सही, लहरों से टकराती तो है... 4. भूख है तो सब्र कर, रोटी नहीं तो क्या हुआ, आजकल दिल्ली में है जेरे बहस ये मुद्दा... 5. कहीं पे धूप की चादर बिछाके बैठ गए, कहीं ये शाम सिरहाने लगा के बैठ गए... 6. चाँदनी छत पे चल रही होगी, अब अकेली टहल रही होगी... 	15 तासिकाएँ
इकाई-II	<p>गज़ल रचनाएँ : (साये में धूप)</p> <ol style="list-style-type: none"> 1. हो गई है पीर पर्वत-सी पिघलनी चाहिए, इस हिमालय से कोई गंगा निकलनी चाहिए... 2. आज सड़कों पर लिखे हैं सैकड़ों नारे न देख, घर अँधेरा देख तू, आकाश के तारे न देख... 3. मेरे गीत तुम्हारे पास सहारा पाने आएँगे, मेरे बाद तुम्हें ये मेरी याद दिलाने आएँगे... 4. ये सच है कि पाँवों ने बहुत कष्ट उठाए, पर पाँव किसी तरह राहों पे तो आए... 5. बाढ़ की संभावनाएँ सामने हैं, और नदियों के किनारे घर बने हैं... 	15 तासिकाएँ

	6. रोज़ जब रात को बारह का गजर होता है, यातनाओं के अँधेरे में सफ़र होता है... 7. एक कबूतर, चिट्ठी लेकर, पहली-पहली बार उडा, मौसम एक गुलेल लिये था पट से नीचे आन गिरा... 8. मैं जिसे ओढ़ता-बिछाता हूँ वो गज़ल आपको सुनाता हूँ... 9. अब किसी को भी नज़र आती नहीं कोई दरार, घर की हर दीवार पर चिपके हैं इनते इश्तहार... 10. तुम्हारे पाँवों के नीचे कोई जमीन नहीं, कमाल ये है कि फिर भी तुम्हें यकीन नहीं...	
इकाई-III	पाठ्यपुस्तकेतर पाठ्यक्रम : सरकारी पत्रलेखन : 1. सरकारी पत्र, 2. अर्द्ध सरकारी पत्र 3. कार्यालय ज्ञापन 4. परिपत्र 5. कार्यालय आदेश	15 तासिकाएँ

पूर्णांक : 100

आंतरिक मूल्यांकन : 30 अंक (लघुत्तरी परीक्षा- 20 अंक, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/
क्षेत्रीय अध्ययन- 10 अंक)

सत्रांत परीक्षा : 70 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021-22 से आगे)

समय : 3 घंटे

अंक : 70

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – I और II पर (दो + दो) चार टिप्पणी में से दो प्रश्न :

14 अंक

प्रश्न 4. अ) इकाई – I पर दो में से एक संदर्भ :

14 अंक

ब) इकाई – II पर दो में से एक संदर्भ :

प्रश्न 5. पत्रलेखन चार में से दो प्रश्न :

14 अंक

संदर्भ ग्रंथ :

1. साये में धूप (गज़ल संग्रह) – दुष्यंत कुमार
2. प्रयोजनमूलक हिंदी – डॉ. विनोद गोदरे
3. प्रयोजनमूलक हिंदी – डॉ. तेजपाल चौधरी
4. प्रयोजनमूलक हिंदी आधुनातन आयाम – डॉ. अंबादास देशमुख
5. दुष्यंत कुमार और उनका काव्य – डॉ. सुरेश सालुंके
6. व्यवहारोपयोगी एवं कामकाजी हिंदी – डॉ. अनंत केदारे।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

पंचम अयन (Fifth Semester) वैकल्पिक

पाठ्यचर्या : Core Course – 1E (G3) वैकल्पिक पाठ्यचर्या : प्रयोजनमूलक हिंदी कार्यालयीन व्यवहार

3 कर्मांक (3 Credit)

उद्देश्य :

1. छात्रों को कार्यालयीन कार्यपद्धति की जानकारी देना।
2. छात्रों को सरकारी पत्राचार के प्रकारों, स्वरूप, भाषा शैली आदि की जानकारी देना।
3. छात्रों को क्षेत्र-कार्य प्रणाली से परिचित कराना।
4. छात्रों को राजभाषा हिंदी का संवैधानिक प्रावधान, हिंदी प्रचार प्रसार कार्य से परिचित करना।
5. छात्रों को अनुवाद प्रक्रिया से अवगत कराना।

इकाई	पाठ्यविषय	तासिकाँ
इकाई-I	भाषा के विविध रूप : बोली, भाषा, मानक भाषा, राजभाषा, राष्ट्रभाषा, संपर्क भाषा, अंतर्राष्ट्रीय भाषा।	15 तासिकाँ
इकाई-II	कार्यालयीन हिंदी पत्राचार : अ) सरकारी पत्र की विशेषताएँ : शुद्धता, सरलता, निर्व्यक्तिकता, तथ्यों में स्पष्टता, असंदिग्धता, संक्षिप्तता, क्रमबद्धता, शिष्टता, प्रभावोत्पादकता, वैशिष्ट्यपूर्ण भाषा आदि। आ) सरकारी पत्रों के विविध रूप और प्रकार – सरकारी पत्र, अधिसूचना, प्रेस विज्ञप्ति, निविदा, परिपत्र, कार्यालय आदेश, आवेदन पत्र।	15 तासिकाँ
इकाई-III	अनुवाद : अनुवाद प्रक्रिया तथा कार्यालयीन अनुवाद अ) अनुवाद स्वरूप, महत्व : अनुवाद प्रक्रिया, हिंदी में अनुवाद का महत्व, सूचना तकनीक में अनुवाद का महत्व। आ) अनुवादक के गुण। इ) कार्यालयीन अनुवाद (100 शब्दों परिच्छेद, अंग्रेजी अथवा मराठी से हिंदी अनुवाद)	15 तासिकाँ

पूर्णांक : 100

आंतरिक मूल्यांकन : 30 अंक (लघुत्तरी परीक्षा- 20 अंक, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10 अंक)

सत्रांत परीक्षा : 70 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021–22 से आगे)

समय : 3 घंटे

अंक : 52

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – III पर चार में से दो प्रश्न :

14 अंक

प्रश्न 4. इकाई – I, II, III (दो + दो + दो) छह टिप्पणी में से तीन प्रश्न :

21 अंक

प्रश्न 5. कार्यालयीन अनुवाद 100 शब्दों का परिच्छेद :

07 अंक

संदर्भ ग्रंथ :

1. राजभाषा हिंदी – डॉ. कैलाशचंद्र भाटिया
2. राजभाषा हिंदी – डॉ. भोलनाथ तिवारी
3. प्रयोजनमूलक हिंदी – रवींद्रनाथ तिवारी
4. राष्ट्रभाषा हिंदी : समस्याएँ और समाधान – डॉ. देवेन्द्रनाथ शर्मा
5. राजभाषा हिंदी : विवेचन और प्रयुक्ति – डॉ. किशोर वासवानी
6. भारत का संविधान प्राधिकृत संस्करण 2005
7. राजभाषा हिंदी – सेठ गोविंददास
8. राजभाषा प्रबंधन – डॉ. गोवर्धन ठाकुर
9. हिंदी : राष्ट्रभाषा से राजभाषा तक – विमलेश कांति वर्मा
10. बारहवीं सदी से राजकाज में हिंदी – रामबाबू शर्मा
11. भारतीय राष्ट्रभाषा : सीमाएँ तथा समास्याएं – डॉ. सत्यव्रत
12. राजभाषा के संदर्भ में हिंदी आंदोलन का इतिहास – उदयनारायण दुबे
13. व्यवहारोपयोगी एवं कामकाजी हिंदी – डॉ. अनंत केदार।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

षष्ठ अयन (Sixth Semester) वैकल्पिक

पाठ्यचर्या : Core Course – 1F (G3) वैकल्पिक पाठ्यचर्या – प्रयोजनमूलक हिंदी : माध्यम लेखन

3 कर्मांक (3 Credit)

उद्देश्य :

1. छात्रों को जनसंचार माध्यम और हिंदी अवधारणा से परिचित करना।
2. छात्रों को पृष्ठ सज्जा के विविध अंगों से परिचित कराना।
3. छात्रों को संचार क्रांति और सूचना प्रौद्योगिकी से अवगत कराना।
4. छात्रों को भिन्न-भिन्न क्षेत्रों में सूचना प्रौद्योगिकी की उपादेयता से अवगत कराना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	जनसंचार माध्यम और हिंदी : अवधारणा और प्रकार अ) दृश्य माध्यम और प्रयोजनमूलक हिंदी, दृश्य माध्यम में प्रयुक्त भाषा, दृश्य माध्यम के लिए समाचार लेखन। आ) श्रव्य माध्यम और प्रयोजनमूलक हिंदी, श्रव्य माध्यम में प्रयुक्त भाषा, श्रव्य माध्यम के लिए समाचार लेखन।	15 तासिकाएँ
इकाई-II	प्रतिवेदन रिपोर्ट : परिभाषा और स्वरूप, प्रारूप, शीर्षक पृष्ठ-सज्जा (मेक-अप) के विविध अंग। सामग्री का संयोजन एवं पृष्ठ निर्धारण। कलापक्ष एवं मुद्रण।	15 तासिकाएँ
इकाई-III	संचार क्रांति एवं सूचना प्रौद्योगिकी का भविष्य : ई-कैश तथा डिजिटल हस्ताक्षर, नेट बैंकिंग, आभासी कक्षा (वर्चुअल क्लासरूम), ई-गोष्ठी, ई-कॉमर्स, ई-फैक्स। विभिन्न क्षेत्रों में सूचना प्रौद्योगिकी की उपादेयता का संक्षिप्त परिचय। सायबर शिक्षा। ई-संसाधनों की सीमाएं।	15 तासिकाएँ

पूर्णांक : 100

आंतरिक मूल्यांकन : 30 अंक (लघुत्तरी परीक्षा- 20 अंक, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10 अंक)

सत्रांत परीक्षा : 70 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021–22 से आगे)

समय : 3 घंटे

अंक : 70

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – III पर चार में से दो प्रश्न :

14 अंक

प्रश्न 4. इकाई – I, II, III (दो + दो + दो) छह टिप्पणी में से तीन प्रश्न :

21 अंक

प्रश्न 5. इकाई – I, II, III पर (एक + एक + एक) तीन प्रश्न में से एक प्रश्न :

07 अंक

संदर्भ ग्रंथ :

1. जनसंचार के विविध आयाम – ब्रजमोहन गुप्त
2. जनमाध्यम और मासकल्चर – जगदीश्वर चतुर्वेदी
3. जनमाध्यम और पत्रकारिता (भाग : 1, 2) – प्रवीण दीक्षित
4. जनमाध्यम : संप्रेषण और विकास – देवेन्द्र इस्सर
5. सिनेमाई भाषा और हिंदी संवादों का विश्लेषण – डॉ. किशोर वासवानी
6. जनसंचार – राधेश्याम शर्मा
7. जनसंचार सिद्धांत और अनुप्रयोग – विष्णु राजगढ़िया
8. जनसंचार माध्यम और पत्रकारिता सर्वांग – डॉ. जितेंद्र वत्स, डॉ. किरण बाल
9. जनसंचार और हिंदी पत्रकारिता – डॉ. अर्जुन तिवारी
10. आधुनिक पत्रकारिता और इलेक्ट्रॉनिक मीडिया – डॉ. जालिंदर इंगळे
11. जनसंचार और तकनीकी हिंदी : विविध आयाम – डॉ. अनिल काळे।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021–2022 से)

पंचम अयन (Fifth Semester)

पाठ्यचर्या : **Discipline Specific Elective 1 C (S3)** हिंदी साहित्य का इतिहास (आदिकाल, भक्तिकाल, रीतिकाल का सामान्य परिचय) 3 कर्मांक (3 Credit) + 1*

उद्देश्य :

1. हिंदी साहित्येतिहास लेखन का परिचय देना।
2. हिंदी साहित्येतिहास के कालविभाजन तथा नामकरण का परिचय देना।
3. आदिकालीन, भक्तिकालीन, रीतिकालीन प्रमुख साहित्यिक प्रवृत्तियों, रचनाकारों और रचनाओं से परिचित कराना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	हिंदी साहित्य का कालविभाजन और नामकरण। आदिकाल की पृष्ठभूमि, रासो साहित्य : पृथ्वीराज रासो और कवि चंदबरदायी का परिचय। सिद्ध और नाथ साहित्य : गोरखनाथ का साहित्यिक परिचय। अमीर खुसरो की हिंदी कविता। आदिकालीन साहित्य की विशेषताएँ।	15 तासिकाएँ
इकाई-II	भक्तिकाल के उदय के सामाजिक, सांस्कृतिक कारण। भक्ति आंदोलन का महत्व, पृष्ठभूमि। निर्गुण काव्य : संत काव्य की विशेषताएँ। संत कबीर का सामान्य परिचय। सूफी काव्य की विशेषताएँ। कवि जायसी का सामान्य परिचय। सगुण काव्य : राम काव्य की विशेषताएँ। कवि तुलसीदास का सामान्य परिचय। कृष्ण काव्य की विशेषताएँ। कवि सूरदास का सामान्य परिचय।	15 तासिकाएँ
इकाई-III	रीतिकाल की सामाजिक, राजनीतिक, सांस्कृतिक पृष्ठभूमि। रीतिकाल की प्रमुख प्रवृत्तियों का (रीतिबद्ध, रीतिसिद्ध, रीतिमुक्त) सामान्य परिचय। रीतिबद्ध कवि केशवदास का सामान्य परिचय। रीतिसिद्ध कवि बिहारी का सामान्य परिचय। रीतिमुक्त कवि घनानंद का सामान्य परिचय।	15 तासिकाएँ
Research Project	1* One Credit for Research Project, field work etc.	

पूर्णांक : 100

आंतरिक मूल्यांकन : 30 अंक (लघुत्तरी परीक्षा- 20 अंक, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10 अंक)

सत्रांत परीक्षा : 70 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2020–21 से आगे)

समय : 3 घंटे

अंक : 70

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – III पर चार में से दो प्रश्न :

14 अंक

प्रश्न 4. इकाई – I, II, III (दो + दो + दो) छह टिप्पणी में से तीन प्रश्न :

21 अंक

प्रश्न 5. तीनों इकाइयों पर (इकाई एक – 4, इकाई दो – 3, इकाई तीन – 3)

07 अंक

दस बहुविकल्प प्रश्न में से सात के उत्तर।

संदर्भ ग्रंथ :

1. हिंदी साहित्य का इतिहास – आ. रामचंद्र शुक्ल
2. हिंदी साहित्य की भूमिका – आ. हजारीप्रसाद द्विवेदी
3. हिंदी साहित्य का आदिकाल – आ. हजारीप्रसाद द्विवेदी
4. हिंदी साहित्य का वैज्ञानिक इतिहास – डॉ. गणपतिचंद्र गुप्त
5. हिंदी साहित्य का आलोचनात्मक इतिहास – डॉ. रामकुमार वर्मा
6. हिंदी साहित्य और संवेदना का विकास – रामस्वरूप चतुर्वेदी
7. हिंदी साहित्य का इतिहास – डॉ. नगेंद्र
8. हिंदी साहित्य का अतीत – विश्वनाथ प्रसाद मिश्र
9. हिंदी साहित्य का दूसरा इतिहास – बच्चन सिंह
10. हिंदी साहित्य का इतिहास – प्रो. माधव सोनटक्के
11. हिंदी साहित्य का नया इतिहास – डॉ. राजेंद्र मिश्र
12. हिंदी साहित्य का आधा इतिहास – डॉ. सुमन राजे
13. हिंदी साहित्य का इतिहास – डॉ. सूर्यनारायण रणसुभे
14. हिंदी साहित्य का इतिहास – डॉ. जालिंदर इंगळे।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021–2022 से)

पंचम अयन (Fifth Semester)

पाठ्यचर्या : **Discipline Specific Elective 2 C (S4)** भाषाविज्ञान (सामान्य परिचय)

3 कर्मांक (3 Credit) + 1*

उद्देश्य :

1. भाषाविज्ञान के स्वरूप का परिचय देना।
2. छात्रों को भाषाविज्ञान की व्याप्ति समझाना।
3. भाषाविज्ञान के अध्ययन की दिशाओं का परिचय देना।
4. भाषाविज्ञान के अनुप्रयोगात्मक पक्ष को समझाना।
5. साहित्य-अध्ययन में भाषाविज्ञान की उपयोगिता समझाना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	भाषा विज्ञान का नामकरण और परिभाषा, भाषाविज्ञान की शाखाएँ। भाषा विज्ञान का अन्य शाखाओं से संबंध : भाषा विज्ञान और व्याकरण, भाषा विज्ञान और साहित्य, भाषा विज्ञान और मनोविज्ञान, भाषा विज्ञान और भूगोल।	15 तासिकाएँ
इकाई-II	ध्वनि विज्ञान : ध्वनि का अर्थ और परिभाषा। ध्वनि यंत्र। ध्वनि गुण : मात्रा, स्वराघात, बलाघात। ध्वनि परिवर्तन के कारण। रूप विज्ञान : अर्थ और परिभाषा। रूप और रूपिम में अंतर रूपिम के भेद : मुक्त रूपिम, बद्ध रूपिम, मुक्तबद्ध रूपिम, रूप परिवर्तन के कारण।	15 तासिकाएँ
इकाई-III	अर्थ विज्ञान : परिभाषा। अर्थ परिवर्तन की दिशाएँ। अर्थ परिवर्तन के कारण।	15 तासिकाएँ
Research Project	1* One Credit for Research Project, field work etc.	

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा– 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन– 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021-22 से आगे)

समय : 3 घंटे

अंक : 70

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – III पर चार में से दो प्रश्न :

14 अंक

प्रश्न 4. इकाई – I, II, III (दो + दो + दो) छह टिप्पणी में से तीन प्रश्न :

21 अंक

प्रश्न 5. तीनों इकाइयों पर (इकाई एक – 4, इकाई दो – 3, इकाई तीन – 3)

07 अंक

दस बहुविकल्प प्रश्न में से सात के उत्तर।

संदर्भ ग्रंथ :

1. भाषा और समाज – रामविलास शर्मा
2. आधुनिक भाषा विज्ञान – राजमणि शर्मा
3. सांस्कृतिक भाषा विज्ञान – डॉ. रामानंद तिवारी
4. भाषा विज्ञान – सं. डॉ. राजमल बोरा
5. भाषा शास्त्र तथा हिंदी भाषा की रूपरेखा – डॉ. देवेन्द्रकुमार शास्त्री
6. भाषाविज्ञान – भोलानाथ तिवारी
7. भाषाविज्ञान एवं हिंदी भाषा – डॉ. रूपाली चौधरी
8. भाषाविज्ञान – डॉ. जालिंदर इंगळे
9. भाषाविज्ञान की भूमिका – डॉ. देवेन्द्रनाथ शर्मा
10. भाषाविज्ञान – डॉ. मधुकर देशमुख
11. सरल भाषाविज्ञान – डॉ. पीतांबर सरोदे, डॉ. विश्वास पाटील।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

षष्ठ अयन (Sixth Semester)

पाठ्यचर्या : **Discipline Specific Elective 1 D (S3)** हिंदी साहित्य का इतिहास

(आधुनिक काल सामान्य परिचय)

3 कर्मांक (3 Credit) + 1*

उद्देश्य :

1. आधुनिक काल की पृष्ठभूमि से छात्रों अवगत कराना।
2. भारतेंदु युगीन, द्विवेदी युग के काव्य की विशेषताओं से छात्रों को अवगत कराना।
3. आधुनिक काल के रचनाकारों और रचनाओं से परिचित कराना।
4. हिंदी गद्य के उद्भव और विकास से छात्रों को अवगत कराना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	आधुनिक काल की पृष्ठभूमि भारतेंदुयुगीन काव्य की सामान्य विशेषताएँ। प्रमुख कवि – भारतेंदु हरिश्चंद्र, बद्रिनारायण चौधरी 'प्रेमघन'। द्विवेदी युगीन काव्य की सामान्य विशेषताएँ। प्रमुख कवि – मैथिलीशरण गुप्त, अयोध्यासिंह उपाध्याय 'हरिऔध'	15 तासिकाएँ
इकाई-II	छायावादी काव्य की सामान्य विशेषताएँ। छायावाद के प्रमुख कवि – जयशंकर प्रसाद, सुमित्रानंदन पंत, सूर्यकांत त्रिपाठी 'निराला', महादेवी वर्मा का सामान्य परिचय। प्रगतिवादी काव्य और प्रमुख कवि – रामधारी सिंह 'दिनकर', नागार्जुन का सामान्य परिचय। प्रयोगवादी काव्य और प्रमुख कवि – सच्चिदानंद हीरानंद वात्स्यायन 'अज्ञेय' का सामान्य परिचय।	15 तासिकाएँ
इकाई-III	हिंदी गद्य का उद्भव और विकास फोर्ट विलियम कॉलेज का योगदान हिंदी उपन्यास साहित्य का विकासक्रम (सामान्य परिचय) हिंदी कहानी साहित्य का विकासक्रम (सामान्य परिचय) हिंदी नाटक साहित्य का विकासक्रम (सामान्य परिचय)	15 तासिकाएँ
Research Project	1* One Credit for Research Project, field work etc.	

पूर्णांक : 100

आंतरिक मूल्यांकन : 30 अंक (लघुत्तरी परीक्षा- 20 अंक, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन- 10 अंक)

सत्रांत परीक्षा : 70 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021–22 से आगे)

समय : 3 घंटे

अंक : 70

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – III पर चार में से दो प्रश्न :

14 अंक

प्रश्न 4. इकाई – I, II, III (दो + दो + दो) छह टिप्पणी में से तीन प्रश्न :

21 अंक

प्रश्न 5. तीनों इकाइयों पर (इकाई एक – 4, इकाई दो – 3, इकाई तीन – 3)

07 अंक

दस बहुविकल्प प्रश्न में से सात के उत्तर।

संदर्भ ग्रंथ :

1. हिंदी साहित्य का इतिहास – आ. रामचंद्र शुक्ल
2. हिंदी साहित्य की भूमिका – आ. हजारीप्रसाद द्विवेदी
3. हिंदी साहित्य का आदिकाल – आ. हजारीप्रसाद द्विवेदी
4. हिंदी साहित्य का वैज्ञानिक इतिहास – डॉ. गणपतिचंद्र गुप्त
5. हिंदी साहित्य का आलोचनात्मक इतिहास – डॉ. रामकुमार वर्मा
6. हिंदी साहित्य और संवेदना का विकास – रामस्वरूप चतुर्वेदी
7. हिंदी साहित्य का इतिहास – डॉ. नगेंद्र
8. हिंदी साहित्य का अतीत – विश्वनाथ प्रसाद मिश्र
9. हिंदी साहित्य का दूसरा इतिहास – बच्चन सिंह
10. हिंदी साहित्य का इतिहास – प्रो. माधव सोनटक्के
11. हिंदी साहित्य का नया इतिहास – डॉ. राजेंद्र मिश्र
12. हिंदी साहित्य का इतिहास – डॉ. जालिंदर इंगळे।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

षष्ठ अयन (Sixth Semester)

पाठ्यचर्या : **Discipline Specific Elective 2 D (S4)** हिंदी भाषा और उसका विकास

3 कर्मांक (3 Credit) + 1*

उद्देश्य :

1. भाषाविज्ञान के स्वरूप का परिचय देना।
2. छात्रों को भाषाविज्ञान की व्याप्ति समझाना।
3. भाषाविज्ञान के अध्ययन की दिशाओं का परिचय देना।
4. भाषाविज्ञान के अनुप्रयोगात्मक पक्ष को समझाना।
5. साहित्य-अध्ययन में भाषाविज्ञान की उपयोगिता समझाना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	भाषा की परिभाषा और भाषा की विशेषताएँ। भाषा के विविध रूप : बोली, भाषा, परिनिष्ठित भाषा, साहित्यिक भाषा, राजभाषा, राष्ट्रभाषा, संपर्क भाषा, अंतर्राष्ट्रीय भाषा।	15 तासिकाएँ
इकाई-II	हिंदी की बोलियाँ : पश्चिमी हिंदी, पूर्वी हिंदी, बिहारी हिंदी, पहाड़ी हिंदी, राजस्थानी हिंदी। हिंदी का शब्द भंडार : तत्सम शब्द, तद्भव शब्द, देशज शब्द, आगत या विदेशी शब्दों का परिचय।	15 तासिकाएँ
इकाई-III	नगरीलिपि का उद्भव और विकास। नागरी लिपि की विशेषताएँ। नागरी लिपि में सुधार की संभावनाएँ।	15 तासिकाएँ
Research Project	1* One Credit for Research Project, field work etc.	

अंक विभाजन – पूर्णांक : 100

आंतरिक मूल्यांकन – 30 (लघुत्तरी परीक्षा– 20, शोध परियोजना/समूह परियोजना/मौखिक प्रस्तुति/क्षेत्रीय अध्ययन– 10)

सत्रांत परीक्षा – 70

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021–22 से आगे)

समय : 3 घंटे

अंक : 70

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

14 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

14 अंक

प्रश्न 3. इकाई – III पर चार में से दो प्रश्न :

14 अंक

प्रश्न 4. इकाई – I, II, III (दो + दो + दो) छह टिप्पणी में से तीन प्रश्न :

21 अंक

प्रश्न 5. तीनों इकाइयों पर (इकाई एक – 4, इकाई दो – 3, इकाई तीन – 3)

07 अंक

दस बहुविकल्प प्रश्न में से सात के उत्तर।

संदर्भ ग्रंथ :

1. भाषा विज्ञान एवं भाषाशास्त्र – डॉ. कपिलदेव द्विवेदी
2. हिंदी भाषा संरचना – डॉ. भोलानाथ तिवारी
3. आधुनिक भाषाविज्ञान – डॉ. कृपाशंकर सिंह, डॉ. चतुर्भुज सहाय
4. हिंदी का वाक्यात्मक कारण – प्रो. सूरजभान सिंह
5. भाषाविज्ञान के आधुनातन आयाम – डॉ. अंबादास देशमुख

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021-2022 से)

पंचम अयन (Fifth Semester)

पाठ्यचर्या : Skill Enhancement Course 2 C पाठ्यचर्या : पटकथा लेखन

2 कर्मांक (2 Credit)

उद्देश्य :

1. छात्रों को स्क्रिप्ट लेखन, अर्थ, परिभाषा से अवगत कराना।
2. छात्रों को कथा, पटकथा और संवाद से परिचित कराना।
3. छात्रों को ड्राफ्ट बनाने से परिचित कराना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	<p>पटकथा (स्क्रिप्ट) लेखन, अर्थ, परिभाषा और सामान्य परिचय।</p> <p>पटकथा (स्क्रिप्ट) के तीन अंग- कथा, पटकथा और संवाद। उदाहरण सहित संक्षिप्त जानकारी।</p> <p>तीनों की परस्परावलंबिता और दृश्य-श्रव्य माध्यम में महत्व।</p> <p>पटकथा (स्क्रिप्ट) लेखन की प्रक्रिया।</p> <p>विचार (आइडिया) – वन लाइनर या लॉग लाइन – सारांश (शीर्षक, कथावस्तु, पात्रों की सूची।)</p> <p>प्लॉट बनाना – पात्रों का परिचय और उन्हें स्थापित करना, पात्रों का विकास।</p> <p>ड्राफ्ट बनाना – इनडोर/आउटडोर, समय, स्थान, संवाद, पात्र की क्रिया और प्रतिक्रिया।</p>	15 तासिकाएँ
इकाई-II	<p>दृश्य-श्रव्य माध्यम के विभिन्न प्रकारों के लिए स्क्रिप्ट लेखन। (सामान्य दिशा निर्देश)</p> <p>वृत्तचित्र – टेलिफिल्म, शॉर्टफिल्म, विज्ञापन, फिल्म- वॉक थ्रू एवं अन्य – चलचित्र।</p> <p>शॉर्ट फिल्म के लिए स्क्रिप्ट लेखन का विशेष परिचय।</p> <p>पटकथा के प्रारूप और मुख्य सॉफ्टवेयरों की जानकारी।</p>	15 तासिकाएँ

अंक विभाजन पूर्णांक : 50

आंतरिक मूल्यांकन : 25 अंक (20 अंक : पटकथा लेखन (एकल/समूह पांच छात्र)/ 10 मिनट की लघु फिल्म निर्माण/विज्ञापन निर्माण/ डॉक्यूमेंट्री फिल्म निर्माण। 5 अंक प्रस्तुति के लिए।)

सत्रांत परीक्षा : 25 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021–22 से आगे)

समय : 2 घंटे

अंक : 25

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

10 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

10 अंक

प्रश्न 3. इकाई – I और इकाई – II पर दो टिप्पणी में से एक प्रश्न :

05 अंक

संदर्भ ग्रंथ :

1. कथा पटकथा – मन्नू भंडारी
2. कथा पटकथा संवाद – हूबनाथ
3. पटकथा लेखक एक परिचय – मनोहर श्याम जोशी
4. पटकथा कैसे लिखें – राजेंद्र पांडे
5. पटकथा लेखन फीचर फिल्म – उमेश राठौर
6. पटकथा लेखन व्यावहारिक निर्देशिका – असगर वजाहत
7. पटकथा सौंदर्य और सृजन – डॉ. चंद्रदेव यादव
8. साहित्य और सिनेमा – डॉ. जालिंदर इंगळे
9. साहित्य और सिनेमा – संपा. डॉ. पुरुषोत्तम कुंदे
10. सिनेमा और फिल्मांतरित हिंदी साहित्य – डॉ. गोकुळ क्षीरसागर।

बी. ए. तृतीय वर्ष कला (शैक्षिक वर्ष 2021–2022 से)

षष्ठ अयन (Sixth Semester)

पाठ्यचर्या : **Skill Enhancement 2 D** पाठ्यचर्या : साहित्य और फिल्मांतरण

2 कर्मांक (2 Credit)

उद्देश्य :

1. छात्रों में सिनेमा का स्वरूप से परिचित कराना।
2. छात्रों को हिंदी साहित्य और सिनेमा के अन्तसंबंध से परिचित कराना।
3. छात्रों को हिंदी उपन्यासों पर आधारित फिल्मों से अवगत कराना।

इकाई	पाठ्यविषय	तासिकाएँ
इकाई-I	सिनेमा : स्वरूप विवेचन, सिनेमा की परिभाषा हिंदी फीचर फिल्म के प्रकार हिंदी सिनेमा में अंतर्निहित तत्व हिंदी साहित्य और सिनेमा का अन्तसंबंध भारत में सिनेमा का उद्भव और विकास समानांतर हिंदी सिनेमा इक्कीसवीं सदी में हिंदी सिनेमा।	15 तासिकाएँ
इकाई-II	साहित्य का फिल्मांतरण फिल्मांतरण : स्वरूप, महत्व हिंदी उपन्यासों पर आधारित हिंदी फिल्में : सारा आकाश, नौकर की कमीज, चित्रलेखा। हिंदी कहानियों पर आधारित हिंदी फिल्में : सद्गति, तीसरी कसम, मोहनदास।	15 तासिकाएँ

अंक विभाजन पूर्णांक : 50

आंतरिक मूल्यांकन : 25 अंक (20 अंक : विधारुपांतरण, 05 अंक : प्रस्तुति।)

सत्रांत परीक्षा : 25 अंक

सत्रांत परीक्षा – प्रश्नपत्र का प्रारूप :

(शैक्षिक वर्ष 2021–22 से आगे)

समय : 2 घंटे

अंक : 25

प्रश्न 1. इकाई – I पर चार में से दो प्रश्न :

10 अंक

प्रश्न 2. इकाई – II पर चार में से दो प्रश्न :

10 अंक

प्रश्न 3. इकाई – I और इकाई – II पर दो टिप्पणी में से एक प्रश्न :

05 अंक

संदर्भ ग्रंथ :

1. प्रयोजनमूलक हिंदी – डॉ. विनोद गोदरे
2. प्रयोजनमूलक हिंदी – डॉ. तेजपाल चौधरी
3. हिंदी सिनेमा आदि के अनंत – डॉ. प्रहलाद अग्रवाल
4. भारतीय सामाज हिंदी सिनेमा और स्त्री – सुलभा कोरे
5. हिंदी सिनेमा एक अध्ययन – राजेश कुमार
6. साहित्य और सिनेमा – डॉ. जालिंदर इंगळे
7. साहित्य और सिनेमा – संपा. डॉ. पुरुषोत्तम कुंदे।
8. सिनेमा और फिल्मांतरित हिंदी साहित्य – डॉ. गोकुळ क्षीरसागर।

Savitribai Phule Pune University

T.Y. B.A. Home Economics G-3. Dynamics and Challenges of India Society (From June 2015)

Revised Syllabus

First Term

1. Social change

- 1.1 Meaning, Nature and scope of social change.
- 1.2 Process of social change.
- 1.3 Causes of Social change.

2. Indian Society

- 2.1 Nature of Indian society.
- 2.2 Traditional Society- Meaning & features.
- 2.3. Modern Society- Meaning & features.
- 2.4 Different between Traditional and modern Society.

3 Process of Change

- 3.1 Meaning and nature.
- 3.2 Communication, Meaning and effects on social change
- 3.3 Physical Cultural, Meaning and effects on social change
- 3.4 Rational, Scientific, Ideological Meaning and effects on social change
- 3.5 Educational- Meaning and effects on social change
- 3.6 Political and Economic Meaning and effects on social change

Second Term

4. Conformity and Deviation

- 4.1 Meaning and nature of conformity
- 4.2. Meaning and nature of Deviation.
- 4.3. Passive and active deviation meaning and causes.
- 4.4 Ambivalence. meaning and nature.

5. Factors in family change :

- 5.1 Values,of Indian family
- 5.2. Roles and Function Indian family
- 5.3 Causes of chaning the indian family.
- 5.4.Differce Between Indian family and Foreigen family

6. Atitudinal changes in family behaviour

- 6.1: Intermarriage,Meaning cause and effects.
- 6.2 Dowry,Meaning cause and effects.
- 6.3 Divorce,Meaning cause and effects.
- 6.4 Adoption, Meaning cause and effects.
- 6.5 Marriage and sex.
- 6.6 Changing status of women in Indian Society,
- 6.7. Value conflict in Indian Society.

Reading Material:

- (1) Readings in Family and Society : Goode (Prentice Hall).
- (2) Urbanization and Family Change : M.S.Gore (Popular Prakashan)
- (3) Traditional Societies : Edited-A.B.Shah.
- (4) Rural Sociology in Indian : A.R.Desai (Popular Parkashan).
- (5) Marriage and the Working Women in India : Pramila Kapur (Vikas, Bombay).



SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

T.Y.B.A. Home Economics Syllabus (G3)
(Choice Based Credit System and Semester System)

Implemented from Academic Year, 2021-22 at College UG Centers

T.Y.B.A. Home Economics (G-3)

Choice Based Credit System (CBCS)

(Semester – V)

Social Changes in Sociology

Preamble:-

As a foundation course, in this Paper, student is expected to understand the definition, nature and scope of Home economics, Method and approaches to the study of Home Economics. The chapters incorporated in this Paper deal with the study in Social Change in Sociology, Social Change, Indian Society, Process of Change, Conformity and Deviation, Factors in Family Change, Attitudinal change in Family behavior.

Objectives (Course Outcomes) of the Paper:

1. To study the students of different social changes in sociology.
2. To understand the students to the Traditional and Modern Society in India.
3. To enable students to analyze Attitudinal changes in Family behavior.

Method of Teaching:

Classroom lectures, Use of ICT, YouTube lectures, Online PPTs, Group Discussions, Teacher driven Power Point Presentations

Examination:-

Pattern of Examination: 70:30

- i) University Examination of 70 marks with internals of 30 marks.
- ii) Pattern of Question Paper : Pattern for 70 marks
 - Question Number 1:8 Questions to be answered out of 10 with total marks 16
 - Question Number 2:4 Questions to be answered out of 6 with total marks 16
 - Question Number 3:3 Questions to be answered out of 4 with total marks 18
 - Question Number 4:2 Questions to be answered out of 3 with total marks 20
- iii) Duration for 70 marks : 3 Hours
- iv) Pattern for 30 marks:
 - Internal exam (20 marks)
 - PPT, Oral Exam, Assignments, Micro field work

Chapter-wise classification of marks:-

Chapter No.	Title of the Chapter	Distribution of Marks
Semester V - Social Changes in Sociology - I		
Chapter 1	Social change	20
Chapter 2	Indian society	25
Chapter 3	Process of change	25
Semester VI - Social Changes in Sociology - II		
Chapter 1	Conformity and Deviation	20
Chapter 2	Factors in family change	25
Chapter 3	Attitudinal changes in family behavior	25

Chapter-wise Detailed Syllabus:-

Chapter No.	Title of the Chapter	No. of Lectures Allotted
SEMESTER V- Social Changes in Sociology - I		
1	Social change:- 1.1) Meaning and concept of social change 1.2) The nature of social change 1.3) Scope of social change 1.4) The importance of social change 1.5) The stage or direction or type of social change 1.6) Characteristics of social change 1.7) Causes of social change 1.8) Factors that stimulate social change 1.9) Obstacles to social change	20

2	Indian Society:- 2.1) Meaning and concept of society 2.2) Characteristics of society 2.3) Traditional society- meaning and characteristics 2.4) Modern society- meaning and features 2.5) The difference between traditional society and modern society	12
3	3 Process of Change 3.1) Meaning and nature. 3.2) Communication, Meaning and effects on social change 3.3) Physical Cultural, Meaning and effects on social change 3.4) Rational, Scientific, Ideological Meaning and effects on social change 3.5) Educational- Meaning and effects on social change 3.6) Political and Economic Meaning and effects on social change	16
Semester VI - Social Changes in Sociology - II		
1	4. Conformity and Deviation 4.1) Meaning and nature of conformity 4.2) Meaning and nature of Deviation. 4.3) Passive and active deviation meaning and causes. 4.4) Ambivalence. Meaning and nature.	16

2	5. Factors in family change: 5.1) Values, of Indian family 5.2) Roles and Function Indian family 5.3) Causes of changing the Indian family. 5.4) Different between Indian family and Foreign family	16
3	6. Attitudinal changes in family behavior 6.1: Intermarriage, Meaning cause and effects. 6.2 Dowry, Meaning cause and effects. 6.3 Divorce, Meaning cause and effects. 6.4 Adoption, Meaning cause and effects. 6.5 Marriage and sex. 6.6 Changing status of women in Indian Society, 6.7. Value conflict in Indian Society.	16

Reading Material:-

Reading Material:

- (1) Readings in Family and Society: Goode (Prentice Hall).
- (2) Urbanization and Family Change : M.S.Gore (Popular Prakashan)
- (3) Traditional Societies : Edited-A.B.Shah.
- (4) Rural Sociology in India : A.R.Desai (Popular Parkashan).
- (5) Marriage and the Working Women in India : Pramila Kapur (Vikas, Bombay).
- (6) Marriage and Family in India—Kapadia.
- (7) Feminine Roles—K. N. Venkalarayappa.
- (8) Human Society—Kingsley Davis.

- (9) The Family—William J. Goods.
- (10) Social Anthropology—Madan and Mujumdar
- (11) Human Growth and Development -Elizabeth Harlock.
- (12) Human Development - Gorden.
- (13) The Developing Child - Bursbanc.
- (14) Behavioral Change - Weirkrants.
- (15) Sociology, Leonard Broom, Harper &Row Publishers, London.
- (16) समाजशास्त्र, प्रा. नि. स. वैद्य, विद्या प्रकाशन , नागपूर.
- (17) भारतीय सामाजिक समस्या, डॉक्टर भा. कि. खडसे, श्री मंगेश प्रकाशन, नागपूर.
- (18) ग्रामीण समाजशास्त्र, डॉ. दा. धो. कचोळे, कैलास पब्लिकेशन्स, औरंगाबाद.
- (19) विवाह आणि कौटुंबिक संबंध, प्रा. त्रिवेणी शा. फरकाडे, सौ सुलभा सुहासराव गोंगे, विद्या प्रकाशन नागपूर.
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SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

**T.Y.B.A. Political Science
& Public Administration Syllabus**
(CREDIT & SEMESTER SYSTEM)

**Revised Syllabus will be implemented with effect from the
academic year 2021-2022**

Savitribai Phule Pune University

POLITICAL SCIENCE

Syllabus of T.Y.B.A.

(CBCS pattern to be implemented from 2021-2022)

PAPER NO.	PAPER TITLE
CORE COURSES (C.C.):	
Semester V CC-1 E (3)	MODERN POLITICAL ANALYSIS
And	
Semester VI CC-2 E (3)	MODERN POLITICAL ANALYSIS
	OR
Semester V CC-1 E (3)	LOCAL SELF GOVERNMENT IN MAHARASHTRA
And	
Semester VI CC-2 E (3)	LOCAL SELF GOVERNMENT IN MAHARASHTRA

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE)

Semester V DSE 1 C (3)+1	PUBLIC ADMINISTRATION
And	
Semester VI DSE 1 D (3)+1	PUBLIC ADMINISTRATION
Semester V DSE 2 C (3)+1	INTERNATIONAL RELATIONS
And	
Semester VI DSE 2 D (3)+1	INTERNATIONAL RELATIONS

SKILL ENHANCEMENT COURSE (SEC)
(Value / Skill Based Course)

Semester V SEC 2C (2)	SAMYUKTA MAHARASHTRA MOVEMENT
Semester VI SEC 2D (2)	SAMYUKTA MAHARASHTRA MOVEMENT

Savitribai Phule Pune University
T.Y.B.A. Political Science
(CBCS pattern to be implemented from 2021-2022)

Core Courses (C.C.)

MODERN POLITICAL ANALYSIS

Objectives:

This course will introduce the overall scope of the sub-discipline of Modern Political Analysis. The focus of the course will be on the Modern Political Analysis of power. The emphasis is on the nature of power in modern societies- more in the form of organizations and social formations than as individual power. Students are also expected to understand different forms of justifications of power and the role of ideology in this regard. State will be studied as a repository of power in society while class and patriarchy are two instance of how the nature of power is shaped by social factors.

SEMESTER-V

CC-1 E (3)

	PERIOD
Unit 1: Introduction to Modern Political Analysis	12
a) Meaning	
b) Nature - Difference between Traditional and Modern Political Approach	
c) Features of Modern Political Analysis	
Unit 2: Political System	12
a) Meaning and Nature	
b) Functions of the Political System	
c) Classification of Political System : Gabriel Almond	
d) Unit 3: Political culture	12
a) Meaning	
b) Basic Elements	
c) Types	

- d) **Unit 4: Political Socialization** **12**
a) Meaning
b) Agencies
c) Types

SEMESTER-VI

CC-2 E (3)

- Unit 1: Political Participation** **12**
a) Meaning & Nature
b) Levels of Participation
c) Factors affecting Political Participation

- Unit 2: Political Elite** **12**
a) Meaning
b) Nature
c) Different approaches of Mosca, Michels, Pareto, Burnham and C. Wright Mills

- Unit 3: Political Communication** **12**
a) Meaning
b) Nature
c) Agencies of Political Communication

- Unit 4: Power, Influence, Authority and Legitimacy** **12**
a) Meaning, Nature of Power and Influence
b) Different Types of Authority
c) Different Types of Legitimacy

Readings:

1. Almond G. A and Powell G. B, 1996, *Comparative Politics*, New York City, Little Brown & Co.
2. Almond G. A. and Verba S., 1963, *The Civic Culture*, New Jersey, Princeton University Press.
3. Ball Alan R., 1971, *Modern Politics and Government*, London, Macmillan.
4. Blondel Jean, 1973, *Comparing Political Systems*, London, Weidenfeld & Nicolson.

5. Charlesworth James C., 1973, *Contemporary Political Analysis*, New York, The Free Press.
6. Deutsch Karl W., 1963, *The Nerves of Government*, New York, The Free Press.
7. Easton David, 1971, *The Political System*, New York, Scientific Book Agency.
8. इनामदार ना.र आणि वकील आलिम, १९८८, *आधुनिक राजकीय विश्लेषण*, पुणे, शुभदा सारस्वत प्रकाशन.
9. इनामदार ना.र आणि पुराणिक सू. ना. *राजकीय समाजशास्त्र*, पुणे, शुभदा सारस्वत प्रकाशन.
10. गर्दे दि. का. आणि बाचल वि. मा, १९७९, *आधुनिक राजकीय विश्लेषण*, पुणे, कॉनटीनेंटल.
11. Lipset, Seymour M., 1960, *Political Man*, New York, Vakils, Feffer & Simons.
12. नवलगुंदकर शं. ना, १९७९, *आधुनिक राजकीय विश्लेषण*, पुणे, नरेंद्र प्रकाशन.
13. पाटील वा.भा., २००९, *पंचायती राज*, जळगाव, प्रशांत प्रकाशन.
14. Pye Lucian and Verba S(ed), 2016, *Political Culture & Political Development*, New Jersey Princeton University.
15. Rush Michael and Althoff Phillip, 1971, *An Introduction to Political Sociology*, London, Nelson.
16. Rowe Eric, 1970, *Modern Politics: An Introduction to Behaviour and Institutions*, London, Routledge & Kegan Paul.
17. Varma S. P., 1975, *Modern Political Theory*, Delhi, Vikas Publication.

Savitribai Phule Pune University

T.Y.B.A. Political Science

(CBCS pattern to be implemented from 2021-2022)

Core Courses (C.C.)

LOCAL SELF GOVERNMENT IN MAHARASHTRA

Objectives:

1. To introduce the evolution of Local Self Government in Maharashtra
2. To make students aware about 73rd and 74th Constitutional Amendments
3. To introduce the students the structure of Local Self Government
4. To make students aware about composition, power and functions of local bodies

SEMESTER-V

CC-1 E (3)

	PERIOD
Unit 1: Evolution of Local Self Government	12
a. Background of Panchayati Raj in British Era	
b. Community Development Program – 1952	
c. Balavantrao Mehta Committee – 1957	
Unit 2: Various committees of Local Self Government in Maharashtra	12
a. Vasant Rao Naik Committee – 1960	
b. L. N. Bongirwar Committee – 1970	
c. P. B. Patil Committee – 1985	
Unit 3: 73 rd Amendment and Rural Bodies	12
a. Background of 73 rd Constitutional Amendment	
b. Constitutional change in Article 243	
c. Gram Sabha & Gram Panchayat	
Unit 4: 73 rd Constitutional Amendment and Rural Bodies	12
a. Panchayat Samiti	
b. Zilha Parishad	
c. Schedule XI In Constitution	

SEMESTER-VI

CC-2 E (3)

Unit 1: 74 th Constitutional Amendment and Urban Bodies	12
a. Urban Bodies before 74 th Constitutional Amendment	
b. Constitutional change in Article 243	
c. Nagar Panchayat	
Unit 2: 74 th Constitutional Amendment and Urban Bodies	12
a. Municipal Council	
b. Municipal Corporation	
c. Schedule XII In Constitution	
Unit 3: Commissions about Local Self Government	12
a. State Election Commission	
b. State Finance Commission	
c. Challenges before Commission	
Unit 4: Future of Local Self Government	12
a. Control on Local Self Government	
b. Limitations of Local Self Government	
c. Challenges before Local Self Government	

Readings:

1. Avasti A., (ed), 1972, *Municipal Corporation In India*, Agra, L.N. Agarwal.
2. आवाळे मनोज, २०१२, *पंचायत राज*, पुणे, आदिश्रेय प्रकाशन.
3. बंग के. आर., २००५, *भारतातील स्थानिक स्वराज्य संस्था महाराष्ट्राच्या विशेष संदर्भासह*, नागपूर, मंगेश प्रकाशन.
4. बिराजदार टी. एस. व शरद घोडके, १९९९, *भारतातील स्थानिक स्वराज्य संस्था*, नागपूर, अंशुल प्रकाशन.
5. भणगे रविंद्र, २०१२, *भारतातील स्थानिक स्वराज्य संस्था, विशेष संदर्भ*, महाराष्ट्र, जळगाव, प्रशांत पब्लिकेशन्स.

6. खांदवे एकनाथ, २०१३, महाराष्ट्राचे शासन आणि राजकारण, दिल्ली, पिअरसन प्रकाशन.
7. कारेकर शोभा आणि शरद घोडके, २००४, शासन आणि राजकारण, नागपूर, विद्या प्रकाशन.
8. कुलकर्णी अ. ना., २०००, भारतातील स्थानिक स्वशासन महाराष्ट्राच्या विशेष संदर्भासह, नागपूर, विद्या प्रकाशन.
9. माहेश्वरी एस. आर., २००६, भारत में स्थानीय शासन, आगरा, लक्ष्मी नारायण अग्रवाल.
10. Maheshwari S. R., 1972, *Local self Government in India*, Delhi, Orient Longmen.
11. नलावडे पंडित, २००८, सत्ता विकेंद्रीकरण आणि 73 वी घटनादुरुस्ती, औरंगाबाद, विन्मय प्रकाशन.
12. पाटील बी. बी., २००५, शासन आणि राजकारण, कोल्हापूर, फडके प्रकाशन.
13. पोले कांतराव, २००९, महाराष्ट्रातील पंचायतीराज आणि महिला आरक्षण, लातूर, अरुणा प्रकाशन.
14. Sharma M.P., 1978, *Local Self Government in India*, New Delhi, Manshiram Manoharlal.
15. शिरसाठ श्याम आणि भगवानराव बैनाडे, २०१४, पंचायतराज आणि नागरी प्रशासन, औरंगाबाद, विद्या बुक्स.
16. ठोंबरे सतीश, २००७, जिल्हा प्रशासन आणि स्थानिक स्वशासन, औरंगाबाद, कैलाश प्रकाशन.
17. Venkatesan V., 2002, *Institutionalizing Panchayati Raj in India*, New Delhi, Institute of Social Science.
18. विभूते भालबा, २००१, पंचायती राज्य व्यवस्था, मुंबई, मनोविकास प्रकाशन.

Savitribai Phule Pune University
T.Y.B.A. Political Science
(CBCS pattern to be implemented from 2021-2022)
DISCIPLINE SPECIFIC ELECTIVE COURSE
PUBLIC ADMINISTRATION

Objectives:

This paper is an introductory course in Public Administration. The essence of Public Administration lies in its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of community living. The paper covers personnel public administration in its historical context thereby proceeding to highlight several of its categories, which have developed administrative salience and capabilities to deal with the process of change. The recent developments and particularly the emergence of New Public Administrations are incorporated within the larger paradigm of democratic legitimacy. The importance of legislative and judicial control over administration is also highlighted

SEMESTER-V

DSE 1 C (3)+1

	PERIOD
Unit 1: Public Administration	12
a) Meaning	
b) Nature	
c) Scope and Significance	
Unit 2: New Public Administration	12
a) Evolution	
b) Salient Features	
c) Goals	
Unit 3: Approaches to Public Administration	12
a) Traditional Approach	
b) Behavioral Approach	
c) System Approach	

Unit 4: Governance	12
a) Idea of Good Governance	
b) E-Governance	
c) Public Private Partnership	

SEMESTER-VI

DSE 1 D (3)+1

Unit 1: Bureaucracy	12
a) Meaning and Definitions	
b) Administrative Reforms	

Unit 2: Personnel Administration	12
a) Recruitment	
b) Training	
c) Promotion	

Unit 3: Budgeting	12
a) Meaning and types and Principles of sound Budget	
b) Budgetary Process in India	
c) Gender Budgeting	

Unit 4: Accountability and Control	12
a) Administrative Accountability	
b) Legislative Control	
c) Judicial Control	

Readings:

1. Avasthi Amreshwar and Maheshwari Shriram, 1982, *Public Administration*, Agra, Lakshmi Narran Aggrawal.
2. बेनके सुवर्णा , २०१५ , *लोकप्रशासन*, जळगाव, प्रशांत पब्लिकेशन्स.
3. Bhagwan Vishnu and Bhushan Vidya, 2007, *Public Administration*, New Delhi, S Chand and Company Ltd.

4. भोगले शांताराम २००६, *लोकप्रशासनाचे सिद्धांत आणि कार्यपद्धती*, औरंगाबाद, कैलास प्रकाशन.
5. D. Waldo (ed), 1953, *Ideas and Issues in Public Administration*, New York, McGraw Hill.
6. D. D. Basu, 1986, *Administrative Law*, New Delhi, Prentice Hall.
7. दर्शनकार अर्जुन, २०००, *पंचायती राज आणि नागरी प्रशासन*, औरंगाबाद, कैलास प्रकाशन.
8. E. N. Gladden, 1958, *The Essentials of Public Administration*, London, Staples Press.
9. M. Bhattacharya, 1991, *Public Administration: Structure, Process and Behavior*, Calcutta, The World Press.
10. M. E. Dimock and G. O. Dimock, 1975, *Public Administration*, Delhi, Oxford, IBH Publishing Co.
11. M Laxmikanth, 2012, *Public Administration*, New Delhi, McGraw Hill.
12. N. D. White, 1955, *Introduction to the Study of Public Administration* New York, Macmillan.
13. O. Glenn Stahl, 1956, *Public Personnel Administration*, New York, Harper & Brothers.
14. P. H. Appleby, 1957, *Policy and Administration*, Alabama, University of Alabama Press.
15. पाटील बी.बी., २००४, *लोकप्रशासन*, कोल्हापूर, फडके प्रकाशन.
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Savitribai Phule Pune University
T.Y.B.A. Political Science
(CBCS pattern to be implemented from 2021-2022)
DISCIPLINE SPECIFIC ELECTIVE COURSE
INTERNATIONAL RELATIONS

Objectives:

This paper deals with concepts and dimensions of International Relations and makes an analysis of different theories highlighting the major debates and differences within the different theoretical paradigms. The dominant theories of power and the question of equity and justice, the different aspects of balance of power leading to the present situation of a unipolar world are included. It's highlights various aspects of conflict and conflicts resolution, collective security and in the specificity of the long period of the post second world war phase of the cold war, of Detent and Deterrence leading to theories of rough parity in armaments.

SEMESTER-V

DSE 2 C (3)+1

	PERIOD
Unit 1: Introduction to International Relations	12
a) Development and Meaning	
b) Nature	
c) Scope	
Unit 2: Approaches to International Relations	12
a) Idealism	
b) Realism – Neo realism	
c) System approach	
d) Marxism	
Unit 3: World War II and the Cold War	12
a) Causes and Consequences of the world war II	
b) Emergence of the cold war and its phase	
c) End of cold war and the emerging world order	

Unit 4: International Organizations **12**

- a) The United Nations - its structure and peacekeeping Functions- Reforms of UN
- b) International Financial institutions : World Bank, IMF, WTO
- c) Regional Organizations : EU, SAARC, ASEAN, BRICS

SEMESTER-VI

DSE 2 D (3)+1

Unit 1: The Theory of Non-Alignment **12**

- a) Meaning and basic principles of Non-Alignment
- b) Emergence of Non-Alignment
- c) Non-Alignment as a Movement
- d) Relevance of NAM In Post cold war period

Unit 2: Globalization **12**

- a) Meaning of Globalization
- b) Evolution and Impacts of Globalization
- c) Limits of Globalization
- d) Role of The state

Unit 3: International Political Economy **12**

- a) Neo-Colonialism
- b) New International Economic Order
- c) North-South Divide
- d) South-South Co-operation

Unit 4: Contemporary Global Issues **12**

- a) International Terrorism
- b) Environmental Issues
- c) Poverty, Development and Hunger
- d) **Human Rights**

Readings:

1. Annek Chaterjee, 2012, *International Relations Today: Concepts and Applications*, New Delhi, Pearson.
2. Awari Vilas, 2020, *India's Foreign Policy*, Kanpur, Garima publication.
3. Awari Vilas, 2019, *International relations*, Kanpur, Chandralok Publications.
4. Bhange C. B., Ajay kumar and Arvind Kumar (ed), 2013, *South Asia Peace And Security Challenges*, New Delhi, Bharati publications.
5. Bhange C. B., 2019, *Indian Foreign Policy: Security and Economic Issues*, New Delhi, Bharati publications.
6. Bhange C. B., Ajay kumar and Arvind Kumar (ed), 2007, *Theories Of International Politics*, New Delhi, Bharati publications.
7. भांगे सी.बी., *भारतीय विदेश नीती का बदलता सुरक्षा परिदृश्य*, नई दिल्ली, भारती प्रकाशन.
8. Brown Chris and Ainley Hirstein, 2009, *Understanding International Relations*, New York, Palgrave.
9. Burchill, Scott et al, 2009, *Theories of International Relations*, New York, Palgrave.
10. Calvocoressi peter, 1977, *World Politics Since 1946*, New York, Longmen.
11. Chan Stephen and Cerwyn Moore (ed), 2006, *Theories of International Relations Vol 1 to 5*, London, Sage.
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13. Jeffrey Haynes, 2014, *An Introduction to International Relation and rligin*, New York, Routledge.
14. Johari J.C, 1997, *International Relations and Politics : Theoretical perspective*, New Delhi, Sterling Publishers.
15. पेंडसे अरुणा आणि सहस्रबुद्धे उत्तरा, २००८, *आंतरराष्ट्रीय संबंध : शीत युद्धानंतरचे आणि जागतिक राजकारण*, मुंबई, ओरीएंट लॉगमन.
16. Perkins Perkins, 1985, *International Relations*, Delhi, CBS Publishers and Distributers.
17. Ray K Ashwini, 2004, *Western Realism and International Relations – A Non Western View*, Delhi Foundation.
18. रायपूरकर वसंत, २०१६, *आंतरराष्ट्रीय संबंध*, पुणे, मंगेश प्रकाशन.
19. तोडकर बी.डी., २०१२, *आंतरराष्ट्रीय संबंध महत्वाच्या संकल्पना*, मुंबई महाराष्ट्र, डायमंड पब्लिकेशनस.
20. Sen Asit Kumar, 1995, *International Relations: Since world war I*, New Delhi, S. Chand &Company Ltd.

SKILL ENHANCEMENT COURSE (SEC)

(Value/Skill Based Course)

**Savitribai Phule Pune University
Political Science
Syllabus of T.Y.B.A. (Extra Credit)
Value/Skill Based Course**

Samyukta Maharashtra Movement

Objectives:

1. This Course is an introduction to the political process in Maharashtra with special reference to regionalism sub-regionalism and Samyukta Maharashtra Movement.
2. The aim of the course is that students are expected to understand both the historical evolution of Maharashtra's politics and different analyses of politics of the state.
3. It tries to acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the concept of colonialism, nationalism and modernity.

SEMESTER – V

SEC-2C(2)

UNIT - I

1. Regional Aspirations in India

- a. Concept of Regionalism: Its Nature
- b. Genesis of Regionalism in India
- c. Indian National Congress and Regionalism

UNIT - II

2. Samyukta Maharashtra Movement - I

- a. Emergence and Development of Regional Consciousness in Maharashtra
- b. Preferential Treatment for the 'Sons of Soil'
- c. Difficulties in the Formation of Samyukta Maharashtra

Readings:

1. बोकील नीता, २०१२, *महाराष्ट्राचा राजकीय इतिहास- १९६० ते १९७२*, मुंबई, मौज प्रकाशन.
2. घारे गोविंद, २०००, *आदिवासी समस्या आणि बदलते संदर्भ*, पुणे, सुगावा प्रकाशन.
3. कांबळे बाळ, २०१७, *भारतातील छोट्या राज्यांची मागणी*, नांदेड, अनुराधा प्रकाशन.
4. Jain V. Ashok, 1999, *Political Process in Maharashtra*, Mumbai, Sheth Publishers Pvt.Ltd.
5. Jayachandran Usha(eds.), 2014, *Human Development Report, Maharashtra 2012: Toward Inclusive Human Development*, New Delhi, Sage.
6. Kamble Bal, 2015, *Performance Of Scheduled Caste MLAs in Maharashtra Vidhan Sabha*, Nanded, Anuradha Publication.
7. Lele Jayant, 1982, *Elite Pluralism and Class Rule, Political Development in Maharashtra*, Mumbai, Popular.
8. पळशीकर सुहास आणि नितीन बिरमल(संपा.), २००२, *महाराष्ट्राचे राजकारण : राजकीय प्रक्रियेचे स्थानिक संदर्भ*, पुणे, प्रतिमा प्रकाशन.
9. Palshikar Suhas and Rajeshwari Deshpande, 1999, *Maharashtra: Electoral Politics and Structures of Domination*, Pune, Dept. of Politics and Public Administration, University of Pune.
10. पळशीकर सुहास आणि कुलकर्णी सुहास(संपा.), २००७, *महाराष्ट्रातील सत्ता संघर्ष : राजकीय पक्षांची वाटचाल*, पुणे, समकालीन प्रकाशन.
11. पवार प्रकाश, २००९, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
12. पवार प्रमोद, कांबळे बाळ आणि इतर(संपा.), २०१९, *महाराष्ट्रातील स्थित्यंतरे*, जळगाव, अथर्व प्रकाशन.
13. पवार वैशाली, २०१२, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
14. Phadk Y. D., 1979, *Politics and Language*, Mumbai, Himalaya Publishing House.
15. Thakkar Usha and Kulkarni Mangesh, 1995, *Politics in Maharashtra*, Mumbai, Himalaya Publishing House.

Savitribai Phule Pune University
Political Science
Syllabus of T.Y.B.A. (Extra Credit)
Value/Skill Based Course

Samyukta Maharashtra Movement

Objectives:

1. This Course is an introduction to the political process in Maharashtra with special reference to regionalism sub-regionalism and Samyukta Maharashtra Movement.
2. The aim of the course is that students are expected to understand both the historical evolution of Maharashtra's politics and different analyses of politics of the state.
3. It tries to acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the concept of colonialism, nationalism and modernity.

SEMESTER – VI

SEC-2D(2)

UNIT - I

1. Samyukta Maharashtra Movement - II

- a. Rethinking on the Bilingual Bombay state
- b. Formation of the Samyukta Maharashtra
- c. The aftermath of the formation of Samyukta Maharashtra

UNIT - II

2. Emergence of Sub-Regionalism in Maharashtra

- a. Regional Imbalance and Regional Development Boards
- b. Seperate Vidarbha State
- c. Marathwada Vikas Andolan

Readings:

1. बोकील नीता, २०१२, महाराष्ट्राचा राजकीय इतिहास- १९६० ते १९७२, मुंबई, मौज प्रकाशन.
2. घारे गोविंद, २०००, आदिवासी समस्या आणि बदलते संदर्भ, पुणे, सुगावा प्रकाशन.
3. कांबळे बाळ, २०१७, भारतातील छोट्या राज्यांची मागणी, नांदेड, अनुराधा प्रकाशन.
4. Jain V. Ashok, 1999, *Political Process in Maharashtra*, Mumbai, Sheth Publishers Pvt.Ltd.

5. Jayachandran Usha(eds.), 2014, *Human Development Report, Maharashtra 2012: Toward Inclusive Human Development*, New Delhi, Sage.
6. Kamble Bal, 2015, *Performance Of Scheduled Caste MLAs in Maharashtra Vidhan Sabha*, Nanded, Anuradha Publication.
7. Lele Jayant, 1982, *Elite Pluralism and Class Rule, Political Development in Maharashtra*, Mumbai, Popular.
8. पळशीकर सुहास आणि नितीन बिरमल(संपा.), २००२, *महाराष्ट्राचे राजकारण : राजकीय प्रक्रियेचे स्थानिक संदर्भ*, पुणे, प्रतिमा प्रकाशन.
9. Palshikar Suhas and Rajeshwari Deshpande, 1999, *Maharashtra: Electoral Politics and Structures of Domination*, Pune, Dept. of Politics and Public Administration, University of Pune.
10. पळशीकर सुहास आणि कुलकर्णी सुहास(संपा.), २००७, *महाराष्ट्रातील सत्ता संघर्ष : राजकीय पक्षांची वाटचाल*, पुणे, समकालीन प्रकाशन.
11. पवार प्रकाश, २००९, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
12. पवार प्रमोद, कांबळे बाळ आणि इतर(संपा.), २०१९, *महाराष्ट्रातील स्थित्यंतरे*, जळगाव, अथर्व प्रकाशन.
13. पवार वैशाली, २०१२, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
14. Phadk Y. D., 1979, *Politics and Language*, Mumbai, Himalaya Publishing House.
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SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

T. Y. B. A. Public Administration Syllabus

(CREDIT & SEMESTER SYSTEM)

**Revised syllabus will be implemented with effect from the
academic year 2021-2022 at College Centers**

Savitribai Phule Pune University

PUBLIC ADMINISTRATION

Syllabus of T.Y.B.A.

(CBCS pattern to be implemented from 2021-2022)

PAPER NO.	PAPER TITLE
CORE COURSES (C.C.):	
Semester V CC-1 E (3)	PUBLIC ADMINISTRATION
And	
Semester VI CC-2 E (3)	PUBLIC ADMINISTRATION
	OR
Semester V CC-1 E (3)	LOCAL SELF GOVERNMENT IN INDIA
And	
Semester VI CC-2 E (3)	LOCAL SELF GOVERNMENT IN INDIA

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE)

Semester V DSE 1 C (3)+1	FINANCIAL ADMINISTRATION
And	
Semester VI DSE 1 D (3)+1	FINANCIAL ADMINISTRATION
Semester V DSE 2 C (3)+1	ADMINISTRATIVE THINKERS
And	
Semester VI DSE 2 D (3)+1	ADMINISTRATIVE THINKERS

SKILL ENHANCEMENT COURSE (SEC)
(Value / Skill Based Course)

Semester V SEC 2C (2)	SAMYUKTA MAHARASHTRA MOVEMENT
Semester VI SEC 2D (2)	SAMYUKTA MAHARASHTRA MOVEMENT

Savitribai Phule Pune University
T.Y.B.A. Public Administration
((CBCS pattern to be implemented from 2021-2022))
Core Courses (C.C.)
PUBLIC ADMINISTRATION

Objectives:

This paper is an introductory course in Public Administration. The essence of Public Administration lies in its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of community living. The paper covers personnel public administration in its historical context thereby proceeding to highlight several of its categories, which have developed administrative salience and capabilities to deal with the process of change. The recent developments and particularly the emergence of New Public Administrations are incorporated within the larger paradigm of democratic legitimacy. The importance of legislative and judicial control over administration is also highlighted

SEMESTER-V
CC-1 E (3)

	PERIOD
Unit 1: Public Administration	12
a) Meaning	
b) Nature	
c) Scope and Significance	
Unit 2: New Public Administration	12
a) Evolution	
b) Salient Features	
c) Goals	
Unit 3: Approaches to Public Administration	12
a) Traditional Approach	
b) Behavioral Approach	
c) System Approach	

Unit 4: Governance	12
a) Idea of Good Governance	
b) E-Governance	
c) Public Private Partnership	

SEMESTER-VI
CC-2 E (3)

Unit 1: Bureaucracy	15
a) Meaning and Definitions	
b) Administrative Reforms	

Unit 2: Personnel Administration	15
a) Recruitment	
b) Training	
c) Promotion	

Unit 3: Budgeting	15
a) Meaning and types and Principles of sound Budget	
b) Budgetary Process in India	
c) Gender Budgeting	

Unit 4: Accountability and Control	15
a) Administrative Accountability	
b) Legislative Control	
c) Judicial Control	

Readings:

1. Avasthi Amreshwar and Maheshwari Shriram, 1982, *Public Administration*, Agra, Lakshmi Narran Aggrawal.
2. बेनके सुवर्णा , २०१५ , लोकप्रशासन, जळगाव, प्रशांत पब्लिकेशन्स.

3. Bhagwan Vishnu and Bhushan Vidya, 2007, *Public Administration*, New Delhi, S Chand and Company Ltd.
4. भोगले शांताराम २००६, *लोकप्रशासनाचे सिद्धांत आणि कार्यपद्धती*, औरंगाबाद, कैलास प्रकाशन.
5. D. Waldo (ed), 1953, *Ideas and Issues in Public Administration*, New York, McGraw Hill.
6. D. D. Basu, 1986, *Administrative Law*, New Delhi, Prentice Hall.
7. दर्शनकार अर्जुन, २०००, *पंचायती राज आणि नागरी प्रशासन*, औरंगाबाद, कैलास प्रकाशन.
8. E. N. Gladden, 1958, *The Essentials of Public Administration*, London, Staples Press.
9. F. A. Nigro and L.S. Nigro, 1984, *Modern Public Administration*, New York, Harper and Row.
10. M. Bhattacharya, 1991, *Public Administration: Structure, Process and Behavior*, Calcutta, The World Press.
11. M. E. Dimock and G. O. Dimock, 1975, *Public Administration*, Delhi, Oxford, IBH Publishing Co.
12. M Laxmikanth, 2012, *Public Administration*, New Delhi, McGraw Hill.
13. N. D. White, 1955, *Introduction to the Study of Public Administration* New York, Macmillan.
14. O. Glenn Stahl, 1956, *Public Personnel Administration*, New York, Harper & Brothers.
15. P. H. Appleby, 1957, *Policy and Administration*, Alabama, University of Alabama Press.
16. पाटील बी.बी., २००४, *लोकप्रशासन*, कोल्हापूर, फडके प्रकाशन.
17. S. R. Maheshwari, 1994, *Administrative Theories*, New Delhi, Allied.
18. S. R. Nigam, 1980, *Principles of Public Administration*, Allahabad, Kitab Mahal.

Savitribai Phule Pune University
T.Y.B.A. Public Administration
((CBCS pattern to be implemented from 2021-2022))
Core Courses (C.C.)

LOCAL SELF GOVERNMENT IN INDIA

Objectives:

1. To acquaint the students with the Objectives, Structure and Functions of Local Government.
2. To acquaint the students with the working of the urban and rural system of Local Government.
3. To identify the role of Local Government in development.

SEMESTER-V

CC-1 E (3)

	PERIOD
Unit-1: - Local Government: Evolution	12
a) Meaning, Nature, importance and scope of Local government.	
b) Evolution of Local Government: Urban and Rural.	
c) Changing features of Local Government	
Unit-2: - Urban Local Government	12
a) Evolution of Urban Local Government till 74th Constitutional Amendment.	
b) Municipal Corporation: Structure, Functions and Finances.	
Unit-3: - Urban Local Government (Continued)	12
a) Municipal Council: Structure, Functions and Finances.	
b) Cantonment Boards: Structure, Functions and Finances	
Unit-4: - Control and Problems of Urban Government	12
a) State Government: Divisional Commissioner and District Collector.	
b) Problems of Urbanization.	

SEMESTER-VI

CC-2 E (3)

Unit-5: - Democratic Decentralization **12**

- a) Evolution of Panchayat Raj Institution till 73rd and 74th Constitutional Amendment
- b) Zilla Parishad and Panchayat Samiti: Structure, Functions and Finances.

Unit-6: - Democratic Decentralization (Continued) **12**

- a) Gram Panchayat and Gram Sabha: Structure, Functions and Finances.
- b) Relations between officials and non-officials.

Unit-7: - Role of Panchayat Raj Institutions in Development. **12**

- a) Role in Democratization.
- b) Role in Social Change: Empowerment of the weaker sections.

Unit-8: - Panchayat Raj Institution: Problems and Control **12**

- a) State Government: District Collector
- b) Chief Executive Officers of Zilla Parishad, Block Development Officer(BDO)
- c) Problems: Rural-Urban Divide.

Readings:

1. Avasthi A.(ed), 1972, *Municipal Administration in India*, Agra, Lakshmi Narayan Aggarwal.
2. Battacharya, B., 1979, *Urban Development in India*, Delhi Shree Publishing House.
3. भोगले शांताराम, 1990, *भारतातील स्थानिक प्रशासन*, नागपूर, विद्या प्रकाशन.
4. दर्शनकार अर्जुन, 1992, *पंचायतराज आणि नागरी प्रशासन*, औरंगाबाद, कैलास पब्लिकेशन.
5. Gandhi M.K. 1959, *Panchayati Raj*, Ahmadabad, Navjeevan Publishing House.
6. Jackson R.M., 1967, *The Machinery of Local Government*, London, Macmillan.
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14. Sharma Harishchander, 2006, *Local Administration in India (Hindi)*, Jaipur, College Book Depot.
15. Sachdeva, Pradeep, 1993, *Urban Local Government and Administration in India*, New Delhi, Kitab Mahal.
16. Singh Sahab and Singh Swinder, 1992, *Public Administration Development and Local Administration*, Jalandhar, New Academic Publishing Company.
17. Singh Viday Karan, 2003, *Panchayati Raj System (Hindi)*, Jaipur, RBMA Publishers.

Savitribai Phule Pune University
T.Y.B.A. Public Administration
(CBCS pattern to be implemented from 2021-2022)
DISCIPLINE SPECIFIC ELECTIVE COURSE
FINANCIAL ADMINISTRATION

Objectives:

1. To acquaint the students with the Objectives, Structure and Functions of Financial Administration
2. To acquaint the students with the working of the system of Financial Administration.
3. To identify the role of Financial Administration in Development.

SEMESTER-V

DSE 1 C (3)+1

	PERIOD
Unit 1: Financial Administration	12
a) Meaning ,Nature and Scope	
b) Importance of Financial Administration	
 Unit 2: Agencies of Financial Administration	 12
a) Legislature	
b) Executive	
c) Parliamentary Committees	
 Unit 3: Budget	 12
a) Meaning ,Types and Principles of Good Budgeting	
b) Budget as an instrument of Economic Policy	
c) Budget as a tool of Social and Economic Change	
 Unit 4: Budgetary Process	 12
a) Preparation of the Budget	
b) Enactment of Budget	
c) Execution of Budget	

SEMESTER-VI

DSE 1 D (3)+1

Unit 5: Comptroller and Auditor General of India	12
Powers and functions	
Unit 6: Finance Commission	12
Structure and functions	
Unit 7 Control over Financial Administration	12
a) Public Accounts Committee	
b) Estimate Committee	
c) Committee on Public Undertaking	
Unit 8: New Economic Policy and Financial Administration of India	12
a) Liberalisation	
b) Privatization	
c) Globalisation	

Readings:

1. Basu Rumki, 2012, *Public Administration: Concepts and Theories*, New Delhi, Sterling Publishers.
2. Bhattacharya Mohit, 2008, *New Horizons of Public Administration*, New Delhi, Jawahar Publishers and Distributors.
3. बंग के.आर., 2014, *कर्मचारी व वित्तीय प्रशासन*, औरंगाबाद, विद्या बुक्स पब्लिशर्स.
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9. Chakrabarty Bidyut, 2007, *Reinventing Public Administration: The India Experience*, New Delhi, Orient Blackswan.
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13. Medury Uma, 2010, *Public Administration in the Globalization Era*, New Delhi, Orient Blackswan.
14. पाटील पी.बी., २००२, लोकप्रशासन, कोल्हापूर, फडके प्रकाशन.

Savitribai Phule Pune University
T.Y.B.A. Public Administration
(CBCS pattern to be implemented from 2021-2022)
DISCIPLINE SPECIFIC ELECTIVE COURSE
ADMINISTRATIVE THINKERS

Objectives:

1. To acquaint the students with the main administrative ideas of major administrative thinkers;
2. To make the students aware of the contributions made by these thinkers to the administrative thinking.

SEMESTER-V

DSE - 2 C (3)+1

	PERIOD
Unit 1: Kautilya	12
a. Principles of Administration.	
b. Machinery of Administration	
c. Administrative Corruption.	
Unit 2: F.W. Taylor.	12
a. Concept and objectives of Scientific Management.	
b. Principles and Impact of Scientific Management.	
c. Critical Evaluation.	
Unit 3: Woodrow Wilson	12
a. Views on Administration.	
b. Dichotomy between Administration and Politics	
Unit 4: Max Weber	12
a. Views on Authority, Organisation and Legitimacy	
b. Weberian Model of Bureaucracy	

SEMESTER-VI

DSE - 2 D (3)+1

Unit 5: Karl Marx	12
a. Views on Bureaucracy –Nature, Characteristics	
b. Class Approach to Bureaucracy	
Unit 6: Pandit Jawaharlal Nehru	12
a. Views on Bureaucracy	
b. Decentralization	
c. Socialism and Administration	
Unit 7: Abraham Maslow	12
a. Views on Theory of Human Motivation.	
b. Need Hierarchy	
Unit 8: Peter Drucker	12
a. Management by Objectives	
b. New Public Management	
c. Knowledge Society and Knowledge Workers	

Readings:

1. Ali Shum Shum Nisa, 1984, *Eminent Administrative Thinkers*, New Delhi, Associated Publishing House.
2. Hooja Rakesh and Ramesh K. Arora (ed), 2007, *Administrative Theories, Approaches, Concepts and Thinkers in Public Administration*, Jaipur, Rawat Publications.
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9. Sharma Deepak, 1993, *Administrative Thought of Herbert A. Simon*, Delhi, Kalinga Publications.
10. Sharma Manoj, 2004, *Administrative Thinkers*, New Delhi, Anmol Publication.
11. Singh R. N., 1977, *Management Thought and Thinkers*, Delhi, Sultan Chand and Sons.

SKILL ENHANCEMENT COURSE (SEC)

(Value/Skill Based Course)

Savitribai Phule Pune University

Public Administration

Syllabus of T.Y.B.A. (Extra Credit)

Value/Skill Based Course

Samyukta Maharashtra Movement

Objectives:

1. This Course is an introduction to the political process in Maharashtra with special reference to regionalism sub-regionalism and Samyukta Maharashtra Movement.
2. The aim of the course is that students are expected to understand both the historical evolution of Maharashtra's politics and different analyses of politics of the state.
3. It tries to acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the concept of colonialism, nationalism and modernity.

SEMESTER – V

SEC-2C(2)

UNIT - I

1. Regional Aspirations in India

- a. Concept of Regionalism: Its Nature
- b. Genesis of Regionalism in India
- c. Indian National Congress and Regionalism

UNIT - II

2. Samyukta Maharashtra Movement - I

- a. Emergence and Development of Regional Consciousness in Maharashtra
- b. Preferential Treatment for the 'Sons of Soil'
- c. Difficulties in the Formation of Samyukta Maharashtra

Readings:

1. बोकील नीता, २०१२, *महाराष्ट्राचा राजकीय इतिहास- १९६० ते १९७२*, मुंबई, मौज प्रकाशन.
2. घारे गोविंद, २०००, *आदिवासी समस्या आणि बदलते संदर्भ*, पुणे, सुगावा प्रकाशन.
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4. Jain V. Ashok, 1999, *Political Process in Maharashtra*, Mumbai, Sheth Publishers Pvt.Ltd.
5. Jayachandran Usha(eds.), 2014, *Human Development Report, Maharashtra 2012: Toward Inclusive Human Development*, New Delhi, Sage.
6. Kamble Bal, 2015, *Performance Of Scheduled Caste MLAs in Maharashtra Vidhan Sabha*, Nanded, Anuradha Publication.
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8. पळशीकर सुहास आणि नितीन बिरमल(संपा.), २००२, *महाराष्ट्राचे राजकारण : राजकीय प्रक्रियेचे स्थानिक संदर्भ*, पुणे, प्रतिमा प्रकाशन.
9. Palshikar Suhas and Rajeshwari Deshpande, 1999, *Maharashtra: Electoral Politics and Structures of Domination*, Pune, Dept. of Politics and Public Administration, University of Pune.
10. पळशीकर सुहास आणि कुलकर्णी सुहास(संपा.), २००७, *महाराष्ट्रातील सत्ता संघर्ष : राजकीय पक्षांची वाटचाल*, पुणे, समकालीन प्रकाशन.
11. पवार प्रकाश, २००९, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
12. पवार प्रमोद, कांबळे बाळ आणि इतर(संपा.), २०१९, *महाराष्ट्रातील स्थित्यंतरे*, जळगाव, अथर्व प्रकाशन.
13. पवार वैशाली, २०१२, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
14. Phadk Y. D., 1979, *Politics and Language*, Mumbai, Himalaya Publishing House.
15. Thakkar Usha and Kulkarni Mangesh, 1995, *Politics in Maharashtra*, Mumbai, Himalaya Publishing House.

Savitribai Phule Pune University

Public Administration

Syllabus of T.Y.B.A. (Extra Credit)

Value/Skill Based Course

Samyukta Maharashtra Movement

Objectives:

1. This Course is an introduction to the political process in Maharashtra with special reference to regionalism sub-regionalism and Samyukta Maharashtra Movement.
2. The aim of the course is that students are expected to understand both the historical evolution of Maharashtra's politics and different analyses of politics of the state.
3. It tries to acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the concept of colonialism, nationalism and modernity.

SEMESTER – VI

SEC-2D(2)

UNIT - I

1. Samyukta Maharashtra Movement - II

- a. Rethinking on the Bilingual Bombay state
- b. Formation of the Samyukta Maharashtra
- c. The aftermath of the formation of Samyukta Maharashtra

UNIT - II

2. Emergence of Sub-Regionalism in Maharashtra

- a. Regional Imbalance and Regional Development Boards
- b. Seperate Vidarbha State
- c. Marathwada Vikas Andolan

Readings:

1. बोकील नीता, २०१२, महाराष्ट्राचा राजकीय इतिहास- १९६० ते १९७२, मुंबई, मौज प्रकाशन.
2. घारे गोविंद, २०००, आदिवासी समस्या आणि बदलते संदर्भ, पुणे, सुगावा प्रकाशन.
3. कांबळे बाळ, २०१७, भारतातील छोट्या राज्यांची मागणी, नांदेड, अनुराधा प्रकाशन.

4. Jain V. Ashok, 1999, *Political Process in Maharashtra*, Mumbai, Sheth Publishers Pvt.Ltd.
5. Jayachandran Usha(eds.), 2014, *Human Development Report, Maharashtra 2012: Toward Inclusive Human Development*, New Delhi, Sage.
6. Kamble Bal, 2015, *Performance Of Scheduled Caste MLAs in Maharashtra Vidhan Sabha*, Nanded, Anuradha Publication.
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8. पळशीकर सुहास आणि नितीन बिरमल(संपा.), २००२, *महाराष्ट्राचे राजकारण : राजकीय प्रक्रियेचे स्थानिक संदर्भ*, पुणे, प्रतिमा प्रकाशन.
9. Palshikar Suhas and Rajeshwari Deshpande, 1999, *Maharashtra: Electoral Politics and Structures of Domination*, Pune, Dept. of Politics and Public Administration, University of Pune.
10. पळशीकर सुहास आणि कुलकर्णी सुहास(संपा.), २००७, *महाराष्ट्रातील सत्ता संघर्ष : राजकीय पक्षांची वाटचाल*, पुणे, समकालीन प्रकाशन.
11. पवार प्रकाश, २००९, *महाराष्ट्राच्या सत्ता संघर्षाचा आलेख*, पुणे, डायमंड प्रकाशन.
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SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

T.Y.B.A. Social Work Syllabus
(Choice Based Credit System and Semester System)

**Implemented from Academic Year, 2021-22 at College
UG Centers**

T.Y.B.A. Social Work

G-3 (Indian Social Problems and Public Policy)

(Semester-IV)

Preamble :-

As a course ,in this paper, student is expected to understand the definition, nature and scope of Indian Social Problems and Public Policy. Method and approaches to the study of Introduction of Indian Social Problems .the chapter incorporated in to the study of social work.

Chapter wise classification of marks

Chapter No.	Title Of Chapter	Distribution of Marks
Semester:- V (Indian Social Problems)		
1	Social Problems	15
2	Sectarianism and Sectarian Violence	20
3	Naxalism	20
4	Corruption	15
Semester :- VI (Public Policy)		
1	Public Policy	15
2	Shaping of Public Policy	20
3	Public Policy in Action	20
4	Welfare Policies	15

Chapter wise Detailed Syllabus :-

Chapter No.	Title Of Chapter	No. of Lectures Allotted
Semester:- V (Indian Social Problems)		
1	Social Problems	10
	1.1 Meaning Nature and Definition	
	1.2 Causes of Social Problems	
	1.3 Characteristics of Social Problems	
2	Sectarianism and Sectarian Violence	12
	2.1 Meaning Nature and Definition	
	2.2 Consequences of the spread in India	
	2.3 Consequences of the sectarian violence in India	
	2.4 Religious dissent in India	
3	Naxalism	12
	3.1 Naxalism Concept	
	3.2 Features of Naxalism	
	3.3 Objectives Approach of Naxalism	
	3.4 Reasons for Naxalism	
4	Corruption	11
	4.1 Definition Meaning and Nature	
	4.2 Causes of Corruption	
	4.3 Measures to Corruption	
Semester VI (Public Policy)		
1	Public Policy	11
	1.1 Definition Meaning Nature	
	1.2 scope of Public policy	
2	Shaping of Public Policy	12
	2.1 Agenda	

	2.2 Public Formulation and adoption	
	2.3 Role of Legislature	
3	Public Policy in Action	12
	3.1 Implementation	
	3.2 Evolution	
	3.3 Bureaucracy	
4	Welfare Policies	10
	4.1 S.C.,S.T.,& O.B.C.,Polices	
	4.2 Women Policy	
	4.3 Youth Policy	

Reading Material :-

- 1) भारतीय सामाजिक समस्या-- प्रा.ए. वाय कोंडेकर, प्रा. विजय मारुलकर
- 2) भारतीय सामाजिक समस्या --प्रा .अनन्त वासुदेव वाईकर
- 3) भारतीय समाज आणि सामाजिक समस्या --रा.ज. लाटे
- 4) भारतीय समाज-श्यामाचरण दुबे
- 5) Rural Sociology A. R. Desai
- 6) Indian Social Problems Vol. I & II - G.R. Madan
- 7) Social Problems & Social Problems --B. Mohanrao
- 8) Public policy in India –Rajesh Chakarbarti and Sanyal Kaushiki
- 9) Public Policy Concept ,Theory and Practice – Chakarbarti Bidyut and Chanda Prakash
- 10) Understanding Public Policy—Dye Thomas
- 11) Sarvjanik Dhoran ---Prakash Pawar

Savitribai Phule Pune University

T.Y.B.A. Economics Revised Syllabus (*NEW*)

From 2015-16

Code No.	Title of the Paper
G. 3	Economic Development & Planning
S. 3	International Economics
S. 4	Elementary Quantitative Technique OR Public Finance

Savitribai Phule Pune University

T.Y. B.A. Economics

General Paper III

G.3 Economic Development & Planning

(From June 2015)

Revised Syllabus

PREAMBLE:

The Study of Economic Development has gained importance because of stained interest of the developing countries in uplifting their economic conditions by restructuring their economics to acquire greater diversity, efficiency and equity in Consonance with their priorities. While few success stories can be counted, many have grappled with chronic problems of narrow economic base, inefficiency and low standard of living. For this and other reasons, their have been many approaches to economic development. In recent times, besides hard core economic prescriptions to development, concern hitherto relegated to background, like education, health, sanitation and infrastructural development, have found place of pride in explaining the preference of various economies incorporated in this paper are devoted to the theories of economic development, approaches to economic development, social and institutional aspects of development, constraints on development process, macro economic policies, roll of foreign capital and economic planning etc. in developing countries.

Section I	Lectures
1. Economic Development and Growth	10
1.1 Meaning of Economic Development and Growth	
1.2 Indicators of Economic Growth	
1.3 Indicators of Economic Development	
1.4 Differences between Economic Development & Growth	
2. Developing Countries	14
2.1 Concept- Developed, Developing Countries	
2.2 Characteristics of Developing Countries	
2.2.1 Economic Characteristics	
2.2.2 Demographic Characteristics	
2.2.3 Technological Characteristics	
2.2.4 Socio - Cultural Characteristics	
2.2.5 Other Characteristics	
3. Constraints on Development Process	12
3.1 Vicious Circle of Poverty	
3.2 Population Explosion	
3.3 Low Productivity of Agriculture	

- 3.4 Scarcity of Capital
- 3.5 Inappropriate Technology
- 3.6 Socio- Cultural Constraints
- 3.7 Political and Administrative Constraints
- 3.8 External Bottleneck

4. Theories of Economic Development	12
4.1 Classical Theories- Adam Smith, Ricardo & Malthus	
4.2 Karl Mark's Theory of Economic Development	
4.3 Schumpeterian Theory of Economic Development	

Section II

5. Approaches to Economic Development	10
5.1 Big Push Theory	
5.2 Balanced Growth	
5.3 Imbalanced Growth	

6. Foreign Capital and Development	14
6.1 Meaning & Role of Foreign Capital in Economic Development	
6.2 Problems of Foreign Capital	
6.3 Private Foreign Investment- Types & Role	
6.4 Public Foreign Investment-Types	
6.5 Foreign Aid- Tide and Untied	

7. Macro Economic Policy	12
7.1 Monetary Policy- Objectives, Instruments and Limitations	
7.2 Fiscal Policy- Objectives, Instruments and Limitations	
7.3 Fiscal Policy in Cyclical Fluctuations	

8. Economic Planning	
8.1 Meaning & Definition	
8.2 Need of Planning	
8.3 Objective of Economic Planning- Economic, Social and Political	
8.4 Inclusive Growth Approach & 11 th five year plan	
8.5 National Institution for Transforming India Aayog (NITI AYOOG)	

Basic Reading List

- Adelman, I. (1961) Theories of Economic Growth and Development, Stanford University Press, Stanford.
- Behrman, S. and T.N Srinivrsan,(1995) Handbook of Development Economic, Vol. 1 to 3, Elsevire, Amsterdam,

- Chenery H. and T.N.Shrinivasan, (1989) Handbook of Development Economics Vo1&2, Elsevier. Amsterdam.
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- Meier, G.M. (1995) Leading Issue in Economic Development,6ed,Oxford University Press ,New Delhi,
- Todaro M.P. (1996) Economic Development (6th Edition) Lonman, london.

Additional Reading List

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- Zhingan M.L.(1982) The Economics Of Development and Planning. Vrindo Publication (P) Ltd.
- Mahata J.K.(1964) Economic of Growth, Asia.
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- Datir R.K.(2013) Vikas ani Paryavarniy Arthshastra, Nirali Prakashan, pune.
- World Bank, World Development Report -2001 to 2011.

Savitribai Phule Pune University

T.Y. B.A. Economics

Special Paper III

S.3 International Economics

(From June 2015)

Revised Syllabus

PREAMBLE

This course provides the students a thorough understanding and deep knowledge about the basic principles that tend to govern the free flow of trade in goods and services at the global level. The contents of the Paper spread over various modules, lay stress both on theory and applied nature of the subject that have registered rapid changes during the last decade. Besides this, the contents prepare the students to know the impact of free trade and tariffs on the different sectors of the economy as well as at the macro level. The students would also be well trained about the rationale of recent changes in the export import policies of India. This paper has become relatively more relevant from the policy point of view under the present waves of globalization and liberalization both in the North and in the South.

Section I	No of Lectures
1. Introduction	12
1.1 International economics- meaning, Scope & Importance	
1.2 Inter-regional and international trade	
1.3 Importance of International Trade	
2.Theories of International Trade	12
2.1 Theory of absolute cost advantage and comparative cost advantage	
2.2 Heckscher-Ohlin theory	
2.3 Leontief's paradox, Rybczynski theorem, Intra-Industry Trade	
3. Gains from Trade	12
3.1 Measurement of gains, static and dynamic gains	
3.2 Terms of trade – Importance, types and determinants	
3.3 Causes of unfavorable terms of trade to developing countries.	
4. Balance of Payments	12
4.1 Balance of trade and Balance of payments- Concepts and components	
4.2 Equilibrium and disequilibrium in balance of payments; causes and consequences	
4.3 Measures to correct deficit in the balance of payments	
Section II	
5. Trade policy & Exchange Rate	12
5.1 Free trade policy - case for and against	
5.2 Protection Policy – case for and against	
5.3 Types of tariffs and quotas	
5.4 Exchange rates-Fixed and flexible	

6. India's Foreign Trade and Policy	12
6.1 Growth of India's foreign trade	
6.2 Changes in the composition and direction of foreign trade since 2000-2001	
6.3 Foreign Trade policy 2015-2020.	
6.4 India and WTO	
7. Export Promotion measures	12
7.1 Export promotion - Contribution of SEZ	
7.2 Role of multinational corporations in India.	
7.3 FEMA-provisions and impact	
7.4 Convertibility of Indian rupee	
8. Regional and International Co-operation	12
Nature and Functions of-	
8.1 South Asian Association for Regional Co-operation (SAARC)	
8.2 Brazil, Russia, India, China and South Africa (BRICS)	
8.3 European Economic Community (EEC)	

BASIC READING LIST

1. Kenan, P.B. (1994), The International Economy, Cambridge University Press, London.
2. Kindlberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
3. Krugman, P.R. and M. Obstfeld (1994), International Economics : Theory and Policy, Glenview, Foresman.
4. Salvatore, D.L. (1997), International Economics, Prentice-Hall, Upper Saddle River, N.J.
5. Sodersten, Bo (1991), International Economics, Macmillan Press Ltd., London.
6. International Economics , M.L. Jhingan

ADDITIONAL READING LIST

1. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Mass.
2. Greenaway, D. (1983), International Trade Policy, Macmillan Publishers Ltd., London.
3. Joshi V. and I.M.D. Little (1998), India's Economic Reforms, 1999-2001, Oxford University Press, Delhi.
4. Panchmukhi, V.R. (1978), Trade Policies of India : A Quantitative Analysis, Concept Publishing Company, New Delhi.
5. Patel, S.J. (1995), Indian Economy Towards the 21st Century, University Press Ltd., India.
6. Misra and Puri, Indian Economy, Himalaya Publishing House
7. Dangat Nilesh (2015), 'International Economics' Success Publication, Pune.
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Savitribai Phule Pune University

T.Y. B.A. Economics

Special Paper IV

S.4 Elementary Quantitative Technique

(From June 2015)

Revised Syllabus

PREAMBLE

The main objective of this paper is to train the students to use the techniques of statistical analysis, which are commonly applied to understand and analyze economic problems. The emphasis of this paper is on understanding economic concepts with the help of statistical methods. Hence in this paper a student will be initiated into various economic concepts, which are amenable to statistical tools. The paper also deals with simple tools and techniques, which will help a student in data collection, presentation, analysis and drawing inferences about various statistical hypotheses.

Section I	No. of Lectures
1. Introduction to Statistics	12
1.1 Origin and Growth of Statistics	
1.2 Definition of Statistics	
1.3 Scope of Statistics	
1.4 Functions of Statistics	
1.5 Limitations of Statistics	
1.6 Basic concept of Population	
2. Collection of Data	18
2.1 Primary data and Secondary data	
2.2 Methods of Collecting Primary data	
2.3 Sources of Secondary data	
2.4 Methods of Sampling	
2.5 Classification of data	
2.6 Tabulation of data	
3 Measures of Central Tendency	18
3.1 Arithmetic Mean: Meaning, Merits and Demerits	
3.2 Computation of Arithmetic Mean - Individual, Discrete and Continuous series	
3.3 Median: Meaning, Merits and Demerits	
3.4 Calculation of Median - Individual, Discrete and Continuous series.	
3.5 Mode: Meaning, Merits and Demerits	
3.6 Calculation of Mode - Discrete and Continuous series	
3.7 Dispersion: Meaning	
3.8 Variation: Merits and Demerits	
3.9 Mean Deviation	
3.10 Standard Deviation	
3.11 Co-efficient	

Section II

4 Correlation	16
4.1 Meaning of correlation	
4.2 Significance of Correlation	
4.3 Types of correlation	
4.4 Karl Pearson's Coefficient of Correlation (Simple)	
5 Economics Application	16
5.1 Calculations of rate of interest	
5.2 Simple & compound rate of interest	
5.3 Construction of Index Number	
5.4 Concepts of slop	
5.5 Concept of equilibrium application to consumer surplus	
5.6 Application to elasticity of Demand	
5.7 relationship among total marginal & average functions	
5 Hypothesis	16
6.1 Definition of Hypothesis	
6.2 Formulation of Hypothesis	
6.3 Testing of Hypothesis - chi square test	

BASICREADING:

1. S. P. Gupta - Statistical Methods, Sultan Chand & Sons, New Delhi
2. Spiegel, M.R.-Theory and Problems of Statistics, McGraw Hill Book, London.
3. Gupta, S.C. and Kapoor V.K.-Fundamentals and Applied statistics, S. Chand & Sons; New Delhi.
4. Suklaand Gulshan - Statistics, S. Chand &Company Ltd., New Delhi
5. Shenoy, Srivastav and Sharma- Business Statistics, New Age International Publishers, Mumbai.
6. Elhance and Aggarwal- Fundamentals of Statistics, Kitab Mahal, Allahabad.
7. Pillai and Bagavathi- Statistics Theory and Practice, S. Chand & Company, New Delhi.
8. Y. R. Mahajan- Problems in Statistics, Pimpalpure and Company Publishers, Nagpur.
9. AllanR.G.D - MathematicalAnalysisofEconomistsMacmillanPress, London
- 10 BlackJ.&J.F.Bradley - EssentialMathematicsforEconomists,John Wileyand Sons
11. ChiangA.C.FundamentalMethodsofMathematics.McGrawHillNewDelhi
12. CroxtionF.D.-AppliedGeneralStatistics,Prenticehall,NewDe
13. डॉ .पुष्पा रानडे -गणिती तंत्रे आणि संशोधन पध्दती ,डायमंड प्रकाशन ,पुणे ,२०१०.
14. एस .एम .कोलते -सांखिकी तत्व आणि व्यवहार ,पिंपळापुरे अन्ड कंपनी ,नागपूर.
15. वाय .आर .महाजन -सांखिकी ,पिंपळापुरे अन्ड कंपनी ,नागपूर.

Savitribai Phule Pune University

T.Y. B.A. Economics
Special Paper IV
S 4. Public Finance

(From June 2015)
Revised Syllabus

PREAMBLE

Role and functions of the Government in an economy has been changing with the Passas of time. The term 'Public Finance' has traditionally been applied to the package of those policies and operations which involve the use of tax and expenditure measures while budgetary policy is an important part to understand the basic problems of use of resources, distribution of Income, etc. There are vast array of fiscal institutions -tax systems, expenditure programs budgetary procedures, stabilization instruments, debt issues, levels of government, etc., which Raise a spectrum of issues arising from the operation of these institutions. Further, the existence of externalities, concern for adjustment in the distribution of income and wealth, etc. require political processes for their solution in a manner which combines individual freedom and justice.

Section I		No of Lectures
1 Public Finance		10
1.1 The role of Government in an economy		
1.2 Meaning, Nature, Scope and Importance of Public Finance		
1.3 Private Finance and Public Finance		
1.4 Principle of Maximum Social Advantage- Dr. Dalton		
2. Public Expenditure		12
2.1 Meaning and Principle of Public Expenditure		
2.2 Classification of Public Expenditure		
2.3 Trends of Public Expenditure in India.		
2.4 Causes of increase in Public Expenditure		
2.5 Effects of Public Expenditure		
3. Public Revenue		14
3.1 Sources of Public Revenue		
3.2 Meaning and Objectives of Taxation		
3.3 Principles of taxation- Benefit approach, Ability to pay		
3.4 Concepts- Impact of Tax, incidence of Tax, Shifting of Tax and Taxable Capacity		
3.5 Indian Tax Structure- Direct and Indirect tax, Progressive, proportional and Regressive		
4. Public Debt		12
4.1 Meaning and types of Public Debt		
4.2 Sources of internal and external Public Debt		
4.3 Effects of Public Debt		
4.4 Methods of repayment		

Section II

5. Budget	12
5.1 Meaning, nature and objectives of Budget	
5.2 Types of Budget – Revenue, Capital, Surplus, Deficit and Balance Budget	
5.3 Preparation of Indian Central Budget	
5.4 Gender Budget	
6. Deficit Financing	12
6.1 Meaning, Objectives	
6.2 Need, Process and Causes	
6.3 Trends in India Deficit finance since 2001	
6.4 Effects of Deficit Financing	
7. Centre-State Financial Relationship	12
7.1 Constitutional Provisions	
7.2 Role and Working of finance Commission	
7.3 Recommendation of 13th and 14th finance Commission	
7.4 Centre- State Conflict	
8. Fiscal Policy	12
8.1 Meaning, Role and Objectives of Fiscal Policy	
8.2 Review of Indian Fiscal Policy since 2001	
8.3 Fiscal Policy in developing economy	
8.4 Limitations of Fiscal policy	

BASIC READING LIST

1. Jha R., (1998) Modern Public Economics, Routledge London
2. Bhargavre P.K., (1984) some Aspects of Indian Public Finance, Uppal Publishing House New Delhi.
3. Government of India (1985) Long Term Fiscal Policy, New Delhi.
4. Government of India (1992) Reports of the tax Reforms committee- interim and Final, (chairman: Raja J. Chelliah).
5. Srivastava, D.K., (Ed) (2000) Fiscal Federalism in India, Har-Anand Publication, Ltd. New Delhi.
6. Datt R., (2001), second Generation Economics Reforms in India, Deep and Deep Publications, New Delhi
7. Bhatia H.L. (1984) Public Finance, Vikas Publishing House Pvt.Ltd. New Delhi

ADDITIONAL READING LIST:-

1. Musgrave and Musgrave, (1989) Public Finance in Theory and Practice Mc Graw- Hill International Edition
2. Tyagi B.P., (1992-93), Public Finance, jai Prakash Nath Co. Meerat, U.P.
3. Datta / Sundaram (2009), Indian Economy S.Chand And Co. Ltd New Delhi.
4. Rasal Rajendra (2015), 'Public Finance'(Marathi Edition), Success Publication, Pune



SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

T.Y.B.A. Economics Syllabus

(Choice Based Credit System and Semester System)

**Revised Syllabus will be implemented with effect from the
academic year 2021-2022**

T.Y.B.A. Economics

(Sem V & VI)

Semester	Paper Name	Subject Code	Title of the Paper
V	Economics General - III		Indian Economic Development- I
	Economics Special - III		International Economics-I
	Economics Special - IV		Public Finance- I
	Skill Enhancement Course (SEC-3A)		Business Management- I
VI	Economics General - III		Indian Economic Development- II
	Economics Special - III		International Economics- II
	Economics Special - IV		Public Finance- II
	Skill Enhancement Course (SEC-3A)		Business Management- II (Project Report)

T.Y.B.A. Economics
General Paper-III: Indian Economic Development-I
(Course Code:)
Semester V

Preamble:

The course will be useful for learners aiming towards careers in the government sector, policy analysis and the social sector. This course would take an overview of aspects of economic development with special reference to India.

The course aims to introduce the learner to the main concepts in economic and human development, equip them compare and contrast different economies: recognize various indicators of economic and human development. The course will also provide a broad outline of the Sustainable Development Goals.

Course Learning Outcomes

At the end of the course the learner will have ability -

- To relate and recognize the concept and indicators of Economic Development.
- To describe and analyze the concept and indicators of Human Development.
- To explain the characteristics of Developing and Developed Countries.
- To describe the constraints to the process of Economic Development.

Unit No.	Name and Sub Titles of the Topic	No. of Lectures
1	Economic Development and Growth	10
	1.1 Economic Development: Meaning, Definition and Indicators	
	1.2 Economic Growth: Meaning, Definition and Indicators	
	1.3 Need and Importance of Economic Development	
2	Developed and Developing Countries	14
	2.1 Concepts of Developed and Developing Countries	
	2.2 Characteristics of Developed Countries	
	2.3 Characteristics of Developing Countries : Economic, Demographic, Technological, Social and Political	
	2.4 India as an Emerging Economy	
3	Constraints to Development Process	12
	3.1 Vicious Circle of Poverty	
	3.2 Capital Constraints	
	3.3 Technology Constraints	
	3.4 Socio- Cultural Constraints	
	3.5 Political and Administrative Constraints	
	3.6 External Bottlenecks	
4	Human Resources and Economic Development	12
	4.1 Role of Human Resources in Economic Development	
	4.2 Human Development Index and India	
	4.3 Concepts of Physical Quality of Life Index:	
	4.3.1 Gender Development Index 4.3.2 Gender Inequality Index 4.3.3 Multidimensional Poverty Index	

Recommended Books -

- Ragnar Nurkse, Problem of Capital Formation in Underdeveloped Countries.
- Sen Amartya (1970), Growth Economics, Penguin.
- Zhingan M.L.(1982), The Economics of Development and Planning. Vrinda Publication (P) Ltd.
- Adelman, I. (1961), Theories of Economic Growth and Development, Stanford University Press, Stanford.
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- Ghatak,S.(1986), An Introduction to Development Economics,Allen and Unwin, London,
- Ghosh. B.N.(1982) Economic Development and Planning National Book House.
- Grillis M., D H. Perkins, M.Romer and D.R.Snodgrass (1992) Economic of Development (3rdEdition) W.W.Norton, New York.
- Patil J.F.(2014),Growth And Development economics (Vruddhi Va Vikasache Airthshastra, Phadke Prakashan - Marathi Edition)
- Higgins, Benjamin. (1959) Economic Development, W.W.Norton , New York
- Jennifer A. Elliott, (2013), An Introduction to Sustainable Development (Fourth Edition), Routledge Publication, London and New York.
- Kindleberger C.P.(1977),Economic Development (3rd Edition) McGraw Hill, New York.
- Jagdish Bhagwati,The Economics Of Underdeveloped Countries.
- Mahata J.K.(1964) Economic of Growth, Asia.
- Meaer and Baldwin(1970) Economic Development, Asia .
- Mehata J.K.(1971) Economic Development , Chaitanya.
- Kute Santosh and Rithe (2019) ,Demography , Prashant Publication Jalgaon.
- Mishra &Puri, Development and Planning- Theory And Practice, Himalaya.
- Meier, G.M. (1995) Leading Issue in Economic Development,6ed,Oxford University Press ,New Delhi,
- Todaro M.P. (1996) Economic Development (6th Edition) Longman, London.
- UNDP, Human Development Report [Latest]
- World Development Reports
- India Development Reports

T.Y.B.A. Economics
General Paper- III: Indian Economic Development-II
(Course Code:)

Semester VI

Preamble:

This course would take an overview of the process of Economic Planning and the Development Goals. The course aims to introduce the learner to the main concepts in Economic Planning, equip them with understanding of the planning process in India and changing in recent times and familiarize them to the Sustainable Development Goals. The Course also reviews the relation between Economic Development and Environment.

Course Learning Outcomes

At the end of the course the learner will have ability-

- To describe and explain the process of Economic Planning.
- To describe and examine the changing structure of planning process in India.
- To describe and explain the relation between Economic Development and Environment.

Unit No.	Name and Sub Titles of the Topic	No. of Lectures
1	Economic Planning	12
	1.1 Economic Planning – Meaning, Definition and Features	
	1.2 Need of Economic Planning	
	1.3 Objectives of Economic Planning in India	
2	National Institution for Transforming India Aayog (NITI Aayog)	12
	2.1 NITI Aayog- Objectives and Structure	
	2.2 Role of NITI Aayog 2.3 Difference between Planning Commission and NITI Aayog	
3	Sustainable Development	12
	3.1 Sustainable Development : Meaning and Importance	
	3.2 17 SDGs (Sustainable Development Goals)	
	3.3 Measures for Sustainable Development 3.4 Current Scenario of SDG in India	
4	Environment and Economic Development	12
	4.1 Relation between Environment and Economic Development	
	4.2 Environment and Sustainable Development	
	4.3 Environmental Policies in India: 4.3.1 National Conservation Strategy (1992) - Highlights 4.3.2 National Environmental Policy (2006) - Highlights	
	4.4 Global Warming	

Recommended Books -

- Ragnar Nurkse, Problem of Capital Formation in Underdeveloped Countries.
- Sen Amartya (1970) Growth Economics, Penguin.
- Zinghan M.L. (1982) the Economics of Development and Planning. Vrinda Pub.(P) Ltd.
- Adelman, I. (1961) Theories of Economic Growth and Development, Stanford University Press, Stanford.
- Avhad Suhas (2015), 'Economics of Growth and Development' (Marathi Edition) Success Prakashan, Pune
- Behrman, S. and T.N.Srinivasan,(1995) Handbook of Development Economic, Vol. 1 to 3, Elsevier, Amsterdam,
- Chenery H. and T.N.Srinivasan, (1989) Handbook of Development Economics Vol1&2, Elsevier. Amsterdam.
- Dasgupta p. (1993) an Enquiry into Well Being and Destitution.
- Dahir R.K. (2013) Vikas ani Paryavarniy Arthshastra, Nirali Prakashan, Pune.
- Ghatak,S.(1986) An Introduction to Development Economics,Allen and Unwin, London,
- Ghosh. B.N.(1982) Economic Development and Planning National Book House.
- Grillis M., D H. Perkins, M.Romer and D.R.Snodgrass (1992) Economic of Development (3rdEdition) W.W.Norton, New York.
- Higgins, Benjamin. (1959) Economic Development, W.W.Norton , New York
- Jennifer A. Elliott, (2013), an Introduction to Sustainable Development (Fourth Edition), Routledge Publication, London and New York.
- Kindleberger C.P. (1977) Economic Development (3rd Edition) McGraw Hill, New York.
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- Mahata J.K. (1964) Economic of Growth, Asia.
- Meaer and Baldwin (1970) Economic Development, Asia .
- Mehata J.K.(1971) Economic Development , Chaitanya.
- Mishra &Puri, Development and Planning- Theory And Practice, Himalaya.
- Meier, G.M. (1995) Leading Issue in Economic Development,6ed,Oxford University Press ,New Delhi,
- Todaro M.P. (1996) Economic Development (6th Edition) Longman, London.
- UNDP, Human Development Report [Latest]
- World Development Reports
- India Development Reports

T.Y.B.A. Economics
Special Paper - III: International Economics-I
(Course Code:)

Semester - V

Preamble:

This course provides the students a thorough understanding and deep knowledge about the concept of international economics and international trade. The contents of the paper spread over various modules, lay stress both on theory and applied nature of the subject. Besides this, the contents prepare the students to know the important theories of international trade. The paper also covers the meaning, types, importance of terms of trade and causes of unfavorable terms of trade to developing countries like India.

Course Learning Outcomes

At the end of the course the learner will have Ability

- To relate and recall the concepts of International Economics and International Trade.
- To describe and apply the theories of international trade.
- To explain and comprehend the issues relating to Terms of trade and Balance of Payment.

Unit No.	Name and Sub Titles of the Topic	No. of Lectures
1	Introduction	12
	1.1 International Economics- Meaning, Scope and Importance	
	1.2 Inter-regional and International Trade	
	1.3 Importance of International Trade	
2	Theories of International Trade	12
	2.1 Theory of Absolute Cost Advantage and Theory of Comparative Cost Advantage	
	2.2 Heckscher-Ohlin Theory	
	2.3 Leontief's Paradox	
	2.4 Intra-Industry Trade	
3	Terms of Trade	12
	3.1 Meaning, Types and Importance of Terms of trade	
	3.2 Determinants of Terms of trade	
	3.3 Causes of Unfavorable Terms of trade to Developing Countries	
4	Balance of Payments	12
	4.1 Balance of trade and Balance of payments- Concepts	
	4.2 Balance of payments - Components	
	4.3 Disequilibrium of Balance of Payments, Causes and Consequences	
	4.4 Measures to correct Disequilibrium in the Balance of Payments	

Recommended Books -

1. Kenan, P.B. (1994), the International Economy, Cambridge University Press, London.
2. Kindlberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
3. Krugman, P.R. and M. Obstfeld (1994), International Economics: Theory and Policy, Glenview, Foresman.
4. Salvatore, D.L. (1997), International Economics, Prentice-Hall, Upper Saddle River, N.J.
5. Sodersten, Bo (1991), International Economics, Macmillan Press Ltd., London.
6. International Economics, M.L. Jhingan
7. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Mass.
8. Greenaway, D. (1983), International Trade Policy, Macmillan Publishers Ltd., London.
9. Joshi V. and I.M.D. Little (1998), India's Economic Reforms, 1999-2001, Oxford University Press, Delhi.
10. Panchmukhi, V.R. (1978), Trade Policies of India: A Quantitative Analysis, Concept Publishing Company, New Delhi.
11. Dhage S.K. (2015), International Economics (English Edition) K.S. Publication, Pune.
12. Kulkarni B.D. and Dhamdhare S.V. (2007), International Economics (Antarrashtriya Arthashastra - Marathi Edition) Dimand Publication, Pune.
13. Wavare A. , International Economics (Anatarrashtriya Arthashastra - Marathi Edition) Education Publication, Aurangabad
14. Patel, S.J. (1995), Indian Economy towards the 21st Century, University Press Ltd., India.
15. Rasal, Rajendra, International Economics (Marathi), Success Publication Pune.

Reports:

1. Ministry of Commerce and Industry, Government of India, Recent Annual Report
2. Government of India, Economic Survey Latest
3. Reserve Bank of India, Annual Report

T.Y.B.A. Economics
Special Paper - III: International Economics-II
(Course Code:)

Semester – VI

Preamble:

This course provides the students a thorough understanding and deep knowledge about India's foreign trade and trade policies. The contents of the paper spread over various modules, lay stress both on theory and applied nature of the subject that have registered rapid changes during the last few decade. Besides this, the contents prepare the students to know the foreign exchange market, provisions in FEMA and convertibility of rupee. The paper also covers the Indian government's policy towards foreign capital and role of multinational corporations in India and regional and international co-operation. This paper has become relatively more relevant from the policy point of view under the present waves of globalization and liberalization.

Course Learning Outcomes:

At the end of the course, the learner will have-

- Ability to relate and explain the concept of Exchange Rate and Foreign Exchange Market.
- Ability to describe the trends in Growth, Composition and Direction of India's Foreign Trade.
- Ability to comprehend the issues relating to Foreign Capital and Regional and International Co-Operation.

Unit No.	Name and Sub Titles of the Topic	No. of Lectures
1	India's Foreign Trade and Policy	12
	1.1 Role of Foreign Trade in Economic Development	
	1.2 India's Foreign Trade- Growth, Composition and Direction since 2000	
	1.3 Free Trade v/s Protection - Case For and Case Against	
	1.4 Highlights of India's Foreign Trade policy Since 2015	
	1.5 Evaluation of Policy of Special Economic Zones in Export Promotion	
2	Foreign Capital	12
	2.1 Role of Foreign Capital in Economic Development	
	2.2 Types of Foreign Investment	
	2.3 Foreign Investment Policy in India since 1991	
	2.4 Problems of Foreign Capital	
3	Foreign Exchange	12
	3.1 Exchange Rate : Concept; Fixed & Flexible Exchange Rate -Merits and Demerits	
	3.2 Foreign Exchange Market- Meaning, Structure and Functions	
	3.3 Convertibility of the Rupee	
	3.4 Foreign Exchange Management Act, 1999, Main Provisions	
4	Regional and International Co-operation: Nature and Functions of-	12
	4.1 South Asian Association for Regional Cooperation (SAARC)	
	4.2 Brazil, Russia, India, China and South Africa (BRICS)	
	4.3 European Economic Community (EEC)	
	4.4 World Trade Organization (WTO)	

1. Recommended Books -

2. Kenan, P.B. (1994), the International Economy, Cambridge University Press, London.
3. Kindlberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
4. Krugman, P.R. and M. Obstfeld (1994), International Economics: Theory and Policy, Glenview, Foresman.
5. Salvatore, D.L. (1997), International Economics, Prentice-Hall, Upper Saddle River, N.J.
6. Sodersten, Bo (1991), International Economics, Macmillan Press Ltd., London.
7. International Economics , M.L. Jhingan
8. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Mass.
9. Greenaway, D. (1983), International Trade Policy, Macmillan Publishers Ltd., London.
10. Joshi V. and I.M.D. Little (1998), India's Economic Reforms, 1999-2001, Oxford University Press, Delhi.
11. Panchmukhi, V.R. (1978), Trade Policies of India: A Quantitative Analysis, Concept Publishing Company, New Delhi.
12. Patel, S.J. (1995), Indian Economy towards the 21st Century, University Press Ltd., India.

Reports:

1. Ministry of Commerce and Industry, Government of India, Recent Annual Report
2. Government of India, Economic Survey Latest
3. Reserve Bank of India, Annual Report

T.Y.B.A. Economics
Special Paper – IV: Public Finance -I
(Course Code:)
Semester – V

Preamble:

The role and functions of the Government in an economy has been hanging with the passage of time. The term 'Public Finance' has traditionally been applied to involve the use of revenue and expenditure measures along with the budgetary policy is an important part to understand the basic problems of use of resources, distribution of Income etc. The course will be useful for students aiming towards careers in the government sector, policy analysis, banking and business. This course would take an overview of government finances with special reference to India. The course aims to introduce the learner to the main concepts in public finance, equip them with an analytical grasp of government taxes: direct and indirect taxes and familiarize students with the main issues in government expenditure and debt.

Objectives:

1. To make students to analyze the role of Public Finance in Economic Development.
2. To know the sources of Revenue, Expenditure and Debt of Govt. of India.
3. To make students competent to become success in competitive examination.

Course Learning Outcomes

At the end of the course the learner will have ability-

- To relate and recognize the Nature and Scope of Public Finance.
- To describe and analyze the concept of Public Revenue and its components.
- To explain types of Public Expenditure and reasons for rising Public Expenditure.
- To explain the types of Public Debt and its effects.

Unit No.	Name and Sub Titles of the Topic	No. of Lectures
1	Introduction to Public Finance	12
	1.1 Meaning, Nature, Scope and Importance of Public Finance	
	1.2 Public Finance versus Private Finance	
	1.3 Role of Public Finance in Economic Development	
	1.4 Principle of Maximum Social Advantage: Musgrave's Approach	
2	Public Revenue	12
	2.1 Sources of Public Revenue	
	2.2 Meaning of Tax, Types of Taxes- Direct Tax and Indirect Tax, Merits and Demerits	
	2.3 Goods and Service Tax: Concept and Characteristics; Need for GST in India	
	2.4 Concepts: Impact of Tax, Incidence of Tax, Shifting of Tax and Taxable Capacity	
3	Public Expenditure	12
	3.1 Meaning and Principles of Public Expenditure	
	3.2 Classification of Public Expenditure	
	3.3 Reason for Increasing Public Expenditure	
	3.4 Wagner's Law of Public Expenditure	

4	Public Debt	12
	4.1 Meaning, Sources and Importance of Public Debt	
	4.2 Methods of Repayment of Public Debt	
	4.3 Burden of Public Debt	
	4.4 The Fiscal Responsibility and Budget Management Act 2003- Highlights	

Recommended Books

1. Andley and Sundaram- Theory and Practice of Public Finance.
2. Bhatia H.L “Public Finance “ Vikas Publishing House, 18th edition
3. Jayaram Hiregange, Deepak Rao (2017), India GST for Beginners, White Falcon Pub.
4. Government of India (2017). GST-Concept and Status
5. Singh S.K, Public Finance in Theory and Practice, S. Chand, New Delhi.
6. Ozerkar S.R.,Rajaswa (Marathi), Vidya Prakashan, Ruikar Marg Nagpur
7. Deo and Zamre, Rajaswa (Marathi) Pimpalpure and Co, Publishers, Nagpur.
8. Buchanan J. M., Public Principles of Public debt, Irwin, Homewood, III, USA.
9. Herber, B.P., Modern Public finance, AITBS, New Delhi.
10. Hicks Ursula (1961) “Public Finance” Digswell Place, James Nishbet & Co. Ltd.
11. Musgrave R. A. (1959) “The Theory of Public Finance: A study in Public Economics” McGraw Hill Logakwha Ltd.
12. Musgrave R. A. & Musgrave P. B “Public Finance: In Theory & Practice” McGraw Hill Logakwha Ltd.
13. Prest, A.R. and Barr N.A., Public Finance in Theory and Practice, ELBS, London.
14. Bhadane Jaywant R, (2020) GST Smart Taxation System, International Publication
15. Taylor Philip C (1968) “The Economics of Public Finance” Oxford Univeristy & IBH Publishing Co.
16. Alam, S, (2016) GST and the States, Sharing tax administrations, Economic and Political Weely, 51 (31) (Article)
17. Ministry of Finance, Government of India (Oxford Press), Economic Survey 2020.
18. Dhamdhare S.V. (2019) , Sarvajanic Ayvay (Marathi Edition) ,Dimond Publication,Pune.
19. Khandare Vilas (2004) , Money Banking And Finance, Ravi Printers ,Aurangabad .

Websites:

- <https://data.gov.in>
- <https://www.gst.gov.in>
- <https://www.incometaxindia.gov.in>

T.Y.B.A. Economics
Special Paper – IV: Public Finance -II
(Course Code:)
Semester – VI

Objectives:

1. To make students able to analyze Budget process of India.
2. To make the students aware about Role and working of Finance Commission.
3. To make students competent to become success in competitive examination.

Course Learning Outcomes

At the end of the course the learner will have ability

- To explain and assess the components and instruments of Fiscal Policy.
- To relate to the concepts of Budget and its components.
- To describe and analyze the concept of Deficit Financing and its effects.
- To describe and explain the Centre and State Financial Relationship.

Unit No.	Name and Sub Titles of the Topic	No. of Lectures
1	Fiscal Policy	12
	1.1 Fiscal Policy- Meaning, Instruments and Objectives	
	1.2 Fiscal Policy in Developing Countries	
	1.3 Limitations of Fiscal Policy	
	1.4 Review of Fiscal Policy in India Since 2011	
2	Budget	12
	2.1 Budget- Meaning, Nature and Objectives	
	2.2 Classification of Budget	
	2.3 Preparation of Indian Central Budget	
	2.4 Gender Budget- Meaning and Importance.	
3	Deficit Financing	12
	3.1 Deficit Financing- Meaning and Objectives	
	3.2 Role of Deficit Financing in Developing Countries	
	3.3 Trends in India's Deficit Financing Since 2011	
	3.4 Effects of Deficit Financing	
4	Centre-State Financial Relationship	12
	4.1 Centre-State Financial Relationship: Constitutional Provisions	
	4.2 Conflict in the Centre-State Financial Relationship	
	4.3 Role of the Finance Commission	
	4.4 Recommendations of 15 th Finance Commission	

Recommended Books

1. Andley and Sundaram- Theory and Practice of Public Finance.
2. Bhatia H.L “Public Finance “ Vikas Publishing House, 18th edition
3. Jayaram Hiregange, Deepak Rao (2017), India GST for Beginners, White Falcon Pub.

4. Government of India (2017). GST-Concept and Status
5. Bhadane Jaywant R, (2020) GST Smart Taxation System, International Publication
6. Singh S.K, Public Finance in Theory and Practice, S. Chand, New Delhi.
7. Ozerkar S.R.,Rajaswa (Marathi), Vidya Prakashan, Ruikar Marg Nagpur
8. Deo, and Zamre, Rajaswa (Marathi) Pimpalpure and Co, Publishers, Nagpur.
9. Buchanan J. M., Public Principles of Public debt, Irwin, Homewood, III, USA.
10. Herber, B.P., Modern Public finance, AITBS, New Delhi.
11. Hicks Ursula (1961) “Public Finance” Digswell Place, James Nishbet & Co. Ltd.
12. Musgrave R. A. (1959) “The Theory of Public Finance: A study in Public Economics” McGraw Hill Logakwha Ltd.
13. Musgrave R. A. and Musgrave P. B “Public Finance: In Theory & Practice” McGraw Hill Logakwha Ltd.
14. Prest, A.R. and Barr N.A., Public Finance in Theory and Practice, ELBS, London.
15. Taylor Philip C (1968) “The Economics of Public Finance” Oxford University and IBH Publishing Co.
16. Alam, S, (2016) GST and the States, Sharing tax administrations, Economic and Political Weely, 51 (31) (Article)
17. Ministry of Finance, Government of India (Oxford Press), Economic Survey 2020.
18. Khandare Vilas ,Povale ,Takale,(2012) , Economics Of Agriculture Development ,Omkar Printers, Aurangabad.
19. Dhamdhare S.V. (2019) , Sarvajanic Ayyavay (Marathi Edition) ,Dimond Publication,Pune.

Websites:

<https://data.gov.in>

<https://www.gst.gov.in>

<https://www.incometaxindia.gov.in>

**T.Y.B.A. Economics
Skill Enhancement Course
Business Management**

Sem ester	CC Paper	Paper No.	Name of Paper	Lectures / Week	Total Lect.	CA Marks	ESE Marks	Total	No. of Credits
V	SEC -III SEC-3A		Business Management- I	03	30	15	35	50	2
VI	SEC -IV SEC-3A		Business Management - II Project	03	30	15	35	50	2

SEC -Skill Enhancement Course; CC -Core Course; CA - Continuous Assessment;
ESE -End of Semester Examination

**T.Y.B.A. Economics
Skill Enhancement Course
SEC 3A: Business Management-I
(Course Code:)
Semester – V**

Course Learning Outcomes:

At the end of the Course, the Learner will have the following skills:

- Management of Business.
- Business planning and decision making
- Leadership Skills- Ability to work in teams at the same time, ability to show leadership qualities

Unit No.	Name and Sub Titles of the Topic	No. of Lectures	Skill Enhancement Exercises
1	Business Management	6	<ul style="list-style-type: none"> • Discussion/ Practical/ Field Study
	1.1 Nature and Scope of Management		
	1.2 Characteristics of Management		
	1.3 Need & Importance of Study of Management		
	1.4 Process of Management		
2	Business Planning and Decision Making	6	<ul style="list-style-type: none"> • Case Studies / Mini Projects / Individual /Team Presentations. • Practical Exercises in Decision Making Process/ Problem Solving
	2.1 Nature of Planning		
	2.2 Steps in Planning Process		
	2.3 Types of Business Planning		
	2.4 Study of Planning Process		
	2.5 Steps in Decisions Making Process		
	2.6 Factors affecting decision Making		

3	<p>Schemes of Government : Make in India Start-up India Stand up India Mudra Loans Dairy Management Scheme Fruits Management Development Programme Agriculture Products Sell Management</p>	<p>6 2 + 2 Guest Lecture</p>	<ul style="list-style-type: none"> • Visit to SSS/ Interview with Mudra Beneficiary. • Study of Street Vendors/ Hawkers/ Mini Enterprises etc. • Exhibitions Business Plan Ideas Competitor
4	<p>Workshop: Workshop on Entrepreneurship Development Training Programme</p>	<p>8</p>	<p>2 -Half-Day Work - shops -4 hours each OR 1- One Day Workshop - 8 hours</p>

Recommended Books

1. Stephen R. Covey, The 7 Habits of Highly effective People (1989), Guerilla Marketing.
2. Harvard Business Review, Management Tips, hbr.org/books.
3. Pandey, I.M. Financial Management, Persons 12th edn.
4. Saksena, S.C., Principles of Business Management (2019), Sahitya Bhawan Publi.Agra.
5. Kalkar Parag and Ajinath Doke, Vyavsay Vyavsthapan, Nirali Prakashan, Pune.
6. Vasistha, Neeru, Principles of Management, Taxmann.
7. Hannagan, Tim. Management Concepts and Practices, Macmillan India Ltd.
8. Government of India, Official Websites.

T.Y.B.A. Economics
Skill Enhancement Course
SEC-3A: Business Management-II (Project Report)
(Course Code:)
Semester – VI

Course Learning Outcomes:

At the end of the Course, the Learner will have the following skills:

- Analytical Skills – Ability to analyze data collected and interpret in the most logical manner
- Project Report Writing Skills- Ability to comprehend and illustrate/demonstrate findings
- Presentation Skills – PPT/Poster- Ability to illustrate findings in the most appealing manner
- Leadership Skills: Ability to show leadership skills with business ideas or work on business ventures as a practical example

Unit No.	Name and Sub Titles of the Topic	No. of Lectures	Skill Enhancement Exercises
1	Case Study	2	Preview to Students for Project Report
	Guest Lecture – Local Entrepreneur – Success Stories / Struggles/ Historical Reviews/ Start-ups, etc		
2	Project Interim Presentation	14	Initial Mid Semester Presentation (15 marks)
	Detailed Study of ANY Business Enterprise under the Guidance of Subject Teacher OR Presentation of a Business Idea		
3	Project Final Presentation	14	Final Presentation Viva (35 Marks) Int. Examiner - 10 Ext. Examiner - 10 Report- 15
	Presentation with PPT or Poster or Exhibition of Business Ideas/ Reports		

Recommended Books

1. Stephen R. Covey, The 7 Habits of Highly effective People (1989), Guerilla Marketing.
2. Harvard Business Review, Management Tips, hbr.org/books.
3. Pandey, I.M. Financial Management, Persons 12th Edn.
4. Saksena, S.C., Principles of Business Management (2019), Sahitya Bhawan Publi.Agra.
5. Kalkar Parag and Ajinath Doke, Vyavsay Vyavsthapan, Nirali Prakashan, Pune.
6. Vasistha, Neeru, Principles of Management, Taxmann.
7. Hannagan, Tim. Management Concepts and Practices, Macmillan India Ltd.
8. Government of India, Official Websites.



Savitribai Phule Pune University
(Choice Based Credit System-70:30-Pattern)

(w. e. f- 2021-2022)

T. Y. B. A- English

Semesters	New Nomenclature of Courses/Papers	Old Nomenclature of Courses/Papers	Credits
V	CC-Compulsory English	Compulsory English	03
VI	CC-Compulsory English	Compulsory English	03
V	SEC-1-C	G-3	03
VI	SEC-1-D	G-3	03
V	DSE-1-C	S-3	3+1=04
VI	DSE-1-D	S-3	3+1=04
V	DSE-2-C	S-4	3+1=04
VI	DSE-2-D	S-4	3+1=04
V	SEC-2-C	----	02
VI	SEC-2-D	----	02

T. Y. B. A.
Compulsory English

(CC-Core Course- 03 Credit)

Rationale:

The present course is a core course and it basically consists of two components: the literature component and the skills component. The literature component includes some of the best samples of English short stories, essays and poems written by writers of different nationalities (British, American, Indian etc.) This cultural mix is deliberate. We are living in a globalized world and our students need to have at least a cursory acquaintance with different cultures in the outside world. This is particularly important in a pluralistic society like ours. The core course is a part of the humanities. It aims at contributing to the linguistic and communicative abilities of the students. At the same time it also aims at fostering humanitarian attitude in our students and make them better human beings. Our prose and poetry selections in the literature part of the syllabus take care of these humanistic and aesthetic considerations.

The skills component of the syllabus includes language skills (i.e. grammar part and writing skills), soft skills and employability skills. All these are necessary in the contemporary world to make our students confident and enable them to face the real life challenges successfully. The

core course is essentially a language course. Linguistic competence is absolutely necessary for achieving success in almost all the fields of life. Hence we have concentrated on some important aspects of grammar. There are certain writing skills and communicative skills required in all work environments today. These have also been included in the syllabus. Some soft skills and employability skills are necessary from the viewpoint of the employer as well as the employee for his own career advancement. In fact no employee can survive without these skills in the modern day work place. We have kept all these practical considerations in mind while preparing the present syllabus. It is thus a composite course focusing on human values and useful, practical skills.

Objectives:

- a) To familiarize students with some excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English.
- b) To enable students to become competent and effective users of English in real life situations.
- c) To contribute to the overall personality development of the students.
- d) To instill humanitarian values and foster sympathetic attitude in the students.
- e) To train the students in practical writing skills required in work environment.
- f) To impart knowledge of some essential soft skills to enhance their employability.

***Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. **(3x15=45+3=48)**.

***Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-V & VI will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.

***The Internal** Examination for 30 marks will be conducted at college level.

- a) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
- b) A Mid-semester Written Test for 20 marks

SEMESTER-V

Prescribed Text: *Exploring New Horizons* (Ed-Board of Editors- Orient BlackSwan)

Unit-I- Prose (12 Clock Hours)

1. The Phantom Luncheon – Saki
2. **Function of Education –J. Krishnamurti**
3. **God sees the Truth but Waits – Leo Tolstoy**

Unit-II- Poetry (12 Clock Hours)

1. The Neutral Tones – Thomas Hardy
2. Strange Meeting – Wilfred Owen
3. Have you got a brook in your little heart – Emily Dickinson

Unit-III- Grammar (08 Clock Hours)

1. Adverbs and their types (manner, place, time, frequency etc.)
2. Synthesis of sentences by using participles, infinitives, adverbials etc.)
3. Types of Sentences according to function: Declaratives, Interrogatives, Imperatives

Unit-IV- Writing (08 Clock Hours)

1. Paragraph Writing
2. Note-making and Note-taking
3. Reference Skills (Using dictionaries/thesaurus/encyclopedias/year books/table of contents/indices etc)

Unit-V- Soft Skills and Employability Skills (05 Clock Hours)

1. Body Language/Non-verbal Communication
2. Tips for Effective Communication
3. Telephone Skills
4. Teleconferences

SEMESTER-VI

Prescribed Text: *Exploring New Horizons* (Ed-Board of Editors-Orient BlackSwan)

Unit-I- Prose (12 Clock Hours)

1. Shakespeare's Sister – Virginia Woolf
2. After Twenty Years – O. Henry
3. The Conjuror's Revenge – Stephen Leacock

Unit-II- Poetry (12 Clock Hours)

1. The Man of Life Upright – Thomas Campion
2. Money Madness – D.H. Lawrence
3. The Toys – Coventry Patmore

Unit-III- Grammar (08 Clock Hours)

1. Transforming Declarative sentences into Yes-No questions
2. Transforming Declarative sentences into Wh- questions
3. Transforming Positive Imperative sentences into Negative imperatives

Unit-IV- Writing (08 Clock Hours)

1. Email Writing
2. Using Graphs and Charts

3. Dialogue Writing

Unit-V- Soft Skills and Employability Skills (05 Clock Hours)

1. Stress Management
2. Motivation and Positive Approach
3. Goal Setting
4. Adaptability Skills

Skill Enhancement Course (SEC 1-C & SEC 1-D)

(Old G-3)

(w. e. f. 2021- 2022)

Title of the Paper: Enhancing Employability Skills

(Credit-3)

**Prescribed Text- *Aspirations: English for Careers* (Board of Editors-
Orient Black Swan)**

Rationale:

TYBA students are on the threshold of their career. Hence, it is necessary to orient and prepare them for different careers they can join after graduation. Considering the various career opportunities available to Arts graduates, the syllabus aims at awareness raising, competence building and skill enhancement of the learners. All the units in the book, besides offering exposure to the use of English for different careers, are radically designed to keep pace with the age of technology and to empower the learners for the present as well as the upcoming career avenues.

Course Outcomes:

After studying the paper successfully, the learners will be able:

1. To get the awareness of career opportunities available to them.
2. To identify the career opportunities suitable to them.
3. To understand the use of English in different careers.
4. To develop competence in using English for the career of their choice.
5. To enhance skills required for their placement.
6. To use English effectively in the career of their choice.
7. To exercise verbal as well as nonverbal communication effectively for their career.

***Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. ($3 \times 15 = 45 + 3 = 48$).

***Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-V & VI will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.

***The Internal** Examination for 30 marks will be conducted at college level.

- a) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
- b) A Mid-semester Written Test for 20 marks

SEMESTER-V(SEC 1-C)

Course contents:

Unit-I- Exploring Careers (12 Clock Hours)

1. Creative Writing
2. Translation
3. Mass Communication and Journalism
4. Academia and Other Careers

Unit-II- Basic Preparation for Jobs (08 Clock Hours)

1. Application Letter and Résumé Writing
2. GDPI
3. Writing Notices and Agendas
4. Writing Minutes

Unit-III- English for Employability Skills (13 Clock Hours)

1. Style and Techniques for Effective Communication
2. Description, Narration and Demonstration in English
3. Soft Skills for Employers
4. Soft Skills for Employees

Unit-IV- English for Corporate Field (12 Clock Hours)

1. English for Sales Services
2. English for Customer Services
3. Presentation Skills
4. Writing a Project Report

SEMESTER-VI (SEC 1-D)

Prescribed Text- Aspirations: English for Careers (Board of Editors-
Orient Black Swan)

Unit-I- English for Competitive Examinations (09 Clock Hours)

1. Vocabulary
2. Tenses
3. Prepositions
4. Précis Writing

Unit-II- English for Research Purposes (12 Clock Hours)

1. Impersonal and Objective Style
2. Writing a Research Proposal
3. Writing a Research Paper
4. Writing a Short Dissertation

Unit-III- Content Writing (12 Clock Hours)

1. Introduction to Content Writing
2. Writing Blog Posts and Articles
3. Writing for Websites
4. Writing for Social Media Platforms

Unit-IV- English for Digital Marketing (12 Clock Hours)

1. Introduction to Advertisements
2. Newspaper Advertisements
3. Advertisements on Television and Radio Channels
4. Advertisements on Internet

SELECT BIBLIOGRAPHY

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2. Bill Mascull. 2010. Business Vocabulary in Use: Elementary to Pre-intermediate. Cambridge University Press
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4. Donald Miller. 2017. Building a Story Brand. HarperCollins
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6. Dorothea Brande. 1981. Becoming a Writer. TarcherPerigee
7. Elizabeth Walter. 2010. Collins Easy Learning Writing. HarperCollins UK
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9. Gupta Kounal. 2020. Content Writing Handbook. Henry Harvin

10. Haigh Rupert. 2004. Legal English. Cavendish Publishing Limited
11. Henry Emery, Andy Roberts. 2008. Aviation English. Macmillan.
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15. Marie Drennan, Yuri Baranovsky (Author), Vlad Baranovsky. 2018. Scriptwriting for Web Series: Writing for the Digital Age. Routledge
16. Michael McCarthy Felicity O'Dell. 2004. English Phrasal Verbs in Use. Cambridge University Press
17. Michael Swan. 2001. Practical English Usage. Cornelsen & Oxford University Press
18. Paul J. Hamel. 2016. English for Better Jobs. Amazon Digital Services
19. Pease A. 1998. Body Language. London: Sheldon Press
20. Ronald Carter, Michael McCarthy. 2006. Cambridge Grammar of English: A Comprehensive Guide. Cambridge University Press

Discipline Specific Elective (DSE-1C& DSE-1D)

(Old S-3)

(w. e. f. 2021- 2022)

Title of the Paper: Appreciating Novel

(Credit-3+1=4)

Rationale:

The impact of literature in human society is undeniable. Literature acts as a form of expression for each individual author. Some books mirror society and allow us to better understand the world we live in. Literature is important because it teaches the universal human experiences. It also provides different meanings to different people or teaches different lessons to the same person at different stages of his life. The novel is one of the major forms of literature which generally deals imaginatively with human experiences, usually through a connected sequence of events involving a group of persons in a specific setting. It is a genre of fiction and fiction may be defined as a form of art. It is not a short story in prose; instead, it is actually an extensive and illustrated account of series of events that happened right through the life of a character. By studying and appreciating novel, the students can develop their interpretative abilities and enhance their analytical skills.

Objectives:

- a) To introduce students to the basics of novel as a literary form
- b) To expose students to the historical development and nature of novel
- c) To make students aware of different types and aspects of novel
- d) To develop literary sensibility and sense of cultural diversity in students
- e) To expose students to some of the best examples of novel

* **Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. **(3x15=45+3=48)**.

* **Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-V & VI will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.

* **The Internal** Examination for 30 marks will be conducted at college level.

- a) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
- b) A Mid-semester Written Test for 20 marks

* **Semester V and VI -DSE 3+1 =** One credit is for Research Project/field visit/ or any other Subject-centric activities to be undertaken by the students in consultation with the concerned teacher. The concerned teachers have to evaluate and maintain the record of research project/field visit/ or any other subject-centric activity.

SEMESTER-V (DSE-1C)

Course content:

A) Theory of Novel: (20 Clock Hours)

- (a) What is Novel? A brief history of novel as a literary form
- (b) Elements of Novel: Theme, Characters, Plot, Structure Narrative
Techniques, Point of view, Conflict, Setting and atmosphere, Dialogue
- (c) Types of Novels: epistolary, picaresque, bildungsroman, historical, regional,
Psychological, satire, realistic, experimental novel, science fiction
- (d) In addition to this, other literary terms related to novel/fiction be considered
for background study

B) *Silas Marner*- George Eliot (25 Clock Hours)

SEMESTER-VI (DSE-1D)

A) *A Farewell to Arms*- Ernest Hemingway (20 Clock Hours)

B) *The Painter of Signs*- R. K Narayan (25 Clock Hours)

Reference Books:

- 1) E. M. Forster, Aspects of the Novel, Harcourt, Inc. 1955
- 2) Terry Eagleton, The English Novel: An Introduction. Blackwell, 2005
- 3) Walter Allen, The English Novel (London, 1954)
- 4) Arnold Kettle, Introduction to the English Novel, (2 vols, London, 1951)
- 5) Ian Watt, The Rise of the Novel, London, 1957
- 6) J. Davis, Factual Fictions: The Origins of the English Novel, (New York, 1983)
- 7) Geoffrey Day, From Fiction to the Novel, (London, 1987)
- 8) Dominic Head, The Cambridge Introduction to Modern British Fiction, 1950–2000. Cambridge, 2002
- 9) Walter L. Reed, An Exemplary History of the Novel: The Quixotic versus the Picaresque, (Chicago, 1981)
- 10) Richard Chase, The American Novel and its Tradition, New York, 1957
- 13) Nadel, Ira Bruce, Biography: Fiction, Fact and Form. London: Macmillan, 1984.
- 14) Jonathan Greenberg, Modernism, Satire and the Novel, Cambridge University Press, 2011
- 15) Afzal-Khan Fawzia, Cultural Imperialism and the Indo-English Novel: Genre and Ideology in R.K. Narayan, Anita Desai, Kamala Markandaya, and Salman Rushdie. University Park (Pennsylvania State UP) 1993.
- 16) Kermode Frank [1966], The Sense of an Ending: Studies in the Theory of Fiction, Oxford (OUP) 2000.
- 17) Mukherjee Meenakshi, Realism and Reality: The Novel and Society in India, Delhi (OUP) 1985.
- 18) Brian W Shaffer, Reading the Novel in English 1950–2000, Blackwell Publishing, 2006
- 19) Dirk Wiemann, Genres of Modernity Contemporary Indian Novels in English. Amsterdam – New York, NY 2008
- 20) Jesse Matz, The Modern Novel: A Short Introduction, Blackwell, 2004

- 21) John Mullan, How the Novel Works, OUP, 2006
- 22) Meenakshi Mukherji, The Twice Born Fiction. Heinemann Educational Books, New Delhi, 1971
- 23) A. J. Sebastian & N. D. R. Chandra. Literary Terms in Fiction and Prose. Authors Press, 2004

Discipline Specific Elective (DSE-2C & DSE-2D)
(Old S-4)
(w. e. f. 2021- 2022)

Title of the Paper: Introduction to Literary Criticism
(Credit-3+1=4)

Rationale:

Literary criticism is as ancient as literature. It has provided different views, perspectives, approaches and terms to understand literature in its diverse forms. It consists of interpretation, judgment, analysis and evaluation of literature. It makes readers aware of form and content of literature, structure and substance of literature. It deals with text and context in its analysis and provides many different views on literature. Literary criticism has undergone many changes in its long journey from the classical antiquity to the modern period. It has branched off from its earlier preoccupations like author's superiority and search for universal meaning and has taken on new pursuits. The present course is designed to introduce students to the basics of literary criticism and the age wise important critical concepts.

Objectives:

- a) To introduce students to the basics of literary criticism
- b) To make them aware of the nature and historical development of criticism
- c) To make them familiar with the significant critical approaches and terms
- d) To encourage students to interpret literary works in the light of the critical approaches
- e) To develop aptitude for critical analysis

* **Each** semester shall have 3 credits for teaching. Each credit is equal to 15 hours, so this course shall have 45 teaching hours. In addition to that there shall be 03 hours allotted to internal evaluation. **(3x15=45+3=48)**.

* **Considering** the choice-based credit system (CBCS) and the semester pattern, both Semesters-V & VI will have a uniform evaluation pattern of 100 marks each. There will be an 'Internal Examination' for 30 marks and 'Semester-end Examination' for 70 marks.

* **The Internal** Examination for 30 marks will be conducted at college level.

- a) Assignment/group discussion/tutorial/seminar/oral/project for 10 marks
- b) A Mid-semester Written Test for 20 marks

* **Semester V and VI -DSE 3+1** = One credit is for Research Project/field visit/ or any other Subject-centric activities to be undertaken by the students in consultation with the concerned teacher. The concerned teachers have to evaluate and maintain the record of research project/field visit/ or any other subject-centric activity.

Course Content:

SEMESTER-V (DSE-2C)

Unit-I- Orientation (15 clock hours)

1. Literary Criticism- definitions and functions
2. Types of Criticism- historical, biographical, sociological and psychological
3. Literature of knowledge and literature of power
4. Qualities of a good critic

Unit-II- Traditional Criticism (15 clock hours)

1. **Classical Criticism** - Aristotle's Concept of Imitation (Ref- Poetics), Longinus's Five Sources of Sublimity (Ref- on the Sublime)
2. **Neo-Classical Criticism**–Dryden's definition of play (Ref-An Essay on Criticism), Samuel Johnson's defense of Shakespeare

Unit-III- Romantic/Victorian Criticism (15 clock hours)

Wordsworth's definition of poetry, Coleridge's distinction between fancy and imagination, Matthew Arnold's three estimates of poetry

SEMESTER-VI (DSE-2D)

Unit-I- Modern Criticism (15 clock hours)

Eliot's theory of impersonality, William Empson's seven types of ambiguity, Georg Lukacs' concept of realism, Sigmund Freud's structure of human mind- id, ego and superego

Unit-II- New Criticism (15 clock hours)

Allen Tate's concept of tension, Cleanth Brooks' notion of paradox as the structure of poetry, Wimsatt and Beardsley's concept of intentional fallacy

Unit-III- Critical Terms and Practical Criticism (15 clock hours)

Critical Terms:

1. Catharsis
2. Allegory
3. Diction
4. Irony
5. Motif and theme
6. Genre
7. Metaphor
8. Point of view

9. Subjective and objective
10. Satire

Practical Criticism:

Practical criticism of poems, passages from novels and plays, etc.

(Teachers are advised to deal with poems, prose passages from the poems and novels that students have studied during their graduation)

Reference Books:

- 1) Kulkarni Anand et al. (2021). *Explaining Literary Theory*. Namya Press, New Delhi.
- 2) Kulkarni Anand B. & Chaskar Ashok G. *An Introduction to Literary Criticism and Theory*. Orient Blackswan, Hyderabad, 2015
- 3) Atherton Carol. *Defining Literary Criticism*. Palgrave, 2005
- 4) Dorsch T. S. *Classical Literary Criticism*. Penguin, 1981 (reprinted version)
- 5) Kennedy George A. *A New History of Classical Rhetoric*. Princeton: Princeton University Press, 1994.
- 6) Ross Andrew. *The Origins of Criticism*. Princeton Univ. Press, 2002
- 7) Habib M. A. R. *A History of Literary Criticism: from Plato to the Present*. Blackwell Publishers Ltd, 2005
- 8) Hardison Jr., O. B. (ed.). *Medieval Literary Criticism: Translations and Interpretations*. New York: Frederick Ungar, 1974.
- 9) Brown Marshall (ed.). *Cambridge History of Romanticism*. Vol. 5, Cambridge Univ. Press, 2000
- 10) Thorat Ashok et al (2001). *A Spectrum of Literary Criticism*. Frank Bros.
- 11) Hickman Miranda B. and McIntyre John D. *Rereading the New Criticism*. The Ohio State University Press, 2012
- 12) Levenson Michael .*The Cambridge Companion to Modernism*. Cambridge, 1997
- 13) Litz A. Waltom and others. *The Cambridge History of Literary Criticism (Modernism and the New Criticism)*, Vol. 7. Cambridge Univ. Press, 2008
- 14) Ross Stephen. *Modernism and Theory*. Routledge, 2009
- 15) Whitworth Michael (ed.). *Modernism*. Blackwell, 2007
- 16) Dobie Ann B. *Theory into Practice: An Introduction to Literary Criticism*. Third Edition, Wadsworth, Boston, 2012.
- 17) Ellis John M. *The Theory of Literary Criticism: A Logical Analysis*. University of California Press, 1974.
- 18) Seaton James. *Literary Criticism from Plato to Postmodernism: The Humanistic Alternative*. Cambridge University Press, 2014.
- 19) Peck John and Coyle Martin. *Literary Terms and Criticism*. Macmillan, 1984.

Skill Enhancement Course (SEC 2-C & SEC 2-D)
(w. e. f. 2021- 2022)

Title of the Paper: Mastering Life Skills and Life Values

[Two credit Course (2X15= 30 Clock Hours)]

Objectives:

1. To equip the students with the social skills
2. To train the students interpersonal skills
3. To build self-confidence and communicate effectively
4. To Encourage the students to think critically
5. To learn stress management and positive thinking
6. **To enhance leadership qualities**
7. **To aware the students about universal human values**
8. To develop overall personality of the students

Suggestions to Teachers:

1. It is a learner-centric course.
2. The course aims at developing skills among the students.
3. Learning can be facilitated through interactive and informal guiding sessions.
4. Participation and up-gradation of the students' performance needs to be encouraged.
5. Practical, Exercises, Activity monitoring, Projects, Seminars, Presentations, Group Discussions are some of the activities that the teachers are expected to encourage.
6. Relevant and innovative ideas of both the students and the teachers are always appreciable for a successful completion of this course
7. The concerned faculty/teachers have to maintain the record of the students as credits to the students need to be given on the basis of preserved records.

SEMESTER-V (SEC 2-C)

Course Content:

Life Skills

1. **Meaning and Nature of Life Skills**
2. **Importance of Life Skills**
3. Problem Solving and Decision-making skill
4. Critical and Creative Thinking Skill
5. Interpersonal skills: Understanding and Cooperating with Others
6. Management of Stress and Emotions

SEMESTER-VI (SEC 2-D)

Life Values

1. **Meaning and Nature of Values**
2. **Importance of Human Values**
3. **Moral Values**
4. **Ethical Values**
5. **Professional Values**
6. **Aesthetic Values**
7. **Psychological Values**
8. **Self-Awareness and Self-Management**



F. Y. B. Com Compulsory English
(w. e. f. 2019-2020)
(Choice Based Credit System)
70:30-Pattern
(70-Semester-End Exam & 30-Internal Evaluation)

Prescribed Text: *Success Avenue* (Board of Editors- Orient Blackswan)

Objectives:

- a) To offer relevant and practically helpful pieces of prose and poetry to students so that they not only get to know the beauty and communicative power of English but also its practical application
- b) To expose students to a variety of topics that dominate the contemporary socio-economic and cultural life
- c) To develop oral and written communication skills of the students so that their employability enhances
- d) To develop overall linguistic competence and communicative skills of students

Semester- I

Prose

Unit-1- The Beggar- Anton Chekhov

Unit-II- Black Money and the Black Economy- C. Rammanohar Reddy

Unit-III- The Nightingale and the Rose- Oscar Wilde

Unit-IV- Muhammad Yunus: An Economics for Peace- Farida Khan

Poetry

Unit-V- Up-Hill- Christina Rossetti

Unit-VI- Stay Calm- Grenville Kleiser

Communication and Life Skills

Unit-VII- Meeting and Greeting People and Dialogue Writing

Unit-VIII- Group Discussions, Interview and Interviewing Skills

Unit-IX- Presentation Skills

Semester- II

Prose

Unit-I - Indra Nooyi: A Corporate Giant- Indra Krishnamurty Nooyi

Unit-II- Appro JRD- Sudha Murthy

Unit-III- Fur- Saki

Unit-IV- After Twenty Years- O' Henry

Poetry

Unit-V- O Captain! My Captain- Walt Whitman

Unit-VI - The Prayer for My Daughter- W. B. Yeats

Communication and Life Skills

Unit-VII- Letter Writing, Report Writing and Blog Writing

Unit-VIII- Resume Writing and E-Mails

Unit-IX- Non-Verbal Communication

As indicated in the CBCS (Choice Based Credit System) Restructured Programme of Savitribai Phule Pune University at undergraduate level to be introduced from the academic year 2019-20, this subject (Compulsory English), like other subjects under B. Com. Degree Course, shall have 70+30 pattern. There will be written examination of 70 marks of 3 hrs duration for this subject at the end of each semester. The class work (internal evaluation) shall carry 30 marks. Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours so this course shall have 45 teaching hours. In addition to that there shall be three hours allotted to internal evaluation. Changes as per the university guidelines shall be communicated from time to time.

**Question Paper Format (Semester-I End Exam)
(From June 2019-20)**

Textbook: *Success Avenue*

Time: Three Hours

Total Marks: 70

- Q. 1) Attempt any **three out of five** - 15 Marks
(Questions on Prose Unit I, II & III)
- Q. 2) Attempt any **three out of five** - 15 Marks
(2 Questions on Prose Unit IV & 3 Questions on Poetry Unit V & VI)
- Q. 3) Attempt any **two out of four** - 20 Marks
(2 Questions on Meeting & Greeting People & Dialogue Writing and 2 Questions on Group Discussion,)
- Q. 4) Attempt any **four out of six** -20Marks
(3 Questions on Interview & Interview Skills and 3 Questions on Presentation Skills)

**Question Paper Format (Semester II End Exam)
(From June 2019-20)**

Textbook: *Success Avenue*

Time: Three Hours

Total Marks: 70

- Q. 1) Attempt any **three out of five** - 15 Marks
(Questions on Prose Unit I, II & III)
- Q. 2) Attempt any **three out of five** - 15 Marks
(2 Questions on Prose Unit IV & 3 Questions on Poetry Unit V & VI)
- Q. 3) Attempt any **two out of four** - 20 Marks
(1 Question each on Letter Writing, Report Writing, Blog Writing & Resume Writing)
- Q. 4) Attempt any **four out of six** -20Marks
(3 Questions each on E-mail Writing & Non-verbal Communication)

**Internal Evaluation- Total- 30 Marks
(Applicable to both Semester I & II)**

- 1)Written Test (on prescribed texts)- **20 Marks**
2)Project/Group Discussion/Tutorial/Home
Assignment/Seminar/Participation in A Classroom Activity- **10 Marks**

F. Y. B. Com (Additional English)
(w. e. f. 2019-2020)
(Choice Based Credit System)
70:30-Pattern
(70-Semester-End Exam & 30-Internal Evaluation)

**Prescribed Text: *Pearls of Wisdom* (Board of Editors-Orient
Blackswan)**

Objectives

- a) To expose students to a good blend of old and new literary extracts having various themes that are entertaining, enlightening and informative so that they realize the beauty and communicative power of English
- b) To make students aware of the cultural values and the major problems in the world today
- c) To develop literary sensibilities and communicative abilities among students

Term-I

Unit-I

1. The Sporting Spirit – George Orwell
2. The World Is Too Much With Us – William Wordsworth

Unit-II

1. Do Insects Think? - Robert Benchley
2. The Fortune Teller - Joseph Furtado

Unit-III

1. **Good Manners – J.C Hill**
2. **Where the Mind is Without Fear** - Rabindranath Tagore

Unit-IV

1. My Financial Career-Stephen Leacock
2. I Sit and Look Out - Walt Whitman

Term-II

Unit-I

1. **Playing the English Gentleman - M.K Gandhi**
2. All the World's a Stage - William Shakespeare

Unit-II

1. **How Wealth Accumulates and Men Decay – G.B Shaw**
2. My Grandmother's House- Kamala Das

Unit-III

1. **What Men Live By? - Leo Tolstoy**
2. **Laugh and be Merry - John Masefield**

Unit-IV

1. The Pleasures of Ignorance – Robert Lynd
2. To Daffodils- Robert Herrick

As indicated in the CBCS (Choice Based Credit System) Restructured Programme of Savitribai Phule Pune University at undergraduate level to be introduced from the academic year 2019-20, this subject (Compulsory English), like other subjects under B. Com. Degree Course, shall have 70+ 30 pattern. There will be written examination of 70 marks of 3 hrs duration for this subject at the end of each semester. The class work (internal evaluation) shall carry 30 marks. Each semester shall have 3 credits for teaching. Each credit is equal to 15 hours so this course shall have 45 teaching hours. In addition to that there shall be three hours allotted to internal evaluation. Changes as per the university guidelines shall be communicated from time to time.

**Question Paper Format (Semester I End Exam)
(From June 2019-20)**

Textbook: *Pearls of Wisdom*

Time: Three Hours

Total Marks: 70

- Q. 1) Attempt any **three out of five** - 15 Marks
(Questions on Unit I)
- Q. 2) Attempt any **three out of five** - 15 Marks
(Questions on II)
- Q. 3) Attempt any **two out of four** - 20 Marks
(Questions on Unit III)
- Q. 4) Attempt any **four out of six** -20Marks
(Questions on Unit IV)

**Question Paper Format (Semester II End Exam)
(From June 2019-20)**

Textbook: *Pearls of Wisdom*

Time: Three Hours

Total Marks: 70

- Q. 1) Attempt any **three out of five** - 15 Marks
(Questions on Unit I)
- Q. 2) Attempt any **three out of five** - 15 Marks
(Questions on II)
- Q. 3) Attempt any **two out of four** - 20 Marks
(Questions on Unit III)
- Q. 4) Attempt any **four out of six** -20Marks
(Questions on Unit IV)

**Internal Evaluation- Total- 30 Marks
(Applicable to both Semester I & II)**

- 1)Written Test (on prescribed texts)- **20 Marks**
- 2)Project/Group Discussion/Tutorial/Home
Assignment/Seminar/Participation in A Classroom Activity- **10 Marks**

Revised Syllabi for Three - Year Integrated B.Com. Degree course (From June 2013)

1) INTRODUCTION

The revised syllabi for B.Com Degree Course will be introduced in the following order.

- | | | |
|-------------|--------------------|-----------|
| i) | First Year B.Com. | 2013-2014 |
| ii) | Second Year B.Com. | 2014-2015 |
| iii) | Third Year B.Com. | 2015-2016 |

The B.Com. Degree Course (Revised Structure) will consist of three Years. The first year annual examination will be held at the end of the first year. The Second Year annual examination will be held at the end of the second year. The Third annual examination shall be held at the end of the third year.

2) ELIGIBILITY

1. No Candidates shall be admitted to enter the First Year of the B.Com. Degree Course (Revised Structure) unless he/she has passed the Higher Secondary School Certificate Examination of the Maharashtra State Board of Higher Secondary Education Board or equivalent or University with English as a passing subject.
2. No candidate shall be admitted to the annual examination of the First year B.Com. (Revised Structure) unless he/ she has satisfactorily kept two terms for the course at the college at the college affiliated to this University.
3. No candidate shall be admitted to the annual examination of the Second Year unless he/she has kept two terms satisfactorily for the course at the college affiliated to this University.
4. No candidate shall be admitted to the Third year of the B.Com. Degree Course (Revised Structure) unless he/she has passed in all the papers at the First Year B.Com. Examination and has passed in all the papers at the first Year B.Com. Examination and has satisfactorily kept terms for the second year and also two terms for the third year of B.Com. satisfactorily in a college affiliated to this University.

3) A.T.K.T. Rules :

As far as A.T.K.T. is concerned, a student who fails in two theories and one practical head of passing at F.Y.B.Com may be admitted to S.Y.B.Com. likewise a student who fails in the two theory and one practical head of passing at S.Y.B.Com may be admitted to T.Y.B.Com. But a student passing S.Y.B.Com but fails in any subject at F.Y.B.Com cannot be admitted to T.Y.B.Com.

4) (A) Revised Structure of B.Com. Course.

F.Y.B.Com. w.e.f. 2013-14	
Sr. No.	Compulsory / Main Subjects
101	Compulsory English
102	Financial Accounting
103	Business Economics (Micro)
104 (A)	Business Mathematics and Statistics
	or
104 (B)	Computer Concepts and Applications
105	Optional Group (Any one of the following) a) Organizational Skill Development. b) Banking & Finance c) Commercial Geography d) Defense Organization and Management in India e) Co-Operation. f) Managerial Economics
106	Optional Group (Any one of the following) a) Essentials of E-Commerce b) Insurance & Transport c) Marketing & Salesmanship d) Consumer Protection & Business Ethics. e) Business Environment & Entrepreneurship f) Foundation Course in Commerce
107	(Any one of the language from the following groups) Modern Indian Languages (M.I.L.) -: Compulsory English / Marathi / Hindi / Gujarathi / Sindhi / Urdu / Persian. Modern European Languages (M.E.L.) -: French / German. Ancient Indian Languages (A.I.L.) -: Sanskrit. Arabic.

S.Y.B.Com. w.e.f. 2014-15	
Sr. No.	Compulsory / Main Subjects
201	Business Communication.
202	Corporate Accounting.
203	Business Economics (Macro)
204	Business Management
205	Elements of Company Law
206	Special Subject – Paper I (Any one of the following) a) Business Administration b) Banking & Finance. c) Business Laws & Practices.

	<ul style="list-style-type: none"> d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.
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T.Y. B.Com. w.e.f. 2015-16	
Sr. No.	Compulsory / Main Subjects
301	Business Regulatory Framework (Mercantile Law)
302	Advanced Accounting.
303 (A)	Indian & Global Economic Development
	Or
303 (B)	International Economics
304	Auditing & Taxation
305	<p>Special Subject – Paper II (Same special subject offered at S.Y. B.Com.)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking & Finance. c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.
306	<p>Special Subject – Paper III (Same special subject offered at S.Y. B.Com.)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking & Finance. c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.

B) Subjects Carrying Practical's

There will be practical examination for the F.Y.B.Com. for the subject Financial Accounting. There will be practical and practical examinations for the special subjects at S.Y.B.Com. and T.Y.B.Com. levels. There will be Practical for the S.Y.B.Com level Compulsory subject Business Communication & for T.Y.B.Com Auditing & Taxation.

(C) A Student must offer the same Special Subject at T.Y.B.Com. which he has offered at S.Y.B.Com.

(D) In an exceptional cases, a student may change the subject chosen by him at second year during the first term of the third year provided he keeps the additional terms of the new subject at S.Y.B.Com.

4. EXTERNAL CANDIDATES

- 1) The student who has registered his name as the external student will appear at the annual examination.
- 2) The result of external student will be declared on the basis of Annual Examination of 80 marks for practical subjects by converting the same out of 100.
- 3) No foreign student shall be allowed to register as an External Student.

5. MEDIUM OF INSTRUCTION.

Medium of instruction for B.Com. degree course shall be either Marathi or English except languages.

The Medium of instructions for Business Communication (S.Y.B.Com) shall be English only.

6. WORKLOAD

The present norms of workload of lectures, tutorials and practicals per subject in respect of B.Com. Course shall continue.

7. UNIVERSITY TERMS

The dates for the commencement and conclusion of the first and the second terms shall be as determined by the University Authorities. The terms can be kept only by duly admitted students. The present relevant ordinances pertaining to grant of terms will be applicable.

8. VERIFICATION AND REVALUATION

The candidate may apply for verification and revaluation or result through Principal of the College which will be done by the University as per ordinance framed in that behalf.

9. EQUIVALENCE AND TRANSITORY PROVISION

The University will conduct examination of old course for next three academic years from the date of implementation of new course.

The candidate of old course will be given three chances to clear his subjects as per the old course and thereafter he will have to appear for the subjects under new course as per the equivalence given to old course.

10. RESTRUCTURING OF COURSES

This new revised structure shall be made applicable to the colleges implementing 'Restructured Programme' at the undergraduate level from June, 2004. The existing pattern of 'C', 'D', and 'E' Components shall be continued.

The Colleges under the Restructured Programme which has revised their structure in the light of the "2008 Pattern" shall be introduced with effect from academic year 2010-11.

11. SETTING OF QUESTION PAPERS

1. A candidate shall have the option of answering the question in any of the subjects either in Marathi or English except in languages.
2. The question papers shall be framed so as to ensure that no part of the syllabus is left out of study by a student.
3. The question paper shall be balanced in respect of various topics outlined in the syllabus.
4. The question papers shall have combination of long and short answer type question. As far as possible short answer type questions should not exceed 15 to 20 percent.
5. There shall be no overall option in the question paper, instead, there shall be internal options (such as either/ or and three short answers out of five etc.).
6. In case of question paper under the Special Subject (Paper No. III) one question carrying 10 marks will be set on current knowledge in relating subject in the academic year.

F.Y. B.Com.
Compulsory Paper
Subject Name :- Financial Accounting.
Course Code :- 102

Objectives :-

1. To impart the knowledge of various accounting concepts
2. To instill the knowledge about accounting procedures, methods and techniques.
3. To acquaint them with practical approach to accounts writing by using software package.

Term I

Unit No.	Topic	No. of Lectures
1.	Piecemeal Distribution of Cash Meaning and Introduction, Surplus Capital Method and Maximum Loss Method	12
2.	Amalgamation of Partnership Firms:- Meaning and Introduction, Objectives, Methods of accounting	12
3.	Conversion of a partnership firm into a limited company Meaning and introduction, objectives, effects, methods of calculation of purchase consideration (Net Asset and Net Payment method), accounting procedure in the books of the firm and balance sheet of new company	12
4.	Computerized Accounting Environment Meaning and Introduction, application of accounting software package, Voucher entry through software package.	12
Total		48

Term II

Unit No.	Topic	No. of Lectures
5.	Introduction and Relevance of Accounting Standards Overview of Accounting Standards in India-Concept, Need, Scope and Importance. Study of AS- 1, AS- 2, AS- 4 and AS- 9	10
6.	Royalty Accounts [excluding sub-lease]: Royalty, Minimum Rent, Short Workings, Recoupment of Short Working, Lapse of Short Working. Journal Entries and Ledger Accounts in the Books of Landlord and Lessee.	12
7.	Hire Purchase and Installment System:[Excluding H. P. Trading] Basic Concepts and Distinction, Calculation of Interest and Cash Price, Journal Entries And Ledger Accounts in The Books of Purchaser and Seller.	16
8.	Departmental Accounts Meaning and Introduction, Methods and Techniques, Allocation of expenses, Inter Departmental Transfers, Provision for unrealized profits	10
Total		48

Notes:-

1. Question Paper for Term and Annual Examination should consist of :
 Theory Questions: -30%
 Problems:- 70%
2. There will be minimum two practicals.
3. Accounting practical be conducted in Computer or Commerce Laboratory only.
4. Students are expected to study and practice the application of accounting software packages.
5. Colleges are expected to use only licensed copy of software.
6. Practical examination need to be conducted in the computer laboratory.
7. Each student should be given separate set of transactions for practical examination.
8. For practical examination, internal and external examiner shall be appointed by the college.

Recommended Books
<ol style="list-style-type: none"> 1. Financial Accounting: By P. C. Tulsian (Tata McGraw-Hill Publishing Co. Ltd. New Delhi) 2. Financial Accounting: By A. Mukharji & M. Hanif (Tata McGraw-Hill Publishing Co. Ltd. New Delhi) 3. Financial Accounting: By S.N. Maheshwari & S.K. Maheshwari (Vikas Publishing House Pvt. Ltd) 4. Financial Accounting: By Dr. K.N. Jagtap, Dr. S. Zagade & Dr. A.H. Gaikwad (Success Publications, Pune) 5. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd. New Delhi) 6. Advanced Accountancy: By S.P. Jain & K.N. Narang (Kalyani Publishers, New Delhi) 7. Advanced Accountancy: By R.L.Gupta & M. Radhaswamy (Sultan Chand & Sons, New Delhi)

Journals:-

1. The Chartered Accountant: Journal of the Institute of Chartered Accountants of India.
2. The Accounting World : ICFAI Hyderabad

F.Y. B.Com.
Compulsory Paper
Subject Name -: Business Economics (Micro)
Course Code -: 103

Objectives -:

1. To expose Students of Commerce to basic micro economic concepts and inculcate an analytical approach to the subject matter.
2. To stimulate the student interest by showing the relevance and use of various economic theories.
3. To apply economic reasoning to problems of business.

Term I

Unit No.	Topic	No. of Lectures
1.	INTRODUCTION. 1.1 Meaning, Nature and Scope of Business Economics- (Micro) 1.2 Difference between Micro and Macro Economics. 1.3 Tools for Analysis <ol style="list-style-type: none"> a. Functional Relationships b. Schedules c. Graphs d. Equations 1.4 Goals of firms <ol style="list-style-type: none"> a) Economic Goals of Firms <ol style="list-style-type: none"> 1. Profit Maximization 2. Shareholders Wealth Maximization 3. Management Reward Maximization 4. Growth of the firm 5. Sales maximization 6. Long run survival b) Non-Economic goals <ol style="list-style-type: none"> 1. Political power, Prestige 2. Social responsibility and welfare 3. Goodwill of employees 	12
2.	DEMAND ANALYSIS 2.1 Elasticity of Demand, Types of Elasticity, Price Elasticity, Income Elasticity and Cross Elasticity. 2.2 Consumer Behaviour <ol style="list-style-type: none"> a) Marginal Utility Approach <ul style="list-style-type: none"> - Limitations b) Indifference Curve Analysis <ul style="list-style-type: none"> - Concept - Characteristics - Consumer Equilibrium 2.3 Demand Forecasting and Estimation <ol style="list-style-type: none"> a) Meaning and objectives of Demand Forecasting b) Methods of Demand Forecasting c) Descriptive Analysis of 	20

	<ul style="list-style-type: none"> i) Direct Methods <ul style="list-style-type: none"> 1) Consumer Survey 2) Expert opinion 3) Simulating market situation 4) Controlled Market Experiments ii) Indirect Methods <ul style="list-style-type: none"> 1) Simple correlation 2) Trend Projections 	
3.	<p>PRODUCTION AND COST ANALYSIS</p> <p>3.1 Production Function – Meaning</p> <p>3.2 Law of Variable Proportions - The Three Stages</p> <p>3.3 Law of Returns to Scale - The Three Stages</p> <p>3.4 Economies and Diseconomies of Scale – Internal and External</p> <p>3.5 Cost Analysis – Types of Costs</p> <ul style="list-style-type: none"> a) Types of Costs <ul style="list-style-type: none"> 1) Total cost 2) Average Cost 3) Marginal Cost 4) Opportunity cost b) Behaviour of Cost Curves <ul style="list-style-type: none"> 1) In the Short Run 2) In the Long Run 	16
Total		48

Term II

Unit No.	Topic	No. of Lectures
4.	<p>REVENUE BEHAVIOUR</p> <p>4.1 Meaning and Importance of Revenue Concepts</p> <p>4.2 Total Revenue (TR), Average Revenue (AR) Marginal Revenue (MR).</p> <p>4.3 Relationship between Total Revenue, Average Revenue and Marginal Revenue</p>	8
5.	<p>PRICING UNDER VARIOUS MARKET CONDITIONS</p> <p>5.1 Perfect Competition – Features and equilibrium</p> <p>5.2 Monopoly – Features and equilibrium, Price Discrimination</p> <p>5.3 Monopolistic competition - Features and equilibrium</p> <p>5.4 Oligopoly – Features</p>	20
6.	<p>FACTOR PRICING</p> <p>6.1 Marginal Productivity theory of Distribution.</p> <p>6.2 Rent</p> <ul style="list-style-type: none"> a) Theories of Rent <ul style="list-style-type: none"> i) Ricardian Theory of Rent ii) Modern Theory of Rent 	20

	<p>6.3 WAGES -</p> <p style="padding-left: 20px;">i) Backward sloping Supply curve of Labour.</p> <p style="padding-left: 20px;">ii) Collective Bargaining & Trade Unions</p> <p>6.4 INTEREST -</p> <p style="padding-left: 20px;">a) Theories of Interest –</p> <p style="padding-left: 40px;">i) Loanable Fund Theory of Interest</p> <p style="padding-left: 40px;">ii) Keynes Liquidity Preference Theory of Interest</p> <p>6.5 PROFIT -</p> <p style="padding-left: 20px;">a) Theories of Profit –</p> <p style="padding-left: 40px;">i) Dynamic Theory of Profits</p> <p style="padding-left: 40px;">ii) Innovation Theory of Profit</p> <p style="padding-left: 40px;">iii) Risk and Uncertainty Theory of Profit</p>	
Total		48

Recommended Books
<ol style="list-style-type: none"> 1. Economics – Samuelson P. A. and Nordhaus W. D. TataMcGraw Hill Publishing Co. Ltd. N.Delhi. 2. A text Book of Economic Theory – Stonier A. W. and Hague D. C. Longman Green and Co. London 3. Business Economics – V. G. Mankar, Macmillan India Ltd. N. Delhi. 4. Vyavasaik Arth Shastra (Sukshm) Dr. T. G. Gite, Atharv Publication. Pune 5. Modern Micro Economics – Theory and Applications H.L. Ahujna S. Chand and Co Ltd. N Delhi. 6. Business Economics – Dr. Girija Shankar – Atharv Publication, Pune. 7. Principals of Economics – N.Gregory Mankiw 6th edition 2012 Cengage learning india pvt ltd Delhi 8. Understanding Microeconomics- Robert L. Helibroner and Lester C. Thurow. Prentice Hall International Inc. London. 9. Micro Economic Theory An Analytical Approach – J M Joshi and R. Joshi Wishwa Prakashan (Division of Wiley Eastern Limited) N. Delhi. 10. Business & Managerial Economics (in the global Context) Sampat Mukherjee. New Central Book Agency, Calcutta. 11. Micro Economics Theory and Application D.N.Dwivedi Second Edition PEARSON.

F.Y. B.Com.
Optional Paper
Subject Name -: Business Mathematics and Statistics
Course Code -: 104 (A)

Objectives -:

1. To prepare for competitive examinations
2. To understand the concept of Simple interest, compound interest and the concept of EMI.
3. To understand the concept of shares and to calculate Dividend
4. To understand the concept of population and sample.
5. To use frequency distribution to make decision.
6. To understand and to calculate various types of averages and variations.
7. To understand the concept and application of profit and loss in business.
8. To solve LPP to maximize the profit and to minimize the cost.
9. To use correlation and regression analysis to estimate the relationship between two variables.
10. To understand the concept and techniques of different types of index numbers.

FIRST TRM

Medium for this subject shall be ENGLISH only

Unit 1.	Pre-requisites (For objective type questions only)	(10)
	<ol style="list-style-type: none">1. Natural Numbers and Integers2. H.C.F and L.C.M.3. Fractions- addition, subtraction multiplication and division of two or more fractions4. Laws of Indices5. Ratio and Percentage6. Proportion and partnership	
Unit 2.	Interest	(08)
	<ol style="list-style-type: none">1. Simple Interest2. Compound interest (nominal and effective rate of interest)3. Equated Monthly Installments (EMI) (Reducing and flat rate of interest)4. Examples	
Unit 3.	Shares and dividends	(06)
	<ol style="list-style-type: none">1. Concept of Shares, face value, market value, Net Asset Value2. Equity Shares and Preference shares3. Dividend4. Bonus Shares5. Examples	
-----		Total [24]

Unit 4. Population and Sample (08)
1. Definition and concept of Statistics
2. Scope of Statistics in Economics, Management Science and Industry
3. Concept of Population and Sample
4. Methods of Sampling: Simple Random Sampling and Stratified Random Sampling (Description of procedures only)

Unit 5. Measures of central tendency (16)
1. Variables Qualitative and Quantitative, Raw data, Classification of data,
2. Frequency distribution, cumulative frequency distribution,
3. Histogram (finding mode graphically) Ogive curves and its uses.
4. Measures of central tendency: Mean, Median for ungrouped and Grouped data.
5. Examples

----- **Total [48]**

SECOND TERM

Unit 6. Profit and Loss (12)
1. Concept of Cost Price, Marked Price and Selling Price
2. Trade Discount and Cash Discount
3. Commission and Brokerage
4. Examples

Unit 7. Linear Programming Problems (For two Variables only) (12)
1. Definition and terms in a L.L.P.
2. Formulation of L.L.P.
3. Solution by Graphical Method
4. Examples

----- **Total [24]**

Unit 8. Measures of dispersion (08)
1. Concept of Dispersion
2. Measures of Dispersion – Range, Variance and Standard Deviation (S.D.) for Grouped and ungrouped data
3. Measures of relative dispersion- Coefficient of range and coefficient of Variation
4. Examples

Unit 9. Correlation and Regression (08)
1. Concept of Bivariate data, correlation using scatter diagram
2. Karl Pearson's Coefficient correlation for ungrouped data
3. Spearman's Rank correlation coefficient
4. Concept of regression, lines of regression
5. Regression as prediction Model
6. Examples

Unit 10. Index number (08)
1. Concept of Index Number

2. Construction of Price Index Number
3. Laspeyre's, Paasche's and Fisher's Method
4. Family Budget and Aggregate Expenditure Method
5. Concept of – Cost of Living /Consumer Price Index Number, SENSEX and NIFTY
6. Examples

----- **Total [24]**

Grand Total [48]

Recommended Books:

1. Practical Business Mathematics by S.A.Bari (New Literature Publishing Company)
2. Business Mathematics by V.K.Kapoor (Sultan Chand And Sons)
3. Fundamentals of Statistics by S.C.Gupta (Himalaya Publishing House)
4. Basic Statistics by B.L.Agrawal (New Age International Publishers)
5. Statistical Methods by S.P.Gupta (Sultan Chand And Sons)

F.Y. B.Com.
Optional Paper
Subject Name -: Computer Fundamentals
Course Code -: 104 (B)

Objective:

1. To make the students familiar with Computer environment.
2. To make the students familiar with the basics of Operating System and business communication tools.
3. To make the students familiar with basics of Network, Internet and related concepts.
4. To make awareness among students about applications of Internet in Commerce.
5. To enable students to develop their own web site.

Term - I

Unit No.	Topic	Lectures
1.	Introduction to Computer Fundamentals	[10]
	Introduction to Computer Computer System Hardware Computer Memory Input and Output Devices Interaction between User and Computer Introduction to Free and Open Source Software Definition of Computer Virus, Types of Viruses, Use of Antivirus software	
2.	Basics of Operating System	[12]
	Definition of Operating System Objectives, types, and functions of Operating Systems Working with Windows Operating System: Introduction, The Desktop, Structure of Windows, Windows Explorer, File and Folder Operations, The Search, The Recycle Bin, Configuring the Screen, Adding or Removing New Programs using Control Panel, Applications in windows (Paint, Notepad, WordPad, Calculator)	
3.	Introduction to Business Communication Tools	[12]
	MS-Word: Introduction, Starting MS-Word, MS-Word Screen and its Components, Elementary Working with MS-Word MS-Excel: Introduction, Starting MS-Excel, Basics of Spreadsheet, MS-Excel Screen and Its Components, Elementary Working with MS-Excel MS-Powerpoint: Introduction, Starting MS-PowerPoint, Basics of PowerPoint, MS-PowerPoint Screen and Its Components, Elementary Working with MS-PowerPoint	
4.	Introduction to Computer Network	[06]
	Introduction Importance of Networking Computer Network (LAN, WAN, MAN) Network Components (Hub, Switch, Bridge, Gateway, Router, Modem) Network Topology, Wireless Networks	
5.	Use of Computer in Commerce	[08]

	<p>Data Processing, Files and Records, File Organization (Sequential, Direct/Random, Index)</p> <p>Computer Applications in Business – Need and Scope</p> <p>Computer Applications in various fields of Commerce: Personnel Administration, Accounting, Cost and Budgetary Management, Purchasing, Banking, Insurance and Stock-broking, e-governance</p> <p>Introduction to E-Commerce, Evolution of E-Commerce, Role of E-Commerce, E-Commerce Framework, E-Commerce Categories</p>	
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Term - II

Unit No.	Topic	Lectures
1.	<p>Internet and Internet application</p> <p>Introduction, Internet evolution</p> <p>Working of Internet, Use of Internet</p> <p>Overview of World Wide Web (Web Server and Client)</p> <p>Introduction to Search engine and Searching the Web</p> <p>Downloading files</p> <p>Introduction to Web Browsers</p> <p>Working with E-mail (creation and use of the same)</p>	[08]
2.	<p>Electronic Data Interchange</p> <p>Introduction to EDI</p> <p>EDI Architecture</p> <p>Financial EDI</p> <p>Overview of the technology involved in EDI</p>	[04]
3.	<p>Electronic Payment System</p> <p>Introduction to EPS</p> <p>Introduction to EFT (Electronic Fund Transfer)</p> <p>Introduction to SET (Secure Electronic Transaction)</p> <p>Business requirement addressed by SET</p> <p>Introduction to Digital Signature and Digital Certificates , Stages of SET</p> <p>Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card</p>	[08]
4	<p>Introduction to HTML.</p> <p>Introduction to HTML. Working of HTML</p> <p>Creating and loading HTML page, tags</p> <p>Structure of on HTML, Document, Stand Alone Tags</p> <p>Formatting text, Adding Images</p> <p>Creating hyper Links, Tables</p> <p>Sending E-mails through Web Page</p> <p>Sample web pages</p>	[10]
5.	<p>Introduction To Web page Design</p> <p>Introduction to Web design, Types of Web Pages</p> <p>Web design Pyramid</p> <p>Building web sites</p>	[07]

	Web development process model	
6.	Designing The web pages Page size, Page type, Page margin, Entrance page Exit page, Graphics in Webpage design Animation Effect, Sound Effect Color Effect Uploading the web site (Web space, Domain Name, Hosting the web site)	[08]
7.	Internet Security Security, Privacy Ethical Issues & Cyber Law	[03]

Reference Books

1. Computer Fundamentals by: Anita Goel, Pearson Education India ISBN: 9788131742136
2. Connecting with Computer Science, by Greg Anderson, David Ferro, Robert Hilton, Course Technology, Cengage Learning, ISBN:9781439080351
3. Fundamentals of Computer : For undergraduate courses in commerce and management, IITL Education Solutions Limited, Pearson Education, ISBN:9788131733349
4. Introduction to Computer Science, 2/e, IITL Education Solutions Limited, Pearson Education, ISBN:9788131760307
5. Frontiers of Electronic Commerce, Ravi Kalakota, Andrew B. Whinston, Pearson Education, ISBN:9788177583922
6. Internet: The Complete Reference, Margaret Levine Young, Tata McGraw Hill Education Private Limited, ISBN: 9780070486997
7. Murach's HTML, XHTML and CSS: Training & Reference, Anne Boehm, Shroff/Murachs Publication, ISBN-9789350230954
8. On the Way to the Web: The Secret History of the Internet and Its Founders, A. Banks, Apress Publication, ISBN: 9781430208693
9. Computers and Commerce: A Study of Technology and Management at Eckert-Mauchly Computer Company, Engineering Research Associates, and Remington, Arthur L. Norberg, MIT Press (MA), ISBN:9780262140904

Guidelines for Examination:

1. Term End Exam (20 Marks):
To be conducted by college as per rules provided by University of Pune.
2. Annual Exam (80 Marks):
To be conducted by University of Pune at the end of the academic year.
Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Annual Examination).

F.Y. B.Com.
Optional Paper
Subject Name -: Organizational Skill Development.
Course Code -: 105 – a.

Objective:

1. To orient the students towards the concept of Organization and Modern Office.
2. To acquaint the students with the role of and Functions of Office Manager.
3. To develop the insights regarding Organizational Skills for Office Managers.
4. To know the functioning of Modern office appliances equipments and e- format records

Term I

Unit No.	Topic	No. of Lectures
1.	Modern Office 1.1 Introduction, Definition, Characteristics, Importance and Functions 1.2 Traditional and Modern Concepts of Office 1.3 Office Location Meaning, Objectives , Principles of Office Location Office Layout – Meaning , Objectives , Principles and Layout ,Modular and Structured Furniture 1.4 Factors of Good Ambience Office Lighting, ventilation. Temperature, Sanitation, Interior Decoration, Noise and Cleanliness.	12
2.	Office Organization 1.1 Definition, Importance of office organization, 1.2 Principles, Steps. 1.3 Types of Organization 1.4 Concept and Functions of Office Administrator.	12
3.	Office Manager and Organizational Skills 3.1 Office Manager – Role, duties and responsibilities 3.2 Qualification, Qualities and skills of an office manager 3.3 Time Management –Definition, Need, Principles, advantages and Disadvantages, Time Management techniques. 3.4 Goal Setting-Concept of goal-setting - Importance of goals, SMART(Specific, Measurable, Achievable, Realistic, Time-bound) goals , Do's and Don'ts about goals.	12
4.	Office services 4.1 Mail Routine , Courier Services its need and Importance 4.2 Office Forms - objectives, advantages and types of office forms E-forms – advantages. 4.3 Organizational Web Page – Contents, advantages, Internet/Web basedapplications of office activities. 4.4 Office Stationary and Supplies - Importance of stationary, Essentials of	12

	a good system of regulating stationary, purchases, storage, Record of stationary,	
Total		48

Term II

Unit No.	Topic	No. of Lectures
5.	Office Records Management 5.1 Introduction - Need - Objectives - Kinds of Records. 5.2 Organization of records department. 5.3 Classifying and Indexing of Records and Files. Principles - Retention and disposition of records. 5.4 Digitalization of Records: Meaning, advantages, process, utility and feasibility.	12
6.	Office Communications 6.1 Meaning and Elements of Office Communications, 6.2 Channels of Communication – Internal and External 6.3 Significance and barriers to effective communications 6.4 Recent trends in modern communications such as Fax - E-Mail, Internet, Intranet, www(World Wide Web),Tele conferencing, Video Conferencing as means of Communication	12
7.	Public Relations : 7.1 Definition, nature, Scope of PR with customers, investors , employees, government offices and others 7.2 Objectives, importance and functions 7.3 Role of Public Relation Officer in Modern Office 7.4 – Modern methods of Public Relations	12
8	Office Automation 8.1 Office Automation – meaning, scope, feasibility, and advantages 8.2 Different types of modern appliances and machines used in Offices. 8.3 Computerization of office activities - LAN – WAN 8.4 Accounting Packages, Payroll Accounting, Inventory statements, - Vouchers –Invoices - Salary - Maintenance of records and Accounting Books and preparation of financial Report, Leave accounting, Attendance.	12
Total		48

Recommended Books

1. Office Organization and Management – By S. P. Arora
2. Office Methods - By M. L. Basu
3. Office Automation – By G. R. Terry
4. Office Management & Control – By G. R. Terry
5. Office Management – By P. K. Ghosh
6. Files and Record Management By Pophan
7. A text book of Office Management By William II & Leffingwell & Robinson
8. Office Administration and Management – by Dr. Khorshed Madon. and Dr. Homai M. Dowell, Vikas Publishing House , Delhi

F.Y. B.Com.
Optional Paper
Subject Name -: Banking and Finance
[Fundamentals of Banking]
Course Code -: 105 – b.

Objective:

1. To acquaint the students with the fundamentals of banking.
2. To develop the capability of students for knowing banking concepts and operations.
3. To make the students aware of banking business and practices.
4. To give thorough knowledge of banking operations.
5. To enlighten the students regarding the new concepts introduced in the banking system.

Term I

Unit No.	Topic	No. of Lectures
1.	Evolution of banking 1.1 Origin, Meaning and Definition of 'Bank' 1.2 Evolution of banking- Europe, USA & Asia 1.3 Evolution of banking in India. 1.4 Structure of Indian Banking System	06
2.	Functions of Bank 2.1 Primary functions: A) Accepting deposits: Demand deposits: Current and Savings; No Frills Account, Time deposits-Recurring and Fixed deposits, Flexi Deposits (Auto Sweep) B) Granting Loans and Advances- Term Loan, Short term credit, Overdraft, Cash Credit, Purchasing, Discounting of bills, 2.2 Secondary functions: A) Agency Functions- Payment and Collection of Cheques, Bills and Promissory notes, Execution of standing instructions, Acting as a Trustee, Executor. B) General Utility Functions: Safe Custody, Safe deposit vaults, Remittances of funds, Pension Payments, Acting as a dealer in foreign exchange.	14
3.	Procedure for opening and operating of deposit account 3.1 Procedure for Opening of Deposit Account: Know Your Customer- Needs and Norms (KYC Norms), Application form, Introduction, Proof of residence, Specimen signature and Nomination: Their Importance 3.2 Procedure for Operating Deposit Account: Pay-in-slips, Withdrawal slips, Issue of pass book, (Current Savings or Recurring deposits), Issue of Cheque book, Issue of fixed deposit receipt, Premature encashment of fixed deposits and loan against fixed deposit. Recurring deposits: Premature encashment and loan against recurring deposit. 3.3 a) Closure of accounts b) Transfer of accounts to other branches/Banks 3.4 Types of account holders a) Individual account holders- Single or joint, Illiterate, Minor, Married	14

	woman, Pardahnashin woman, Non resident accounts b) Institutional account holders- Sole proprietorship, Partnership firm, Joint stock company, Hindu undivided family, Clubs, Associations and Societies and Trusts.	
4.	Methods of Remittances 4.1 Demand drafts, bankers' Cheques and Truncated Cheques 4.2 Mail transfer, Telegraphic transfer, 4.3 Electronic Funds Transfer- RTGS, NEFT and SWIFT	14
Total		48

Term II

Unit No.	Topic	No. of Lectures
5.	Lending principles, Credit Creation and Balance Sheet of a bank 5.1 Safety, Liquidity, Profitability, Diversification of risks Conflict between liquidity and profitability 5.2 Multiple Credit Creation: Process and Limitations 5.3 Balance sheet of a commercial bank.	16
6.	Negotiable Instruments 6.1 Definition, meaning and characteristics of Promissory note, Bill of Exchange and Cheque 6.2 Types of Cheques- Bearer, Order and Crossed 6.3 Types of Crossing- General and Special.	16
7.	Endorsement 7.1 Definition and meaning of endorsement 7.2 Types of endorsement- Blank, Full or Special, Restrictive, Partial, Conditional, Sans Recourse, Facultative.	08
8	Technology in Banking 8.1 Need and importance of technology in banking 8.2 E-Banking: ATM, Credit card, Debit card, Tele Banking, Mobile Banking, Net Banking, SWIFT (Society for Worldwide Inter-bank Financial Telecommunication) 8.3 Concept and benefits of Core Banking Solution.	08
Total		48

Recommended Books

1. Practice and Law of Banking- G.S.Gill
2. Banking: Law and Practice- P.N. Varshney
3. Banking: Theory and practice- E.Gordon, K. Talraj
4. Banking: Law and practice in India- Tannan
5. Banking: Law and practice in India- Maheshwari
6. Fundamentals of Banking- Dr. G.V.Kayandepatil, Prof. B.R.Sangle, Dr. G.T.Sangle, Prof. N.C.Pawar
7. Banking: Law and Practice- Prof. Mogle
8. Banking and financial system - Vasant Desai
9. Banking theory and practice- K.C.Shekhar
10. Fundamentals of banking'- Dr. R.S.S.Swami
11. Annual Report on trends and progress of banking in India- R.B.I.
12. Toor N. S., Handbook of Banking Information

F.Y. B.Com.
Optional Paper
Subject Name -: Defense Organization and Management in India
Course Code -: 105 – d.

Objective:

1. To understand the role of Armed Forces for maintaining national security of the country.
2. To understand Higher Defense Mechanism, Role of Intelligence and Management Technique in Decision making at Strategic & Tactical Level

Term I

Unit No.	Topic	No. of Lectures
1.	Principles of Defense Organization 1.1 Reconstruction of Indian Armed Forces since 1947 1.1.1 Development of the Army after Independence 1.1.2 Development of the Navy after Independence 1.1.3 Development of the Air Force after Independence	12
2.	Higher Defense Organization in India 2.1. Powers of the President in relation to the Armed Forces 2.2. Defense Committee of the Cabinet. 2.3. Ministry of Defense – its organization & function 2.4. National Security Council	12
3.	Defense Mechanism of the Indian Armed Forces 3.1 Chief of Staff Committee 3.2 Organization of Army, Naval & Air Headquarters. 3.3 Organization of Army, Naval & Air Commands.	12
4.	Second Line of Defense 4.1. Border Security Force 4.2. Coast Guard 4.3. Territorial Army 4.4. Home Guard 4.5. Civil Defense 4.6. National Cadet Corps (N.C.C) 4.7. Central Reserve Police Force 4.8. State Reserve Police Force	12
Total		48

Term II

Unit No.	Topic	No. of Lectures
5.	Intelligence 5.1. History & Types of Intelligence 5.2. Process & Principles of Intelligence 5.3. Devices for Collecting Intelligence 5.4. Role of Intelligence 5.5. Counter Intelligence 5.6. Indian Intelligence Organization	12

6.	The Combat Branches 6.1. Infantry 6.1.1. Characteristic, Role & Limitations. 6.1.2. Division & Battalion Organization. 6.2. Armoured Crops 6.2.1. Characteristics, Role & Limitations 6.3. Supporting Arms 6.3.1. Artillery – Characteristics, Role & Limitations 6.3.2. Engineers - Characteristics, Role & Limitations 6.3.3. Signal Corps - Characteristics, Role & Limitations means of signals	12
7.	The Administrative Services 7.1 Army Service Crops 7.2 Army Ordnance Crops 7.3 Electrical & Medical Engineers. 7.4 Army Medical Crops – its role in Peace & War time	12
8	Indian Navy & Indian Air Force 8.1. Characteristic, Role & Limitations Navy & Air Force 8.2. Various Types of Battle Ships in Indian Navy 8.3. Various Types of Aircrafts in Indian Air Force	12
Total		48

Recommended Books	
<ol style="list-style-type: none"> 1. Ron Mathews – “Defence Production in India” ABC – New Delhi 2. Raju G. C. Thomas – “The Defence of India – A Budgetary perspective of strategy & politics”, Mac Millan Publication, New Delhi – 1978 3. Sam-C-Sarkesian – “The Military Industrial Complex – A Reassessment”, Sage Publication, 1972 4. Maj. Gen. Pratap Narain (Retd.) “India’s Arms Bazaar” Shilpa Publication, New Delhi – 1998 5. Y. Lakshmi, “Trends in India’s Defence Expenditure” ABC, New Delhi 1998. 6. Lt. Gen. R.K. Jasbir Singh, “India’s Defence Year Books”, Natraj Publication, Dehradun 1999 7. Annual Report, Ministry of Defence, Government of India 8. Venkateshwaram A.L. – “Defence organisation in India” 9. Nagendra Singh – “Defence Mechanism of Modern State”. 10. Lt. Col. Abhyankar M. G. – “Defence Principle & Organisation”. 11. U. C. Jain, Jeevan Nair – “Indian Defence & Security”, Pointer Publishers, Jaipur, 2000 12. D.C.Pathak, “Intelligence: A Security Weapon”, Manas Publication, New Delhi, 2003 13. Stephen Peter Rosen, “Societies & Military Power – India & its Armies”, Oxford University Press, New Delhi, 1996 14. Maj. K.C. Praval, “Indian Army after Independence”, Lancer International, New Delhi, 1990 15. H. B. Mishra, “Defence Programmes of India” – Author Press – New Delhi – 2000 16. Maj. Udaya Chandar, “The Art of Military Leadership”, Jaico Publishing House, Mumbai - 1979 	

F.Y. B.Com.
Optional Paper

Subject Name -: Co-operation

Course Code -: 105 – e.

Objectives:

1. To acquaint the students with the concept of co-operation and its movement.
2. To introduce the scope of Co-operation.
3. To make students build their career in the field of Co-operation and Rural Development.

Term I

Unit No.	Topic	No. of Lectures
1	Concept of Co-operation- <ul style="list-style-type: none"> ➤ Meaning & Definitions ➤ Objectives ➤ Nature and Scope of Co-operation. 	12
2	Principles of Co-operation- Evaluation of Co-operative principles and modifications there in from time to time. <ul style="list-style-type: none"> ➤ International Co-operative Alliance (I.C.A) Committee-1937 ➤ International Co-operative Alliance (I.C.A.) Commission-1966 ➤ International Co-operative Alliance (I.C.A.) Commission-1995 	12
3	History of Indian Co-operative Movement – Origin of Co-operative movement in India. <ul style="list-style-type: none"> ➤ Sir Fedrick Nicholson Report 1904 ➤ Maclagen Committee Report 1912 ➤ Gorewala Committee Report 1954 ➤ Vaidyanathan Committee Report 2005 	12
4	Contribution to the development of Co-operative Movement in India of: <ul style="list-style-type: none"> ➤ Dr. Dhananjay Gadgil ➤ Padmashri. Vaikuntbhai Mehta ➤ Padmashri. Vitthalrao Vikhe Patil ➤ Dr. Verghese Kurien ➤ Karmaveer Bhausheb Hiray 	12
Total		48

Term II

Unit No.	Topic	No. of Lectures
5	Different Types of Co-operative: <ul style="list-style-type: none"> ➤ Rural Co-operative and Urban Co-operative ➤ Agriculture Co-operative and Non Agriculture Co-operative. ➤ Credit Co-operative and Non Credit Co-operative. 	12

	<ul style="list-style-type: none"> ➤ Weaker Sections Co-operatives. ➤ Federation of Co-operatives. 	
6	Government and Co-operative movement: <ul style="list-style-type: none"> ➤ Role of Central Government ➤ Role of State Government 	12
7	Achievement of Co-operative movement: <ul style="list-style-type: none"> ➤ Strength and Weakness ➤ Future Trends of Co-operative Movement in India. 	12
8	Co-operative Education and Training: <ul style="list-style-type: none"> ➤ Objectives of Co-operative Education and Training. ➤ Training arrangement in India. ➤ Evaluation of education and training programmes. ➤ Problems and suggestions. 	12
Total		48

Recommended Books	
1.	Co-operation- Principles and Practice- Dr. D.G. Karve
2.	Co-operation in India- Dr. B.S. Mathur
3.	Theory, History and Practice of Co-operation- Dr. R.D. Beddy
4.	Co-operation in India- Dr. C. B. Memoriya and R.D. Saxena
5.	Theory and Practice of Co-operation in India and Abroad- Prof. R.K. Kulkarni
6.	Bhartiya Sahkari Chadvad- Tatve va Vyavhar (Marathi)- Prof. Jagdish Killol; Prof. Arvind Bondre; Prof. A. C. Bhavsar
7.	Sahkari Chalval 1904-2004 (Marathi) – Prof. K. L. Fale

F.Y. B.Com.
Optional Paper
Subject Name -: Managerial Economics
Course Code -: 105 – f.

Objectives:

1. To enable students of Commerce to apply economic theory and analysis, practices of business firms.
2. To use tools and techniques of economic analysis to develop managerial decision making
3. To apply economic analysis in the formulation of business policies.

Term I

Unit No.	Topic	No. of Lectures
1	INTRODUCTION 1.1 Definition, Nature & Scope and Characteristics of Managerial Economics. 1.2 Theories of the Firm 1.3 Objectives of the Firm – a. Profit Maximization b. Security Objective c. Profit Satisfying Objective d. Sales maximization e. Utility Maximization f. Growth Maximization	13
2	DEMAND ANALYSIS 2.1 Law of Demand 2.2 Determinants of Demand 2.3 Elasticity of Demand – Concept and Measurement of – 2.3.1 Price Elasticity of Demand 2.3.2 Income Elasticity of Demand 2.3.3 Cross Elasticity of Demand 2.4 Importance of Elasticity of Demand in business decision making. 2.5 Business or Economic Forecasting - 2.5.1 Objectives 2.5.2 Methods of Business Forecasting 2.6 Theory of Supply	20
3	PRODUCTION AND COST ANALYSIS 3.1 Production Function –Meaning & Nature 3.2 Law of Variable-the three stages. 3.3 Law of Returns to scale - the three stages. 3.4 Cost Analysis – 3.4.1 In the short run 3.4.3 In the long run	15
Total		48

Term II

Unit No.	Topic	No. of Lectures
4	PRICING AND INVESTMENT DECISIONS 4.1 Pricing Practices -Objectives 4.2 Investment Decisions – 4.2.1 Concept and Types – a. For Expansion b. For Replacement c. For Modernization d. For Diversification e. For Research and Development. 4.2.2 Aids to Investment Decisions – a. Capital Budgeting – Meaning and Usefulness. 4.2.3 Methods of Investment Decision – Concept and Descriptive analysis of – a. Payback period. b. Average Rate of Return	20
5	COST – BENEFIT ANALYSIS 5.1 Meaning 5.2 Use 5.3 Limitations	13
6	MACRO ECONOMIC ENVIRONMENT 6.1 Business Trends in India – 6.2 Overview of Economic Reforms and Business. 6.3 Role of Multinational Corporations (MNCs) 6.4 Acquisitions and Mergers	15
Total		48

Recommended Books

1. Dean Joel – managerial Economics. Prentice Hill India Pvt. Ltd. New Delhi.
2. Gupta G.S. –Managerial Economics. Tata Mcgrew Hill, New Delhi.
3. Mithani D.M. – Managerial Economics Theory and Applications. Himalaya Publishing House, N. Delhi.
4. Mmankar V.G. –Business Economics, Macmillan India Ltd. N. Delhi.
5. Varshney and Maheshwari – Managerial Economics.Sultan Chand and sons, N. Delhi.
6. Dr. T. G. Gite - Vyavasaik Arthshstra (Sukshma) Atharve Publication, Pune.
7. Salvatore Dominick – Managerial Economics in a Global Economy. Mcgraw Hill N. York.
8. Dr.Girija Shankar: Micro Economics – Atharva Publication.
9. H. Craig Peterson, W. Cris Lewis – Managerial Economics. Prentice Hill of India Ltd. New Delhi.
10. Dwivedi D. N. Managerial Economics; Tata Mcgrew Hill, New Delhi

F.Y. B.Com.
Optional Paper
Subject Name -: Essentials of E-Commerce
Course Code -: 106 – a.

Objective:

To make a student familiar with the mechanism of conducting business transactions through electronic media. Learning Outcomes: After completing this course, a student is expected to be able to

- explain various components of e-commerce,
- understand the dynamics of e-commerce,
- appreciate the Internet technology and its utility in commercial activities,
- understand the methodology of online business dealings using e-commerce infrastructure.

Term I

Unit No.	Topic	No. of Lectures
1.	Overview of Electronic Commerce (EC): Concept, features, and functions of e-commerce, e-commerce practices v/s traditional practices, scope and limitations of e-commerce.	10
2.	Fundamental of e-commerce: Definition and types of e-commerce: B2B, B2C, C2C, and P2P, B2B service provider, e-distributor, procurement and just-in-time delivery.	12
3.	Infrastructure: Internet and its role in e-commerce, procedure of registering Internet domain, establishing connectivity to Internet, tools and services of Internet.	10
4.	E-Payment: Transactions through Internet, requirements of e-payment systems, functioning of debit and credit cards, pre and post payment services.	06
5.	Electronic Data Interchange: Evolution, uses, Benefits, Working of EDI, EDI Standards (includes variable length EDI standards), Cost Benefit Analysis of EDI, Electronic Trading Networks, EDI Components, File Types, EDI Services, EDI Software	10
Total		48

Term II

Unit No.	Topic	No. of Lectures
6.	Digital economy: Major characteristics, economic rules, impact on trading and intermediaries, impact on business processes and functional areas in banking, financial and insurance organizations.	08

7.	E-Marketing: Market place v/s Market space, impact of e-commerce on market, marketing issues in e-marketing, direct marketing, one-to-one marketing.	08
8.	E-Finance: Areas of e-finance, e-banking, traditional v/s e-banking, trading v/s e-trading, importance and advantages of e-trading, operational aspects of e-trading.	08
9.	E-Ticketing: Online booking systems, online booking procedure of railways, airlines, tourist and religious places, hotels and entertainment industry.	08
10	E-Commerce in India: State of e-commerce in India, problems and opportunities in e-commerce in India, legal issues, Social and Ethical Issues, future of e-commerce, Mobile Commerce.	08
11	Security in e-commerce: Setting up Internet security, maintaining secure in Formation, encryption, digital signature and other security measures.	08
Total		48

Recommended Books
<p>Reference Books:</p> <ol style="list-style-type: none"> 1. Daniel Amor, E Business R(Evolution), Pearson Edude. 2. Krishnamurthy, E-Commerce Management, Vikas Publishing House. 3. David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill. 4. P. T. Joseph, E-Commerce: A managerial Perspectives, Tata McGraw Hill. 5. Doing Business on the Internet E-COMMERCE (Electronic Commerce for Business): S. Jaiswal, Galgotia Publications. 6. C.S.V.Murthy: E-Commerce-Concepts, Models & Strategies, Himalaya Publishing. 7. Kamalesh K Bajaj & Debjani Nag: E-Commerce, the Cutting Edge of Business- Tata McGraw-Hill, New Delhi.

F.Y. B.Com.
Optional Paper
Subject Name :- Insurance and Transport
Course Code :- 106 – b.

Objectives :-

1. To acquaint students with the concept of Insurance and Transport.
2. To introduce the scope of Insurance including Life & General Insurance and Transport including Travel & Tourism.
3. To make the students aware of carrier opportunities in the field of Insurance & Transport and impart appropriate skills.

Marks : 100

No. of Lectures 48

Term I - INSURANCE

Unit No.	Topic	Lectures
1.	Concept of Insurance Risk : Meaning, Definition & Scope ---Types: Human & Business ---Types of Business Risk. Insurance : Meaning, Definition, Need & Scope -Insurance Contract: Meaning, Components.	12
2.	Life Insurance Meaning, Definition, Need, Scope & Principles of Life Insurance. Types of Life Insurance Policies---Carrier Options in Life insurance Business.	12
3.	General Insurance Meaning, Definition, Need, Scope & Principles of General Insurance. Types of General Insurance --- Carrier Options in General Insurance Business.	12
4.	Role of Insurance in Logistics Meaning and significance of logistics – Need for social security – Procedure for claim settlement – Role of Insurance in Logistics in the Global age and challenges.	12
Total		48

Term II - TRANSPORT

Unit No.	Topic	Lectures
5.	Concept & Role of Transport Meaning, Need & Scope of Transport. ---- Transport being a primary mode of Service Trade--Role of Transport in Indian economy --- Existing problems & suggestions.	12
6.	Modes of Transport Types of Transportations in India --- Meaning, Need, Scope & Advantages. Road Transport & Rail Transport in India – Their Suitability and Limitations.	12
7.	Other means of Transports Water Transport : Meaning, Scope, Advantages & Limitations. Air Transport : Meaning, Scope, Advantages and Limitations -- Choice of Transport Mode : Cost, Speed & Flexibility.	12
8.	Travel & Tourism Meaning & Scope - Role and contribution to Economic Development -- Means of Travel & Tourism in India. – Career Options in Travel, Tourism and Hospitality Management.	12
Total		48

Recommended List of Reference Books

Insurance

1. Insurance --Principles & Practices of Insurance – By : G.S. Pande
2. Theory & Practice of Life Insurance – By : Mitra
3. Insurance Principles & Practice
– By : M.N.Mishra & S.B. Mishra (S. Chand Publication)
4. Insurance & Risk Management – By : P.K.Gupta (Himalaya Publication)

Transport

1. Economics of Transport – By : S.K. Shrivastava
2. Transport in Modern India – By : P.P. Bhatnagar
3. Rail & Road Transport in India – By : M.D. Mathur
4. Transportation System & Policy Analysis
– By : S. Sriraman (Himalaya Publication)
5. Challenges To Transportation – By : Rupenthal Karl M. (ASRC Hyderabad)

Tourism

1. Introduction to Tourism – By : M.A. Khan
2. Tourism Management – By Seth P.N. (Sterling Publishers, Delhi)
3. Tourism & Travel : Concepts & Principles
– By : Negi Jagmohan (Gitanjalee Publishers, Delhi)
4. Tourism in India : Trends & Issues – By : Dharmarajan S & Seth Rabindra (Har-Anand Publishers, Delhi)

F.Y. B.Com.
Optional Paper
Subject Name -: Marketing and Salesmanship
[Fundamentals of Marketing]
Course Code -: 106 – c.

Objectives -:

1) General Objective of the Paper.

- a) To create awareness about market and marketing.
- b) To establish link between commerce/Business and marketing.

2) Core Objectives of the paper.

- a) To understand the basic concept of marketing.
- b) To understand marketing philosophy and generating ideas for marketing research.
- c) To know the relevance of marketing in modern competitive world.
- d) To develop an analytical ability to plan for various marketing strategy.

Term I

Unit No.	Topic	No. of Lectures
1	<u>Basics of marketing</u> 1.1) Market – Marketing – Introduction, Meaning, Definition, Scope, Types and Significance. 1.2) Marketing Management – Introduction, Meaning, Definition, Scope, and Significance. 1.3) Functions of Marketing – Basic Functions, Functions of Exchanges, and Subsidiary Functions. 1.4) Marketing Mix - Introduction, Meaning, Definition, Scope, and Significance.	
2	<u>Marketing Environment</u> 2.1) Introduction – Definition and Nature. 2.2) Factors Constituting Marketing Environment. 2.3) Micro and Macro Environment. 2.4) Impact of Marketing Environment on Marketing Decisions.	
3	<u>Buyer Behaviour and Market Segmentation</u> 3.1) Introduction – Meaning, Definition, Scope and Significance of Buyer Behavior. 3.2) Determinants of Buyer Behaviour, Stages of Buyer Behaviour – Buying Process.. 3.3) Introduction, Meaning, Importance of Market Segmentation. 3.4) Bases for Segmentation – Qualities of Good Segmentation.	
4	<u>Product and Pricing Decision</u> 4.1) Concept of Product – Product Classification. 4.2) Factors Considered For Product Management – Role of Product Manager. 4.3) Factors Affecting Pricing Decisions – Pricing Objectives. 4.4) Pricing and Product Life Cycle – Pricing Methods.	
Total		48

Term II

Unit No.	Topic	No. of Lectures
5	<u>Logistics and Supply Chain Management</u> – 5.1) Introduction – Definition – Objectives – Scope and Significance 5.2) Market Logistics Decisions – Channel Structure. 5.3) Designing Distribution Channels. 5.4) Types of Marketing Channels.	
6	<u>Market Promotion Mix</u> – 6.1) Promotion Mix – Meaning, Scope and Significance. 6.2) Factors Affecting Market Promotion Mix 6.3) Advertisement and sales Promotion – Meaning and Definition. Means and Methods of Sales Promotion. 6.4) Advertising Meaning and Goals – Advertising Media– Meaning, Types, Advantages and Limitations.	
7	<u>Rural Marketing</u> – 7.1) Introduction – Meaning – Definition – Features – Importance – 7.2) Rural Marketing Mix – Importance, Elements, Scope 7.3) Present Scenario of Rural Market – 7.4) Problems And Challenges of Rural Market –	
8	<u>Services Marketing</u> – 8.1) Introduction – Meaning – Definition – Features – Importance of Services – Significance of Services in Marketing. 8.2) Classification of Services – Marketing of Industrial Goods Services, Marketing of Consumer Goods Services. 8.3) Marketing Mix for Services 8.4) Services Marketing And Economy – Scope of Services Marketing in Generation of Job Opportunity, Role of Services in Economy, Services Quality	
Total		48

Recommended Books

Sr. No.	Name of the Book	Publisher	Author
1	Marketing Management	Macmillan Publication	V.S.Ramaswamy S. Namakumari
2	Principals of Marketing	Prentice- Hall of India Pvt. Ltd.	Philip Kotler Gary Aramstrong
3	Rural Marketing	Dorling Kindersley (India) Pvt.Ltd.Pearson	Pradeep Kashyap
4	Marketing Management	Himalaya Publishing House	Dr.K.Karuna Karan
5	Marketing in India	Vikas Publishing House	S. Neelamegham
6	Basics of Marketing Management	S. Chand	Dr.R.B.Rudani
7	Services Marketing	Himalaya Publishing House	V. Venugopal Raghu V.N.

F.Y. B.Com.

Optional Paper

Subject Name -: Consumer Protection and Business Ethics

Course Code -: 106 – d.

Objectives:

- 1) To acquaint the students with consumer and consumer movement.
- 2) To make the students aware about consumer rights, duties and mechanism for resolving their disputes.
- 3) To make students aware about role of united nations and consumers' associations in protection of consumers.
- 4) To make the students aware about laws relating to consumers.
- 5) To acquaint the students with role of Business Ethics in various functional areas.

First Term		Periods
Unit – I	Consumer and Consumerism:	[18]
	<ol style="list-style-type: none">1. 1. Consumer: Concept, Meaning, Definition and Features1. 2. Problems of consumers: Rural and urban, Its Nature and Types1. 3. Consumerism – Meaning, objectives, Benefits-Consumerism in India1. 4. Rights, Duties and Responsibilities of Consumers.1. 5. Consumer Movement-Meaning-Definition-Importance, Scope and Features1. 6. Development of Consumer Movement in India- Problems and Prospects.	
Unit – II	Voluntary Consumer Organizations (VCO) and Consumer Protection:	[06]
	<ol style="list-style-type: none">2. 1. VCO: Origin, Importance, Functions and Limitations2. 2. Challenges before VCOs2. 3. Role of Voluntary Consumer Organization in Consumer Protection in the area of marketing & Advertisements.2. 4. Consumer Education-Meaning-Definition-Objectives	
Unit - III	United Nations Guidelines for Consumer Protection:	[06]
	<ol style="list-style-type: none">3. 1. United Nations and Consumer Protection3. 2. United Nations Guidelines for Consumer protection, 1985.<ol style="list-style-type: none">3.2.1. Objectives.3.2.2. General principles.3.2.3. Guidelines<ol style="list-style-type: none">a) Physical Safetyb) Promotion and protection of consumers' economic interestsc) Standards for the safety and quality of consumer	

	<p>goods and services</p> <p>d) Education and Information Programme</p> <p>e) Promotion of Sustainable Consumption</p>	
Unit - IV	Consumer Protection Act, 1986:	[18]
	<p>4. 1. Background – Need-Scope and Features</p> <p>4. 2. Definitions- Consumer-Goods-Services- Complaints, Complainant- Defect in Goods- Deficiency in Services, Unfair Trade Practices, Restricted Trade Practices.</p> <p>4. 3. Consumer Protection Councils-Composition-Working-and Objectives of:</p> <p>a) District Consumer Protection Council</p> <p>b) State Consumer Protection Council</p> <p>c) National Consumer Protection Council</p> <p>4. 4. Mechanism for Redressal-Composition and working of- Consumer Disputes Redressal Agencies:</p> <p>a) District Consumer Disputes Redressal Forum</p> <p>b) State Consumer Disputes Redressal Commission</p> <p>c) National Consumer Disputes Redressal Commission</p> <p>4. 5. Procedure of filing complaints</p>	
Second Term		
Unit - V	An overview of various Laws for the Protection of Consumers:	[18]
	<p>5. 1. The Bureau of Indian Standards Act, 1986 (Sections - 1,10,11,14,33)</p> <p>5. 2. The Competition Act, 2002 (Sections – 1, 3 to 6)</p> <p>5. 3. Right to Information Act, 2005 (Sections – 1 to 11, 18, 19 and 20)</p> <p>5. 4. Food Safety and Standards Act, 2006 (Sections– 1to 3, 18 to 28)</p>	
Unit - VI	Protection of Consumer against Standard Form of Contract:	[04]
	<p>6. 1. Nature and Relevance of Standard Form of Contract</p> <p>6. 2. Judicial Response to Standard Form of Contract in India and abroad</p> <p>6. 3. Legislative Reforms</p>	
Unit - VII	Conceptual Framework of Business Ethics:	[08]
	<p>7. 1. Concept of Ethics: Its Meaning and Nature</p> <p>7. 2. Definition importance and Scope of Business Ethics</p> <p>7. 3. Types of Business Ethics; viz:-</p> <p>i. Professional business ethics</p>	

	ii. Ethics of accounting information iii. Ethics of Production iv. Ethics of intellectual property skill, knowledge etc.	
Unit - VIII	Business Ethics in Modern Times:	[10]
	8. 1. Social Responsibilities of Business 8. 2. Business Ethics and Environmental Issues: Indian and International level - Green initiatives 8. 3. Management and Ethics i. Ethical Issues in Marketing ii. Ethical Issues in Human Resource Management	

Recommended Books:

1. Law of Consumer Protection in India- P.K. Majumdar (2011), Orient Publishing Co. New Delhi.
2. Practical Guide to Consumer Protection Law, Anup K. Kaushal (2006), Universal Law Publishing Co, New Delhi.
3. Consumer Protection Laws, Prof. RakeshKhanna, (2005) Central Law Agency, Alahabad.
4. Business Ethics and Corporate Governance, S.K. Bhatia 92005),
5. Consumer Protection Law, Dr. S. R. Myneni,(2010), Asia Law House, Hyderabad.
6. Law of Consumer Protection, Dr. Gurbax Singh, Bharat Law Publication, Jaipur.

F.Y. B.Com.

Optional Paper

Subject Name -: Business Environment & Entrepreneurship

Course Code -: 106 – e.

Objectives :

1. To make the students aware about the Business Environment.
2. To create entrepreneurial awareness among students,
3. To motivate students to make their mind set for taking up entrepreneurship as career.

FIRST TERM

Unit No.	Name of the Topic	Periods
1	Business Environment - Concept- Importance - Inter relationship between environment and entrepreneur, Types of Environment- Natural, Economic - Political - Social - Technical - Cultural - Educational - Legal - Cross-cultural – Geographical etc.	12
2	Environment Issues Protecting the Natural Environment – prevention of pollution and depletion of natural resources; conservation of natural resources, Opportunities in Environment.	12
3	Problems of growth Relevance to entrepreneurship -Unemployment- Poverty-Regional imbalance- Social injustice-Inflation - Parallel Economy- Lack of Technical knowledge and information.	12
4	The Entrepreneur- Evolution of the term entrepreneur-" Competencies of an entrepreneur - Distinction between entrepreneur and manager- Entrepreneur and enterprise -Entrepreneur and Intrapreneur. Entrepreneur and Entrepreneurship.	12

SECOND TERM

Unit No.	Name of the Topic	Periods
1	Entrepreneurial Behaviour - Comparison between entrepreneurial and non-entrepreneurial Personality-Habits of Entrepreneurs - Dynamics of Motivation	12
2	Entrepreneurship Importance of Entrepreneurship - Economic Development and Industrialization, Entrepreneurship in Economic Theory- Role of Entrepreneurship ~ Entrepreneur as a catalyst.	12
3	<u>National Level</u> Training Organizations in promoting entrepreneurship (1) Entrepreneurship Development Institute of India (EDII) <u>State Level</u> Training Organizations in promoting entrepreneurship (1) MCED (2) DIC (3) Maratha Chamber of Commerce and their role. (4) Local NGO's and their roles.	12
4	Biographical study of entrepreneurs i) Narayan R. Murthy ii) Cyrus Poonawala iii) Any successful Entrepreneur from your area (Milind Kamble)	12

Recommended Books & Journals

Recommended Books

1. Dynamics of Entrepreneurship Development and Management - Desai Vasant – Himalaya Publishing House
2. Crusade - Shirke B.G. - Ameya Prakashan
3. Entrepreneurship - Robert D. Histrith - Tata McGraw Hill Publishing Co.
4. Entrepreneurial Development – Khanka - S. Chand.
5. Entrepreneurial Development – Gupta, Shrinivasan - S. Chand.
6. Essentials of Business Environment - K. Aswathappa - Himalaya Publishing House
7. Indian Economy - Dutta Sundaram –
8. A complete guide to successful Entrepreneurship – Pandya G. N. – Vikas Publishing House
9. Trainers Manuals - NIESBUD, New Delhi.
10. Trainers Manuals - NIMID, Mumbai,
11. Business Environment - Francis Cherunilam – Himalaya Publishing House.
12. Business Environment - Tandon B C.
13. Udyog - Udyog Sanchalaya, Mumbai.
14. Environmental Studies basic concepts – U. K. Ahluwalia
15. Environmental Pollution & Health – U. K. Ahluwalia

Recommended Journal

1. The Journal of Entrepreneurship EDI Ahmedabad.
2. Udyojak – M.C.E.D.
3. Government of Maharashtra Website
4. Government of India Website

F.Y. B.Com.
Optional Paper
Subject Name -: Foundation Course in Commerce.
Course Code -: 106 – f.

Objective :

1. To Study the forms of Business Organization.
2. To understand the basic concepts and recent trends in Commerce & Business Practices.
3. To Understand the functioning of Stock Exchange, Commodity exchange, Trade. Associations and Chamber of Commerce.

FIRST TERM

Unit No.	Name of the Topic	Periods
1	Organization - Meaning, Importance Forms of business organizations; Proprietary - Partnership firms- Limited Liability Partnership (LLP) -Joint Ventures and Business Alliances, Organizational structures, Functional areas of business and their operations, Formal & informal organizations: principles of organizations, Criteria for grouping	12
2	Economic Sector - Role and challenges of Public sector, Co operative Sector, Joint Sector (Public and Private). Corporate Sector and Non Government organizations. Industrial Policy, Foreign Investment Policy, Current Foreign Policy, Joint ventures, drafting of agreement	12
3	Business Practices and Government Policies - Importance - Role of Trade. Commerce & Industry, Outsourcing - franchising -Turn key Management - Important Features of current labour policy. Indian joint ventures abroad & Indian experiences.	12
4	Recent Trends in Service Sector, Banking Sector - ATM Debit & Credit Cards Internet Banking etc. Insurance Sector - Malhotra Committee Report - Opening of insurance sector for private players. Logistics - Net working – Importance - Challenges.	12

SECOND TERM

Unit No.	Name of the Topic	Periods
1	Security Market Stock Exchange –Introduction of stock exchanges in India, Online Trading, Working of Stock Exchange, Trading through NSDL, Role of SEBI, Protection & Education of Investors. SEBI & Its Guidelines.	12
2	Commodity Exchange & its working - History & overview, terms used of Commodity Market - working & procedure followed in commodity exchanges, future of commodity exchanges. Study of regional / local commodity market.	12
3	Business Ethics	12

	Nature, purpose of ethics and morals for organizational interests; ethics and conflicts of interests; ethical and social implications of business policies and decisions; Corporate Social Responsibility; ethical issues in Corporate Governance. Ethics in Accounting and Finance	
4	Basic Concepts in Commerce Study of following terms & concepts used in recent field of commerce	12

Sr. No.	Terms / Concepts	Meaning
1	Affidavit	A declaration in writing made on oath.
2	Automation	Use of automatic machinery in industries / organizations.
3	Assimilation	Joining the culture of two or more activities / organizations.
4	Agmark	A mark showing standard / quality of agriculture produce.
5	B P O	Business Process Outsourcing
6	Benchmarking	A level or standard in a scale against which performance can be evaluated. It is a method of job evaluation
7	Body Shopping	A consultancy supplying people at work contract basis.
8	Brand Equity	Goodwill attached to name
9	Bank rate	It is the rate at which the central bank of a country grants credit to the other banks.
10	Capital Intensive	Those industrial activities where the preparation of fixed capital is more than the other factors of production like land, labour, etc.
11	Consortium	A combination of large number of bidder to fulfill the contract deal.
12	Consumer Delight	Consumer's complete satisfaction.
13	Credit rating	Assessment of credit worthiness of an organization by external agency.
14	Credit squeeze	It is state's interference to regulate the level of economic activity by reducing the money supply. In other words, it is an effort of making credit more expensive through controls on bank.
15	Corporate Governance	Accountability of the managers / directors of a company. The recent provision about the listed companies required them to comply with the through annual accounts & reports.
16	Consumerism	A materialistic attitude of consumers of consuming maximum without any consideration of future.
17	Dis-Investment	A policy of the government of gradually withdrawing the investments of public funds from a public sector unit.
18	Distributive negotiation	A term used in personal management of a trade unions approach for solving disputes.
19	Dumping & antidumping	A policy of capturing slice of market by pouring a huge stock a policy of the government of prohibiting the capturing of market by way of dumping.
20	Depository	A system whereby the shares can be lodged physically & need not be handled in the course of each transaction.
21	EXIM	Policy regarding import & exports.
22	E-Commerce	Commercial activities with help of electronic devices.
23	Factoring	Taking responsibility of collecting accounts receivable.

24	Franchise	An agency given for distribution of manufactured products.
25	Fringe benefit	A reward beyond the basic day for the job.
26	Globalization	A process of world market open to local markets.
27	Grapevine	The informal communication of an organization many times more effective than the formal one.
28	Hacking	The unauthorized breaking into data base of a computer.
29	Hedging	Protecting oneself against the financial loss.
30	Internal customer	One department with in an organization becoming customer of another.
31	Entrepreneurship	Entrepreneurship is developed from a particular organization.
32	ISO	International Organization of Standard's.
33	ISI	Indian Standard Institute.
34	Internet Banking	Banking activities with the help of internet service.
35	Just in Time	A system of procuring inventory as & when required.
36	Knowledge worker	A worker working in modern society with lost of areas of knowledge.
37	Kaizen	The Japanese concept of continuous improvement.
38	Labour intensive	An organization or an activity mainly relying on labour force as it's investment / capital.
39	Learning organization	An organization where the worker's are always wanting to learn.
40	Liberalization	An economic policy of allowing foreign players to enter the local markets in competition with the indigenous ones.
41	Logistics	A term originally used in military organizations, for moving of troops & equipments, it refer to the detailed planning of the process of distribution or redistribution.
42	Mutual Funds	A method of raising finance for investing in some other capital issues.
43	Mission	An organization goal / objective behind it's establishment.
44	Market niche	A unique place of gap in the market for a given product.
45	Mergers & Acquisitions	Mergers in a combination of two or more business to share risk & rewards no one party to obtain control over the other . Acquisition is the acquiring of share of a company by another by paying purchase consideration as a fair value.
46	Non performing assets	An asset created but not showing any results (a banking asset created by way of loans / advances now becoming unrecoverable.
47	Niche strategy	A marketing strategy adopted for a small segment.
48	Negotiable Instrument	An instrument in commercial transactions recognized by the Negotiable Instrument Act.
49	Organizational Behave our	A branch of personal management considering interperson & behavioral aspects.
50	Outsourcing	A policy of an organization of depending on external agency for a functional area.
51	Organizational Development	Efforts made for the development of human factor in an organization.
52	Patent	A right on a product or invention claiming it's originality or know-how.
53	Primary Market	The Market where the first sale of securities is made by way of an offer from the corporate body to the investors.
54	Profolio	A branch of financial management dealing with the investment of an

	Management	organization.
55	Public Relations	Efforts made by an organization of establishing report with the stake holders & the general public.
56	Privatization	A policy of the state of disinvestments in the public sector organization by offering its shares to the public at large.
57	Quality circle	A small group of individuals of an organization, trying to solve their practical problems.
58	Recession	A phase in an economy when there is sharp decline of demand for goods & services.
59	Sensex	Sensitive index number of a stock market.
60	Subsidy	A financial support provided by the government.
61	Security market	A market where the corporate securities i.e. shares are bought & sold.
62	Surrender value	It is the left over value that the insurance company is expected to pay.
63	Speed capital	It is the initial amount of capital required for any business to be invested by the owner.
64	Service Organization	An organization established for rendering service in support of trade.
65	SWOT analysis	An analysis of an individual or organization about the strength, weaknesses, opportunities & Threats.
66	TQM	Total Quality Management.
67	Trade Cycle	A recurring sequence of changes in business activity, indicating period of prosperity, decline, depression etc.
68	Trade mark	A mark / logo of an organization treated as official seal.
69	Technology transfer	The transfer of a technology from an area in which it had been successfully applied to an area, which it has not yet been tried.
70	Tele Conferencing	A discussion of participants, geographically scattered
71	Underwrite	To ensure or guarantee to purchase the stock of shares.
72	Value Addition	Increase in the value of an item by adding inputs to it.
73	WTO	World Trade Organization established in 1995.
74	Yellow page	A page reserved for commercial advertisers.
75	Zero based budgeting	The use of budgets which starts from a present base of zero and regard all items as being new rather than in continuation of existing ones. In practice, this means a budget has to justify each of expenditure every year.

Recommended Books

RECOMMENDED BOOKS AND PERIODICALS.

1. Financial Management – I. M. Pandey.
2. Financial Management – Theory & practical – Prasanna Chandra
3. Financial Management – S. C. Kuchhal
4. Public Sector in India – Laxmi Nariyan
5. Indian Economy – Rudder Datt
6. Indian Economy – KPM Sundaram
7. Law & practice of banking – S. R. Davar
8. Chamber of Commerce and Trade Association in India – Dr. B. R. Sabade & M. V. Namjoshi
9. The Indian Financial System – Vasant Desai
10. Business Administration – Dr. Y. K. Bhushan
11. Stock exchange Official Directory – The Bombay Stock exchange Publication

Journals & Periodicals

1. World of Business and –The Maharashtra Chamber Of Commerce, Industries & Agriculture, Pune
2. Sampada Chamber patrika – The Maharashtra Chamber of Commerce & Industries, Mumbai
3. Vanijya Vishwa – Pune Merchants Chamber, Pune

Savitribai Phule Pune University
Faculty of Commerce & Management
Structure for Three - Year
B.Com. Degree course (Choice Based Credit System)
(2019 Pattern)
With effect from June 2019

Preamble:-

Commerce education is that area of education, which develops the required knowledge, skills and attitudes for the handling of Trade, Commerce and Industry. Commerce education is entirely different from other disciplines. Hence, it must charter Course routes to service the aspirations of the nation. To meet the growing needs of the business society, there is greater demand for sound development of commerce education. The relevance of commerce education has become more imperative, this means a marked change in the way commerce and management education is perceived in India. The Commerce education is dedicated to developing tomorrow's leaders, managers, and professionals.

The existing education system of imparting commerce education needs to be more dynamic to incorporate all local and global changes in the field of trade and commerce. The curriculum needs to be restructured accordingly. The learning inputs are required to be more update, skill based and with appropriate applications. This will be achieved through the introduction of Choice based Credit System at undergraduate level.

The choice based credit system offers a cafeteria approach where the students have the liberty to choose courses of their own choice. The credit system allows students to opt for additional courses where he /she can score more than the required credits. The system will focus on student centric learning methods, which include use of Information and Communication Technology, innovative methods of teaching and learning and emphasis on industry interaction to enable the learners to take up professional challenges more effectively.

1. INTRODUCTION

The B.Com Degree Course (2019 pattern) will be introduced in the following order:-

- | | |
|-----------------------|-----------|
| a. First Year B.Com. | 2019-2020 |
| b. Second Year B.Com. | 2020-2021 |
| c. Third Year B.Com. | 2021-2022 |

The B.Com. Degree Course will consist of six semesters divided into three Years.

The first year (Semester I and II) choice based credit system examination will be held at the end of the each semester.

The Second Year (Semester III and IV) and Third Year (Semester V and VI) choice based credit system examination will be held at the end of each semester.

2. ELIGIBILITY

- a) No Candidates shall be admitted to the First Year of the B.Com. Degree Course (**2019 pattern**) unless he/she has passed the Higher Secondary School Certificate Examination of the Maharashtra State Board of Higher Secondary Education Board or equivalent or University with English as a passing Course.
- b) No candidate shall be admitted to the Third Semester examination of the second year unless he/ she has cleared first two semesters satisfactorily for the course at the college affiliated to this University.
- c) No candidate shall be admitted to the Third Year B.Com. (Fifth semester) Degree Course (**2019 pattern**) unless he/she has cleared all the papers of first and second semester Examination of F.Y. B.Com. and has satisfactorily kept terms for the second year (Third and Fourth Semester) and also fifth semester for the third year of B.Com) satisfactorily in a college affiliated to this University.

3. A.T.K.T. Rules :

- If a candidate fails in all the courses (subject heads) of passing of semester I shall be allowed to proceed semester II. However, a student who fails in four theory courses and two practical courses at semester I and II taken together may be admitted to semester III & IV.
- If a candidate fails in all the courses (subject heads) of passing of semester III shall be allowed to proceed to semester IV.
- If a candidate fails in all the courses (subject heads) of passing of semester V shall be allowed to proceed to semester VI. However, a student who fails in four theory courses and two practical courses at semester III and IV taken together may be admitted to semester V & VI.
- No candidate shall be allowed to proceed to semester V unless the candidate has cleared semester I & II in all courses (Subjects).
- ATKT rules are applicable for 2nd and 4th semester.

4. COURSES CARRYING PRACTICALS

- a) Each practical course will be of one credit.
- b) There will be practical and practical examination for semester I and II of the F.Y.B.Com. For the Course Financial Accounting.
- c) There will be practical and practical examinations for the special Courses (Discipline Specific Elective) of S.Y.B.Com. (Semester III and IV) and of T.Y.B.Com. (Semester V & VI)
- d) There will be Practical for the S.Y.B.Com level Compulsory Course Business Communication (Semester III and IV) & for T.Y.B.Com Auditing and Taxation (Semester V) & (Semester VI)
- e) A Student must offer the same Special Course at T.Y.B.Com. (Semester V & VI) which he / she has offered at S.Y.B.Com. (Semester III and IV)
- f) In an exceptional case, a student may change the Course chosen by him at third and fourth semester of second year during the first semester of the third year provided he keeps the additional terms of the Course at S.Y.B.Com.

Course having practical examination:-

Semester	Type of Course	Name of Practical Course	Course Code
I	Core Course	Financial Accounting – I	PR - 112
II	Core Course	Financial Accounting – II	PR – 122
III	Core Course	Business Communication – I	PR - 231
III	Discipline Specific Elective	Special Course Paper (I) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	PR- 236
IV	Core Course	Business Communication – II	PR- 241
IV	Discipline Specific Elective	Special Course Paper (I) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics	PR- 246

		<ul style="list-style-type: none"> g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application 	
V	Core Course	Auditing & Taxation – I	PR- 354
V	Discipline Specific Elective	<p style="text-align: center;">Special Course Paper (II)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application 	PR- 355
V	Discipline Specific Elective	<p style="text-align: center;">Special Course Paper (III)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application 	PR- 356
VI	Core Course	Auditing & Taxation – II	PR- 364
VI	Discipline Specific Elective	<p style="text-align: center;">Special Course Paper (II)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development 	PR- 365

		<ul style="list-style-type: none"> e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application 	
VI	Discipline Specific Elective	<p style="text-align: center;">Special Course Paper (III)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application 	PR- 366

5. MEDIUM OF INSTRUCTION

The medium of instruction for B.Com. Degree course shall be either Marathi or English except languages. The Medium of instructions for Business Communication (S.Y.B.Com) shall be English only.

6. UNIVERSITY TERMS

The dates for the commencement and conclusion of the first and the second terms shall be as determined by the University Authorities. Only duly admitted students can keep the terms. The present relevant ordinances pertaining to grant of terms will be applicable.

7. VERIFICATION AND REVALUATION

The candidate may apply for verification and revaluation or result through Principal of the College which will be done by the University as per ordinance framed in that behalf.

8. RESTRUCTURING OF COURSES

This revised course structure shall be made applicable to the colleges implementing 'Restructured Programme at the undergraduate level from June, 2019. The Colleges under the Restructured Programme which has revised their structure in the light of the "2019 Pattern" shall be introduced with effect from academic year 2019-20.

9. STANDARD OF PASSING.

A candidate is required to obtain 40% marks in Internal Assessment, Practical Examination and Semester End University Examination.

It means that passing separately at internal assessment, practical examination and semester end university examination is compulsory.

10. METHODS OF EVALUATION, PASSING, AND EVALUATION CRITERIA:-

The evaluation of students will be done on three parameters:-

- a. Internal assessment
- b. Practical Examination (list of Courses having practical is given in note No. 4)
- c. University examination

For university examination, question papers will be set for seventy marks (three hours duration)

Evaluation will be done on a continuous basis, three times during each semester. Internal assessment will be of 30 marks. The colleges need to adopt any three out of the following methods for internal assessment:-

- a. Written examination
- b. Quiz
- c. Presentations
- d. Projects
- e. Assignments
- f. Tutorials
- g. Oral examination

11. STRUCTURE OF TRANSCRIPT:

Conversion of percentage into credit(s) and grade(s):The following illustrations could be taken as an example for computing SGPA and CGPA from percentage to credits for Honours courses in all disciplines, degree Program courses in Science subjects and degree Program courses in Humanities, Social Sciences and Commerce subjects:

1. Percentage to Grades and Grade Points

The following formula may be used to convert marks (%) into letter grades.

Let \bar{X} = mean of % age marks of all student appeared in the paper.

σ = Standard deviation

m = % of marks obtained

Letter grade	Numerical grade	Formula
O (outstanding)	10	$m \geq \bar{X} + 2.5 \sigma$
A+ (Excellent)	9	$\bar{X} + 2.0 \sigma \leq m < \bar{X} + 2.5 \sigma$
A (Very Good)	8	$\bar{X} + 1.5 \sigma \leq m < \bar{X} + 2.0 \sigma$
B+ (Good)	7	$\bar{X} + 1.0 \sigma \leq m < \bar{X} + 1.5 \sigma$
B (Above average)	6	$\bar{X} \leq m < \bar{X} + \sigma$
C (Average)	5	$\bar{X} - 0.5 \sigma \leq m < \bar{X}$
D (Pass)	4	$\bar{X} - \sigma \leq m < \bar{X} - 0.5 \sigma$
F (Fail)	0	$m < \bar{X} - \sigma$
Ab (Absent)	0	

* Minor variations may be adjusted by the individual institution.

- 1 A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.
- 2 For non credit courses 'Satisfactory' or 'Unsatisfactory' shall be indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA.
- 3 The Universities can decide on the grade or percentage of marks required to pass in a course and also the CGPA required to qualify for a degree taking into consideration the recommendations of the statutory professional councils such as AICTE, MCI, BCI, NCTE etc.,
- 4 The statutory requirement for eligibility to enter as assistant professor in colleges and universities in the disciplines of arts, science, commerce etc., is a minimum average mark of 50% and 55% in relevant postgraduate degree respectively for reserved and general category. Hence, it is recommended that the cut-off marks for grade B shall not be less than 50% and

12. RESTRUCTURING OF COURSES – EQUIVALENCE AND TRANSITORY PROVISION:

The University will conduct examination of old course (2013 Pattern) for next three academic years from the date of implementation of course.

The candidate of old course will be given three chances to clear his/her Courses as per the old course (2013 Pattern) and thereafter he/she will have to appear for the Courses as per the equivalence given to old course (2013 Pattern).

13. SCHEMES OF CREDITS –

Total credits for three year integrated B.Com. Course is as follows:-

Sr. No.	Semester No	No. of courses	Lecture Hours	Credit per course	Credit for practical courses	Add on course credit (*)	Lectures + Practical + add on courses= Total Credits
1	I	7	48	3	1	1	21+2 =23
2	II	7	48	3	1	1	21+2 =23
3	III	6	48	3	2	0	18+2 =20
4	IV	6	48	3	2	2	18+2+2 =22
5	V	6	48	3	3	0	18+3=21
6	VI	6	48	3	3	2	18+3+2 =23
Total No. of credits							132

Suggested Add On courses (*)

Sr. No.	Add on course	Class	Semester	Credit
1.	Value added course - I	F.Y.B.Com.	I	1
2.	Value added course – II	F.Y.B.Com.	II	1
3.	Environment Awareness	S.Y.B.Com.	IV	2
4.	Specific Add - on Course related to specialized Course/ Internship	T.Y.B.Com.	VI	2
Total				6

**Revised structure of Choice Based Credit System Course
First Year B. Com. Semester – I w.e.f. 2019- 20**

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
111	Compulsory English- I	Ability Enhancement Compulsory Course	4	3	30	70	--	100	3 Hours
112	Financial Accounting - I	Core Course	4	4	30	50	20	100	3 Hours
113	Business Economics- I	Core Course	4	3	30	70	--	100	3 Hours
114 (A)	Business Mathematics and Statistics - I	Core Course	4	3	30	70	--	100	3 Hours
114 (B)	Computer Concepts and Application- I								
115	Optional Group. (A) (Any one of the Following) a) Organization Skill Development b) Banking and finance c) Commercial Geography d) Defence Organization and Management in India e) Cooperation f) Managerial Economics	Generic Elective Course	4	3	30	70	--	100	3 Hours

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
116	Optional Group. (B) (Any one of the Following) a) Essentials of E-Commerce b) Insurance & Transport c) Marketing & Salesmanship d) Consumer Protection and Business Ethics e) Business Environment & Entrepreneurship f) Foundation Course in Commerce	Generic Elective Course	4	3 -	30	70	--	100	3 Hours
117	Any one of the following Language Additional English/ Marathi/ Hindi/ Gujarati/ Sindhi/ Persian/ Urdu/ French/ German / Sanskrit / Arabic	Ability Enhancement Course	4	3	30	70	--	100	3 Hours

First Year B. Com. Structure of the Syllabus w.e.f. 2019- 20

Semester – II

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
121	Compulsory English- II	Ability Enhancement Compulsory Course	4	3	30	70	--	100	3 Hours
122	Financial Accounting - II	Core Course	4	4	30	50	20	100	3 Hours
123	Business Economics- II	Core Course	4	3	30	70	--	100	3 Hours
124(A)	Business Mathematics and Statistics - II	Core Course	4	3	30	70	--	100	3 Hours
124(B)	OR Computer Concepts and Application- II								
125	Optional Group. – (A) (Any one of the Following) a) Organization Skill Development b) Banking and finance c) Commercial Geography d) Defence Organization and Management in India e) Cooperation f) Managerial Economics	Generic Elective Course	4	3	30	70	--	100	3 Hours

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam.	Practical Exam.		
126	Optional Group. (B) (Any one of the Following) a) Essentials of E- Commerce b) Insurance & Transport c) Marketing & Salesmanship d) Consumer Protection and Business Ethics e) Business Environment & Entrepreneurship f) Foundation Course in Commerce	Generic Elective Course	4	3	30	70	--	100	3 Hours
127	Any one of the following Language- II Additional English/ Marathi/ Hindi/ Gujarati/ Sindhi/ Persian/ Urdu/ French/ German / Sanskrit / Arabic	Ability Enhancement Course	4	3	30	70	--	100	3 Hours

Second Year B. Com. w.e.f. 2020- 21.

Semester – III

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	Total No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
231	Business Communication- I	Core Course	4	4	30	50	20	100	3 Hours
232	Corporate Accounting- I	Core Course	4	3	30	70	--	100	3 Hours
233	Business Economics - I (Macro)	Core Course	4	3	30	70	--	100	3 Hours
234	Business Management - I	Core Course	4	3	30	70	--	100	3 Hours
235	Elements of Company Law- I	Core Course	4	3	30	70	--	100	3 Hours
236	Special Course Paper- I (Any One) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	Discipline Special Elective	4	4	30	50	20	100	3 Hours

Second Year B. Com. w.e.f. 2020- 21

Semester – IV

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	Total No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
241	Business Communication- II	Core Course	4	4	30	50	20	100	3 Hours
242	Corporate Accounting- II	Core Course	4	3	30	70	--	100	3 Hours
243	Business Economics – II (Macro)	Core Course	4	3	30	70	--	100	3 Hours
244	Business Management - II	Core Course	4	3	30	70	--	100	3 Hours
245	Elements of Company Law- II	Core Course	4	3	30	70	--	100	3 Hours
246	Special Course Paper- I (Any One) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	Discipline Special Elective	4	4	30	50	20	100	3 Hours

Third Year B. Com. w.e.f. 2021- 22
Semester – V

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
351	Business Regulatory Framework - I	Core Course	4	3	30	70	--	100	3 Hours
352	Advanced Accounting - I	Core Course	4	3	30	70	--	100	3 Hours
353	Indian and Global Economic Development - I Or International Economics - I	Core Course	4	3	30	70	--	100	3 Hours
354	Auditing & Taxation - I	Core Course	4	4	30	50	20	100	3 Hours
355	Special Course Paper – II (Same Special Course Offered at S.Y.B.Com) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	Discipline Specific Elective	4	4	30	50	20	100	3 Hours

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
356	Special Course Paper – III (Same Special Course Offered at S.Y.B.Com) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	Discipline Specific Elective	4	4	30	50	20	100	3 Hours

Third Year B. Com. w.e.f. 2021- 22

Semester – VI

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
361	Business Regulatory Framework - II	Core Course	4	3	30	70	--	100	3 Hours
362	Advanced Accounting - II	Core Course	4	3	30	70	--	100	3 Hours
363	Indian and Global Economic Development - II Or International Economics - II	Core Course	4	3	30	70	--	100	3 Hours
364	Auditing & Taxation - II	Core Course	4	4	30	50	20	100	3 Hours
365	Special Course Paper – II (Same Special Course Offered at S.Y.B.Com) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	Discipline Specific Elective	4	4	30	50	20	100	3 Hours

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
366	Special Course Paper – III (Same Special Course Offered at S.Y.B.Com) a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	Discipline Specific Elective	4	4	30	50	20	100	3 Hours

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**Semester: I
Financial Accounting- I**

Course Code - 112

No. of Credits :- 03 and for practical – 01

Objective of the Course:-

1. To impart knowledge of basic accounting concepts
2. To create awareness about application of these concepts in business world
3. To impart skills regarding Computerised Accounting
4. To impart knowledge regarding finalization of accounts of various establishments.

Unit No.	Unit Title	Contents	Purposed Skills to be developed
1	Accounting Concepts, Conventions and Principles and an overview of Emerging Trends in Accounting	<p>(A) Accounting Concepts, Conventions and Principles</p> <ol style="list-style-type: none">1. Money Measurement2. Business Entity3. Dual Aspect4. Periodicity Concept5. Realization Concept6. Matching Concept7. Accrual / Cash Concept8. Consistency Concept9. Conservatism Principle10. Materiality Concept11. Going Concern Concept12. Historical Cost Concept <p>(B) Emerging Trends in Accounting</p>	<ul style="list-style-type: none">• Knowledge about various accounting Concepts, Conventions and Principles.• Understanding emerging trends in accounting and its effect on accounting Practices.

		<ol style="list-style-type: none"> 1. Inflation Accounting 2. Creative Accounting 3. Environmental Accounting 4. Human Resource Accounting 5. Forensic Accounting 	
2	Piecemeal Distribution of Cash	<ol style="list-style-type: none"> 1. Surplus Capital Method only, Asset taken over by a partner, 2. Treatment of past profits or past losses in the Balance sheet, 3. Contingent liabilities 4. Realization expenses/amount kept aside for expenses 5. adjustment of actual, Treatment of secured liabilities, 6. Treatment of preferential liabilities like Govt. dues/labour dues etc., Excluding: Insolvency of partner and Maximum Loss Method. 	<ul style="list-style-type: none"> • Knowledge about process of dissolution of partnership firm.
3	Accounts from Incomplete Records (Single Entry System)	<ol style="list-style-type: none"> 1. Meaning of single entry system 2. Features of Single Entry System 3. Conversion of Single Entry into Double Entry 	<ul style="list-style-type: none"> • Knowledge about single entry systems. • Purpose and advantages of double entry system • Process of conversion of single entry into double entry system.
4	Introduction to Goods and Services Tax laws and Accounting	<ol style="list-style-type: none"> 1. Constitutional Background of GST, Concepts and definition of GST. 2. IGST, CGST and SGST 3. Input and Output Tax credit 4. Procedure for registration under GST 	<ul style="list-style-type: none"> • Knowledge about conceptual framework of the GST • Knowledge about various components of GST. • Types of taxes under GST • Registration process under GST for business establishments.

Practical for Semester– I

Topic	Mode of Practical
Constitutional Background of GST, Concepts and Implications of GST.	Library Assignment
IGST, CGST and SGST	Guest Lecture
Procedure for registration under GST	Visit to a business establishment
Input and Output Tax credit	PowerPoint Presentation

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	PowerPoint Presentations	Videos available on YouTube	Library assignment on Types of accounting principles and conventions with its usage and emerging trends in accounting	Students will be able to acquire in-depth knowledge
2	12	Group Activity	Videos available on YouTube	--	Students will be able to acquire in-depth knowledge
3	12	PowerPoint Presentations	Videos available on YouTube	Group activity of conversion of single entry into double entry system	Students will be able to understand the process and importance of conversion of single entry into double entry system
4	12	Visit and interview	Videos available on YouTube	Compilation of information about the contents in the syllabus in a journal	Students will gain knowledge about GST and its implications.

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Advanced Accounts	M.C. Shukla, T.S. Grewal, S.C. Gupta	S. Chand Publication	New Delhi.
2.	Financial Accounting for B.Com	CA (Dr.) P.C. Tulsian S.C. Gupta	S. Chand Publication	New Delhi.
3.	Introduction to Accountancy	S.R.N Pillai & Bhagavathi	S.Chand & CompanyLtd	New Delhi
4.	Corporate Accounting	Raj Kumar Sah	Cengage Publications	Noida, Uttar Pradesh
5.	Advanced Accounting	S. N. Maheshwari		
6.	GST Law and Analysis with Conceptual Procedures	Bimal Jain and Isha Bansal (Set of 4 Volumes)	Pooja Law Publishing Company	New Delhi
7.	Guidance Note on GST by ICAI	--	The Institute of Chartered Accountants of India	New Delhi

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**Semester-I
Business Economics (Micro) - I**

Course Code - 113

No. of Credits :- 03

Objectives of the course:-

1. To impart knowledge of business economics
2. To clarify micro economic concepts
3. To analyze and interpret charts and graphs
4. To understand basic theories, concepts of micro economics and their application

Unit No.	Unit Title	Contents	Purpose & skills to be developed
1	Introduction and Basic Concepts	1.1 Meaning, Nature, Scope and Importance of Business Economics 1.2 Concept of Micro and Macro Economics 1.3 Tools for Economic Analysis- Functional Relationship, Schedules, Graphs and Equations 1.4 Basic Concepts: Household, Consumer, Firm, Plant and Industry 1.5 Goals of Firms- Economic and Non-Economic	<ul style="list-style-type: none"> • To make the students aware of concepts in micro economics • To help the students understand the difference between micro and macro economics • To make the students understand economic and non-economic goals of firms. <p>Skills : Analyze and think critically, develop writing skills</p>
2	Consumer Behavior	Utility: Concept and Types 2.2 Cardinal Approach: Law of Diminishing Marginal Utility and Law of Equi Marginal Utility 2.3 Consumer Surplus: Concept and Measurement 2.4 Ordinal Approach: Indifference curve	<ul style="list-style-type: none"> • To help the students understand the concept of utility • To impart knowledge of cardinal and ordinal approach • To make them understand the concept of consumer surplus <p>Skills: Understanding complex theories and concepts Geometrical skills, mathematical aptitude, writing skills</p>

		Analysis- Concept, Characteristics, Consumer Equilibrium	
3.	Demand and Supply Analysis	3.1 Concept of Demand 3.2 Determinants of Demand 3.3 Law of Demand 3.4 Elasticity of Demand 3.4.1 Price Elasticity of Demand - Meaning, Types, Measurement, Uses and Significance 3.4.2 Income Elasticity of Demand-Meaning and Types 3.4.3 Cross Elasticity of Demand-Meaning and Types 3.5 Supply : Concept, Determinants and Law of Supply 3.6 Equilibrium of Demand and Supply for Price Determination	<ul style="list-style-type: none"> • To understand the concept of demand and elasticity of demand • To impart knowledge of law of supply and the determinants of law of supply • To help the students understand price determination in varied demand and supply condition <p>Skills imparted: Applying mathematical and statistical analysis methods extracting information, drawing conclusions</p>
4.	Production Analysis	4.1 Concept of Production Function 4.2 Total, Average and Marginal Production 4.3 Law of Variable Proportions 4.4 Law of Returns to Scale 4.5 Economies and Diseconomies of Scale- Internal and External	<ul style="list-style-type: none"> • To help the students understand the relation between revenue concepts • To understand theories of production function • To make students know about economies and diseconomies of scale <p>Skills: Interpret economic theories, writing skills, understand charts and graphs.</p>

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	<ul style="list-style-type: none"> • Open book discussion • Case studies • Problem solving based learning 	You tube lectures on micro and macro economics	<ul style="list-style-type: none"> • Functional relations • Goals of firms 	<ul style="list-style-type: none"> • Students will understand basic concepts of micro economics, • Will be able to analyze and interpret
1.	12	<ul style="list-style-type: none"> • Digital lectures • Jigsaw reading 	You tube lectures	Types of utility	<ul style="list-style-type: none"> • Will know cardinal and ordinal approach • Will understand the concept of consumer surplus
2.	12	<ul style="list-style-type: none"> • Game oriented classes • Pair learning • Group discussion 	<ul style="list-style-type: none"> • Films • You tube lectures 	Type of goods and elasticity of demand	<ul style="list-style-type: none"> • Will understand the concept of demand and elasticity of demand • Will understand the concept of supply • Able to interpret equilibrium in the market
3.	12.	<ul style="list-style-type: none"> • Group discussion • Teacher driven power point presentation • Games and simulation 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	Effect of economies of scale on industries (with example of an industry)	<ul style="list-style-type: none"> • Will understand revenue concept • Will know economies and diseconomies of scale

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Microeconomics	B. Douglas Bernheim and Michael D. Whinston	Tata McGraw Hill	New York
2	Microeconomics	Pindyck, R.S. and D.L. Rubinfeld	Pearson Education	London

3	Principles of Economics	Stiglitz, J.E. and C.E. Walsh	Oxford Univ. Press	United Kingdom
4	Microeconomics: Theory and Applications	Salvatore, D.L	Oxford Univ. Press	United Kingdom
5	Intermediate Microeconomics: A Modern Approach	Varian, H.R.,	W.W. Norton	United Kingdom, United states
6	Microeconomic Theory,	Sen, Anindya	Oxford Univ. Press	United Kingdom
7	Modern Microeconomics	Koutsoyiannis, A	MacMillan Press	India
8	Principles of Microeconomics	H.L. Ahuja	S. Chand	New Delhi

Suggested references

Web reference

Sr. no	Lectures	Films	Animation	PPTs	Articles
1.	https://mitpress.mit.edu/books/lectures-microeconomics	https://www.economicsnetwork.ac.uk/teaching/Video%20and%20Audio%20Lectures/Principles%20of%20Microeconomics	https://www.youtube.com/redirect?q=http%3A%2F%2Fwww.thateconstutor.com&v=Zre4tp90Aog&redir_token=6U11cd7zsOZt8fGKACK3B5JHJNh8MTU1NzkyNzkzMUAxNTU3ODQxNTMx&event=video_description	https://ctaar.rutgers.edu/gag/ppc2_files/ppc2.ppt	http://scholar.google.co.in/scholar?q=articles+on+microeconomics&hl=en&as_sdt=0&as_vis=1&oi=scholar
2.	https://www.amazon.com/Lectures-Microeconomics-Questions-Approach-Press/dp/0262038188	https://nptel.ac.in/courses/109104125/	https://www.youtube.com/watch?v=ewPNugIqCUM	https://www.slideshare.net/tribhuwan64/presentation-on-importance-of-microeconomics	http://theconversation.com/global/topics/microeconomics-3328

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Semester: I

Business Mathematics & Statistics- I

Course Code – 114 (A)

No. of Credits :- 03

Objective of the Program

1. To introduce the basic concepts in Finance and Business Mathematics and Statistics
2. To familiar the students with applications of Statistics and Mathematics in Business
3. To acquaint students with some basic concepts in Statistics.
4. To learn some elementary statistical methods for analysis of data.
5. The main outcome of this course is that the students are able to analyze the data by using some elementary statistical methods

Unit No.	Unit Title	Contents	Purpose/Skills to be developed
1	Interest and Annuity	Interest: Concept of Present value and Future value, Simple interest, Compound interest, Nominal and Effective rate of interest, Examples and Problems Annuity: Ordinary Annuity, Sinking Fund, Annuity due, Present Value and Future Value of Annuity, Equated Monthly Installments (EMI) by Interest of Reducing Balance and Flat Interest methods, Examples and Problems.	<ol style="list-style-type: none"> 1. To understand the concept of Simple interest, compound interest, effect of compounding. 2. To understand the concept of Annuity and its applications for EMIs and Amortization Schedule.
2	Shares and Mutual Funds	Shares: Concept of share, face value, market value, dividend, brokerage, equity shares, preferential shares, bonus shares. Examples and Problems Mutual Funds: Concept of Mutual Funds, Problems on calculation of Net Income after considering entry load, Dividend, Change in Net Asset Value (NAV) and exit load. Averaging of price under the Systematic Investment Plan (S.I.P.). Examples and Problems	<ol style="list-style-type: none"> 1. To understand the concept of shares and mutual funds. 2. To understand contribution of shares and mutual funds in systematic investment plans 3. To solve problems related to shares and mutual funds
3	Population and Sample	Definition of Statistics, Scope of Statistics in Economics, Management Science and Industry. Concept of population and sample, methods of data collection: Census and sampling with illustration. Methods of random sampling – SRSWR, SRSWOR, Stratified, Systematic (Description of sampling procedures only).	<ol style="list-style-type: none"> 1. Collection of data 2. Analyzing and interpreting data. 3. Knowing different method of sampling

4	Measures of Central Tendency and Measures of Dispersion	<p>Frequency distribution: Raw data, attributes and variables, Classification of data, frequency distribution, cumulative frequency distribution, Histogram and ogive curves.</p> <p>Requisites of ideal measures of central tendency, Arithmetic Mean, Median and Mode for ungrouped and grouped data. Combined mean, Merits and demerits of measures of central tendency, Geometric mean: definition, merits and demerits, Harmonic mean: definition, merits and demerits, Choice of A.M., G.M. and H.M.</p> <p>Concept of dispersion, Measures of dispersion: Range, Variance, Standard deviation (SD) for grouped and ungrouped data, combined SD, Measures of relative dispersion: Coefficient of range, coefficient of variation. Examples and problems.</p>	<ol style="list-style-type: none"> 1. To classify and represent data in tabular and graphical form. 2. To compute various measures of central tendency and measures of dispersion.
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Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Expected Outcome
1	16	ICT	Students will be able to apply concepts of interests and annuities to calculate EMI, prepare amortization schedule, calculate insurance premiums etc
2	8	ICT	Students will be able calculate dividend, brokerage on shares and mutual funds. Also students will be able to identify the contribution of shares and mutual funds in systematic investment plans and to select best investment options
3	8	ICT	Students will be able to recognize and classify different types of data. Students will be able to take a sample of appropriate size using suitable method of sampling.
4	16	ICT	Students will be able to calculate measures of central tendency and measures of dispersion. Students will be able to use appropriate measure of central tendency or measure of dispersion for given data to given problems from business or economics.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Practical Business Mathematics	S. A. Bari	New Literature Publishing Company	New Delhi
2	Mathematics for Commerce	K. Selvakumar	Notion Press	Chennai
3	Business Mathematics with Applications	Dinesh Khattar & S. R. Arora	S. Chand Publishing	New Delhi
4	Business Mathematics and Statistics	N.G. Das & Dr. J.K. Das	McFraw Hill	New Delhi
5	Fundamentals of Business Mathematics	M. K. Bhowal	Asian Books Pvt. Ltd	New Delhi
6	Operations Research	P. K. Gupta & D. S. Hira	S. Chand Publishing	New Delhi
7	Mathematics for Economics and Finance: Methods and Modeling	Martin Anthony and Norman Biggs	Cambridge University Press	Cambridge
8	Financial Mathematics and Its Applications	Ahmad Nazri Wahidudin	Ventus Publishing ApS	Denmark
9	Fundamentals of Mathematical Statistics	Gupta S. C. and Kapoor V. K.;	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
10	Statistical Methods	Gupta S. P.:	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
11	Applied Statistics	Mukhopadhyaya Parimal	New Central Book Agency Pvt. Ltd.	Calcutta.
12	Fundamentals of Statistics	Goon A. M., Gupta, M. K. and Dasgupta, B.	World Press	Calcutta.
13	Fundamentals of Applied Statistics	Gupta S. C. and Kapoor V. K.;	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002

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Semester: I

Computer Concepts and Application - I

Course Code – 114 (B)

No. of Credits :- 03

Objective:

1. To make the students familiar with Computer environment.
2. To make the students familiar with the basics of Operating System and business communication tools.
3. To make the students familiar with basics of Network, Internet and related concepts.
4. To make awareness among students about applications of Internet in Commerce.
5. To enable make awareness among students about e-commerce and M commerce.

Unit 1 Introduction to Computer and Operating system

[12]

Introduction to Computer

Definition, Block Diagram, Computer Hierarchy, (Classification),
Characteristics of Computer

Computer System Hardware

Computer Memory
Input and Output Devices

Definition – Software

Software Types - System Software, Application Software

Definition of Operating System

Types of Operating Systems,
Functions of Operating Systems

Working with Windows Operating System:

Introduction, The Desktop, Structure of Windows, Windows Explorer, File and Folder Operations, The Search, The Recycle Bin, Adding or Removing New Programs using, Control Panel, Applications in windows (Paint, Notepad, WordPad, and Calculator)

Introduction to Free and Open Source Software

Definition of Computer Virus, Types of Viruses, Use of Antivirus software.

Unit 2 Office automation tools

[12]

Definition of Information Technology (IT)
Benefits of Information Technology (IT)
Applications of Information Technology (IT)

Office automation tools

MS-Word: Introduction, Starting MS-Word, MS-Word Screen and its Components, Elementary Working with MS-Word

MS-Excel: Introduction, Starting MS-Excel, Basics of Spread sheet, MS-Excel Screen and Its Components, Elementary Working with MS-Excel

MS-PowerPoint: Introduction, Starting MS-PowerPoint, Basics of PowerPoint, MS-PowerPoint Screen and Its Components, Elementary Working with MS PowerPoint

Data Processing: Files and Records, File Organization (Sequential, Direct/Random, Index)

Unit 3 Introduction to Computer Network

[12]

Introduction
Importance of Networking
Computer Network (LAN, WAN, MAN)

Network Components (Hub, Switch, Bridge, Gateway, Router, Modem)
Network Topology, Wireless Network
Internet and Internet application
Introduction, Internet evolution, Working of Internet, Use of Internet

Overview of World Wide Web (Web Server and Client)
Introduction to Search engine and Searching the Web, Downloading files, Introduction to Web Browsers, Working with E-mail (creation and use of the same)

Introduction to Internet Security
Security, Privacy, Ethical Issues & Cyber Law

Unit 4 Computer applications in Commerce

[12]

Computer Applications in Business – Need and Scope

Computer Applications in various fields of Commerce:
Personnel Administration, Accounting, Cost and Budgetary Management, Purchasing, Banking, Insurance and Stock-broking, e-governance

E-Commerce

Defining e-Commerce, Main Activities of Electronic Commerce, Benefits of E-Commerce; Broad Goals of Electronic Commerce; Main Components of E-Commerce; Functions of Electronic Commerce – Communication, Process Management, Service Management, Transaction Capabilities;

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Semester: I

Organizational Skills Development- I

Course Code – 115 - A

No. of Credits :- 03

Objectives of the course

1. To introduce the students to the emerging changes in the modern office environment
2. To develop the conceptual , analytical , technical and managerial skills of students efficient office organization and records management
3. To develop the organizational skills of students
4. To develop Technical skills among the students for designing and developing effective means to manage records , consistency and efficiency of work flow in the administrative section of an organisation
5. To develop employability skills among the students

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Concept of Modern Office	<ol style="list-style-type: none">a. Modern Office :- Definition, Characteristics, importance and functionsb. Office environment:- Meaning and Importancec. Office Location :- Meaning, Principles and factors affecting Office locationd. Office Layout :- Meaning, Principles and factors affecting Office Layout	<ol style="list-style-type: none">1. Conceptual Clarity on the meaning of a modern office2. Developing understanding on the internal and external factors of an office environment3. Developing analytical and technical skills to contribute towards planning office location and layout
2	Office Organisation and Management	<ol style="list-style-type: none">a. Office Organisation : Definition, Importance, Principles and Types of Organisationb. Office Management:- Definition, Functionsc. Scientific Office Management :- Meaning, Aims, Techniques of Scientific Office Management and Steps for installation of Scientific Office Management	<ol style="list-style-type: none">1. Conceptual clarity on the meaning of Scientific office management2. Development of understanding in various techniques for scientific management

3	Office Records Management	<p>a. Office Records Management -Definition, Objectives, Scope of Records Management, Significance, Principles of Records management.</p> <p>b. Digitalization of records:- Advantages and Problems of Digitalization</p> <p>c. Form Design:- Objectives, types of forms, Significance, Principles of form designing</p> <p>d. Office Manual – Definition, Contents Types , benefits and limitations</p>	<p>1. Introduction to concept of digitalization of records</p> <p>2. Technical skills and critical analysis skills for designing of various office documents for effective records creation and maintenance</p>
4	Office work	Office work :-Meaning and Characteristics, Flow of work :- Significance, Features of Ideal flow of work ,benefits of flow of work ,problems in smooth flow of work , suggestions for even flow of work	1. Analytical skills for process improvement in office work.

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Power Point Presentation	Online Videos	Making a model of office layout in groups	Conceptual Clarity on meaning of Modern Office, internal and external factors of an office environment
2	12	Power Point Presentation			Conceptual clarity on the meaning of Scientific office management and understanding various techniques for scientific management

3	12	Guest Lectures by Experts	Visit to any organization , college, bank etc (group assignment)	Report on the records management system based on the visit	Technical skills and Critical analysis skills
4	12	PPT , Educational Videos	Visit to any organization , college, bank etc (group assignment)	Report on the visit and suggestions for improvement in work flow of the organization visited	Development of Technical and Analytical abilities

References :

List of Books Recommended :-

1. Modern Office Management – By Mills, Geoffrey
2. Office Management – By Dr. R.K. Chopra , Priyanka Gauri
3. Office Management – By R.S.N. Pillai
4. Office Management – By K.L.Maheshwari , R.K . Maheshwari
5. Modern Office Management : Principles and Techniques – By J.N.Jian , P.P.Singh

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Semester: I

BANKING & FINANCE- I

(Fundamentals of Banking I)

Course Code – 115 - B

No. of Credits :- 03

Objectives -

- To provide knowledge of fundamentals of Banking
- To create awareness about various banking concepts
- To conceptualize banking operations.

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1.	Evolution of Banking	<ul style="list-style-type: none">• Meaning, Definition and Origin of 'Bank'• Evolution of Banking in Europe and Asia• Evolution of Banking in India• Structure of Indian Banking System	<ul style="list-style-type: none">• Knowledge of evolution of banking.• Understanding structure of Indian Banking
2.	Functions of Bank	<p>Primary Functions:</p> <ul style="list-style-type: none">○ Accepting Deposits:<ul style="list-style-type: none">i. Demand Deposits - Current Deposit and Savings Deposits;ii. Time Deposits - Fixed Deposit and Recurring Flexi Deposits (Auto Sweep)○ Granting Loans and Advances-<ul style="list-style-type: none">i. Short Term Loan- Overdraft Facility, Cash Credit Facility, Purchasing and Discounting of Bills,ii. Term Loan	<ul style="list-style-type: none">• Understanding primary and secondary functions of a bank.• Understanding the concepts related to lending and ratios.

		<p>Secondary Functions:</p> <p>A. Agency Functions- Payment and Collection of a Cheque, Bill and Promissory Note, Execution of standing instructions, Acting as a Trustee and Executor</p> <p>B. General Utility Functions- Safe Custody, Safe Deposit Vaults, Remittance of funds, Pension payments, Acting as a Dealer in Foreign Exchange (FOREX) Market.</p> <p>C. Distribution of Third Party Products, Bancassurance, Mutual Funds, Issuance of Credit Card and Debit Card</p> <p>D. Non Fund Based Credit Facilities- Letter of Credit, Bank Guarantee and Deferred Payment.</p> <p>E. Government Business – Collecting GST, Stamp Duty, Excise Payment, etc.</p> <ul style="list-style-type: none"> • Concepts of Priority and non- priority sector lending Security Based and Purpose Oriented Lending, Bridge Loans, Reserve Ratios- CRR and SLR. Credit Appraisal and Credit Monitoring 	
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<p>3.</p>	<p>Procedure for Opening and Operating of Deposit Account</p>	<p>Procedure for Opening of Deposit Account: Know Your Customer Norms, (KYC Norms), Application Form, Introduction, Proof of Residence, Specimen Signature, and Nomination Facility: Their Importance. No Frill Account</p> <p>Procedure for Operating Deposit Account: Pay-in-slip, Withdrawal slip, Issue of Pass Book, (Current, Savings or Recurring Deposit), Issue of Cheque Book, Issue of Fixed Deposit Receipt, Premature encashment of a Fixed Deposit and Loan against Fixed Deposit. Recurring Deposit: Premature encashment and loan against Recurring Deposit.</p> <p>a) Closure of Account</p> <p>b) Transfer of Account</p> <p>c) Death Claim Procedure</p> <p>Types of Account Holders</p> <p>a) Individual Account Holders- Individual Account, Joint Account, Illiterate, Minor, Married Woman, Pardahnashin Woman, Non-Resident Account</p> <p>b) Institutional Account Holders- Sole Proprietorship, Partnership Firm, Joint Stock Company, Hindu Undivided Family, Clubs, Associations, Societies and Trusts.</p>	<ul style="list-style-type: none"> • Understanding the process of opening and operating procedure of bank accounts. • Understanding various types of bank accounts holders
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4	Methods of Remittance	<p>Demand Draft, Bankers' Cheque</p> <p>Electronic Funds Transfer (EFT) – Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT), Procedure of fund transfer through NEFT/ RTGS,</p> <p>Society for Worldwide</p> <p>Interbank Financial Telecommunication (SWIFT)</p> <p>Immediate Payment Service (IMPS) - Interbank (Bank to Bank) and Intra Bank (Branch to Branch) Fund Transfer</p>	<ul style="list-style-type: none"> Understanding various methods of remittance.
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Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1.	10	Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home Assignment	Relevant YouTube videos	NA	<ul style="list-style-type: none"> Knowledge of evolution of banking. Understanding structure of Indian Banking
2.	14	Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home Assignment	Relevant YouTube videos	Report writing of expert lecture	<ul style="list-style-type: none"> Understanding primary and secondary functions of a bank. Understanding the concepts related to lending and ratios.

3.	14	Lecture, Expert Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home Assignment,	Relevant YouTube videos	Visit to a bank	<ul style="list-style-type: none"> • Understanding the process of opening and operating procedure of bank accounts. • Understanding various types of bank accounts holders
4.	10	Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion, Library / Home Assignment,	Relevant YouTube videos	Visit to a bank	<ul style="list-style-type: none"> • Understanding various methods of remittance.

References:

1. Majumdar N. C., 'Fundamentals of Modern Banking', New Central Book Agency (P) Ltd., New Delhi.
2. Arondekar A.M. & Others, 'Principles of Banking', Macmillan India Pvt. Ltd.
3. Srinivasan D. & Others, 'Principles & Practices of Banking', Macmillan India Pvt. Ltd.
4. Agarwal O.P., (4th Edition, 2017), 'Banking and Insurance', Himalaya Publishing House.
5. Gopinath M. N., (1st Edition, 2008), 'Banking Principles and Operations', Snow White Publications Pvt. Ltd, Mumbai
6. Gordon E. & Natarajan K., 'Banking - Theory, Law and Practice', (21st Revised Edition), Himalaya Publishing House.
7. Joshi Vasant & Joshi Vinay, (3rd Edition), 'Managing Indian Banks', Sage Publication, New Delhi.
8. Varshney P.N. (12th Edition, 2003), 'Banking - Law and Practice', Sultan Chand & Co. New Delhi
9. Kothari V., (26th Edition) 'Tanna's Banking Law & Practice in India,' Lexis Nexis Publication.

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Semester- I

Defense Organization and Management in India

DEFENSE ORGANISATION AND MANAGEMENT IN INDIA-I

Course Code – 115 - D

No. of Credits :- 03

Objectives:

- 1) To understand the role of Armed Forces and Defense structure of Indian Armed Forces.
- 2) To know the vital elements of Indian Defense Organization in India.
- 3) To know the second line of Defense in India

Unit No.	Topic	No. of Lectures	Teaching Method	Skills to be developed
1.	Development of Defense Organization after Independence 1.1 Reconstruction of Indian Armed Forces since 1947. 1.2 Development of the Army after Independence. 1.3 Development of the Navy after Independence. 1.4 Development of the Air Force after Independence. 1.5 Principles of Defense Organisation.	12	Lecture, PPT, Group Discussion, Library Work, Assignment	<ul style="list-style-type: none">• Understanding defence organization after independence.• Understanding the principles of Defense organization
2.	Elements of Defense Organization in India. 2.1 Powers of the President in relation to the Armed Forces. 2.2 Defense Committee of the Cabinet. 2.3 Ministry of Defense – its organizational & function.	12	Lecture, PPT, Group Discussion, Library Work, Study Visit	<ul style="list-style-type: none">• Understanding the elements of defense organization in India.

	2.4 National Security Council.			
3.	Defense Structure of Indian Armed Forces 3.1 Chief of Staff Committee. 3.2 Organization of Army, Naval & Air Headquarters. 3.3 Organization of Army, Naval & Air Commands.	12	Lecture,PPT, Group Discussion, Library Work,	<ul style="list-style-type: none"> Understanding the defense structure of Indian Armed Forces
4.	Para Military Forces of Defense 4.1 Border Security Force. 4.2 Coast Guard. 4.3 Territorial Army. 4.4 Home Guard. 4.5 Civil Defense. 4.6 National Cadet Corps (N.C.C.) 4.7 Central Reserve Police Force. 4.8 State Reserve Police Force.	12	Lecture,PPT, Group Discussion, Library Work, Assignment	<ul style="list-style-type: none"> Understanding the paramilitary force of defense.
	Total	48		

References:

- 1) Ron Mathews, "Defense Production in India" ABC, New Delhi.
- 2) Raju G. C. Thomas (1978), "The Defense of India a Budgetary Perspective of Strategy and Politics", Mac Millan Publication, New Delhi.
- 3) Sam C.Sarhesian – The Military Industrial Complex a Reassessment', Sage Publication, New Delhi.
- 4) Maj. Gen. Pratap Narain [Retd] (1998), India's Arms Bazar," Shilpa Publication, New Delhi.
- 5) L t. Gen. R. K. Jasbir Singh(1999),Indias Defense Year Books', Nataraj Publication, Dehradun.
- 6) Chaudhari A.P., 'संरक्षणशास्त्र' Nilkantha Publication, Pune
- 7) Jadhav V.Y, 'भारताची राष्ट्रीय सुरक्षा', Snehvardhan Publication , Pune.
- 8) Venkateshwaram A. L. 'Defense Organisation in India'
- 9) C. Lakshmi (1998) 'Trends in India's Defense Expenditure,' ABC, New Delhi.

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Semester- I

Theory and Practice of Co-operation- I

Course Code – 115 - E

No. of Credits :- 03

Objectives of the course:

1. To acquaint the students with the concept of co-operative movement.
2. To introduce the scope of Co-operation.
3. To make students build their career in the field of Co-operation and Rural Development.

Depth of Programme: - Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Co-operation-	Meaning & Definitions, Objectives, Nature and Scope of Co-operation, Strength and Weakness of Co-operative Movement ,Principles of Co-operative International Co-operative Alliance (ICA) Meaning ,objectives, ICA Board Code of Governance, International Co-operative Alliance (I.C.A) Committee-1937,1966,1995 Problems & Challenges faced by the Co-operative sector	i. To understand the objectives, Nature and scope of co-operation ii. To understand the Co-operative Movement iii. To understand International Co-operative Alliance and ICA Committee 1937,1966,1995

2	History of Co-operative Movement in India	Introduction and Development of Co-operative Movement in Pre Independence period. Strength and weakness of Co-operative Movement , Sir Fedrick Nicholson Report 1904 , Maclagen Committee Report 1912 , Study of eminent supporters and their contribution	<ul style="list-style-type: none"> i. To understand the development of Co-operative Movement in India ii. To understand Sir Fedrick Nicholson Report and Maclagen Committee Report <p>To understand eminent supporters and their contribution in Co-operative Movement of India</p>
3	Development of Co-operative Movement in India in post Independent Era	Contribution of Co-operative Leaders in post Independent Era up to the present Stage, Gorewala Committee Report 1954 , Vaidyanathan Committee Report 2005 , Development of Co-operative Movement in Maharashtra , Current scenario of Co-operative Movement in India	<ul style="list-style-type: none"> i. To understand the Contribution of Co-operative Leaders in India ii. To understand the Gorewala Committee Report, Vaidyanathan Commiittee Report iii. To understand Current scenario of Co-operative Movement in India
4	Government and Co-operative Movement	Role of Central Government , Role of State Government Co-operative Vs Capitalism & Communism	<ul style="list-style-type: none"> i. To understand the role of Government in Co-operative Movement ii. To understand Co-operative Vs Capitalism & Communism

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and AV Application	Project	Expected Outcome
1	12	Pre reading, Class discussion, examples from real life through newspapers and internet resources. Debate on The Strength and Weakness of co-operative movement in Maharashtra, Poster presentation	Short Film Show on Co-operative Movement, AV Application (Audio and Visual Application)	Project on Current scenario of Co-operative Movement in Maharashtra	Understanding of basic knowledge of co-operative movement Understanding Scope, Strength and Weakness of co-operative movement. Understanding International Co-operative Alliance

2	12	Organise Semesterinar/workshop for students, Pre reading, Class discussion, Internet resources. case studies, Field visit to Co-operative Sugar Factory, visit to Agriculture Co-operative and Non Agriculture Co-operative society, Survey report	You Tube Video on History of Co-operative Movement in India	Project Report on Co-operative Sugar Factory, Rural Co-operative and Urban Co-operative credit Society	Understanding History and current scenario of Co-operative Movement in India
3	12	Guest Lectures of eminent personalities in co-operative movement and Rural Development , experience sharing, Pre reading, Class discussion, examples from real life through newspapers and internet resources, case studies, PPT, Interview of co-operative leader	Presentation on Contribution of Co-operative Leaders in post Independent Era up to the present Stage	Project Report on Development of Co-operative Movement in Maharashtra	Understanding Contribution of Co-operative Leaders in post Independent Era up to the present Stage , Development of Co-operative Movement in Maharashtra
4	12	Pre reading, Class discussion, examples of various co-operative institution through Newspapers and internet resources, Guest Lectures of eminent personalities ,PPT	Group discussion on Co-operative Vs Capitalism & Communism	Project Report on Role of Government in Co-operative Movement	Understanding Role of Government in Co-operative Movement

References

Sr. No	Title of Book	Author/s	Publication	Place
1	Co-operation and Rural Development	Principal Dr.Nitin Ghorpade	Success	Pune
2	Co-operation- Principles and Practice-	Dr. D.G. Karve		
3	Theory, History and Practice of Co-operation	Dr. R.D. Beddy		
4	Bhartiya Sahkari Chalval- Tatve va Vyavhar (Marathi)	Prof. Jagdish Killol; Prof. Arvind Bondre; Prof. A. C. Bhavsar		
5	Sahkari Chalval 1904-2004 (Marathi)	Prof. K. L. F ale		
06	Rural Development in India-Policies and Programme	Abdul Azees NP and S.M. Javed Aktar	Kalpaz Publication	
07	Human Resource Management Practices in Co-operative sector	Principal Dr.Shaikh Aftab Anwar	Idea Publication	New Delhi
08	Report of the High Power Committee on Co-operative May 2009 Ministry of Agriculture Government of India			
09	Journal of Commerce and Management Thought(JCMT)			
10	Journal Co-operative Organization and Management , Journal of Co-operative studies			

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Managerial Economics I

Semester - I

Course Code – 115 - F

No. of Credits :- 03

Objectives:

1. To acquaint the students with the concepts and techniques used in micro and macroeconomics.
2. To give the introduction to basic principles of microeconomics and to demonstrate how application of economic theory can improve decision making.
3. To build a perspective necessary for the application of modern economic concepts, precepts, tools and techniques in evaluating business decision taken by a firm.

Unit No.	Unit Title.	Content	Purpose Skills to be developed
1	Introduction	1.1 Nature, Scope and significance of managerial economics. 1.2 Managerial economics and microeconomics. 1.3 Managerial economics and macroeconomics. 1.4 Main characteristics of managerial economics. 1.5 Fundamental economic concepts- opportunity cost, Discounting Principle, Time perspective, incremental reasoning, equi-marginal concept. 1.6 Application of economics in managerial decision making. 1.7 Role and responsibilities of managerial economist in business.	i) To know the meaning, nature of managerial economics ii) To understand fundamental principles of economics. iii) To know the application of principles of managerial economics in business decision making.
2	Demand Analysis	2.1 Basis for demand - concept of utility 2.2 Cardinal Utility approach- Law of marginal utility, maximization of utility, consumer surplus. 2.3 Ordinal Utility approach- Indifference Curve, maximization of utility. 2.4 Law of demand- determinants of demand. 2.5 Elasticity of demand- Price, Income and Cross elasticity of demand. 2.6 Managerial application and importance of elasticity of demand.	i. To understand the concept of utility. ii. To understand the law of diminishing marginal utility in law of demand. iii. To understand the concept of elasticity and its importance in managerial decision making process.

3	Demand forecasting	3.1 Demand forecasting-Meaning, Methods of demand forecasting- Expert opinion, surveys and market experiments, Time series analysis, Trend Projection, Barometric forecasting. 3.2 Demand forecasting for a new product.(Developing, Testing and launching of new products)	i. To understand the concept of demand forecasting and its utility in demand forecasting of new product. ii. To make the students understand different methods of demand forecasting
4	Production and Cost Analysis	4.1 Law of supply- Determinants of supply. 4.2 Theory of production- Meaning and concept of production, 4.3 Law of Variable Proportions and Returns to a Scale. 4.4 Cost Analysis- Types of Cost - Economic cost and accounting cost, Private cost and social cost, Actual cost and opportunity cost, Past cost and future cost, Explicit cost and implicit cost, Incremental cost and Sunk cost. 4.5 Cost and cost curves under short-run and long run- Fix cost and variable cost, Average cost and marginal cost, Relation between average cost and marginal cost. 4.7 Revenue Curves- Concept of average, marginal and total revenue under different market conditions, relation between average and marginal revenue.	i. To understand the law of supply. ii. To know the various concept of costs and revenues.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	i. Open book discussion ii. Interactive lectures	i. Online PPTs ii. You tube lectures	i. Study costs in a local project. ii. Application of cost principles	The students will be able to decipher, analyze and apply the theory and practice of Managerial Economics
2	12	i. Open book discussion. ii. Group discussion with examples.	i. Online PPTs ii. You tube lectures	i. Study of types of elasticity of demand. ii. Study of elasticity of demand in managerial decision.	Students will develop an understanding of the need of businessman to locate the various factors affecting demand of the product and plans of marketing and business strategies accordingly.
3	08	i.) Interactive lectures	i. Online PPTs ii. You tube lectures	i. Study of methods of demand forecasting in a local firm.	Students will understand the demand forecasting of existing and new

		ii.) Case studies. iii.) Teacher driven power point presentation.		ii. Comparative study of advantages of methods of demand forecasting.	product and its importance in managerial decision making.
4	14	i. Case studies. ii. Interactive lectures.	i. Online PPTs ii. You tube lectures	i. Study of law of variable proportions in a firm. ii. Study of concept of costs in short run and long run.	Students will understand the analytics of supply and its various uses. Students will follow the relationship between costs, revenue, profit and losses.

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Managerial Economics	Domnik Salvatore-	Oxford University Press	Oxford University Press
2	"Managerial Economics-	Mark Hirschey, .	2. Mark Hirschey, Log "managerial Economics-An Integrative Approach", Cengage Learning.	2. Mark Hirschey, Log "managerial Economics-An Integrative Approach", Cengage Learning.
3	Managerial Economics-	D.M.Mithani,	Himalaya Publishing House	Mumbai
4	Managerial Economics,	P.L.Mehatha,	S.Chand Publishing	Mumbai
5	Managerial Economics, Pearson Education	Craig Peterson, Lewis and Jain,	Pearson Education	Pearson Education
6	Modern Economic Theory	K.K.Dewett,		
7	Managerial Economics, Margham Publications, Madras	Shankaran S.	Margham Publications, Madras	Madras
8	Managerial Economics,	Thomas Christopher R. and Charles, Maurice S.	McGraw Hill Irwin, Boston.	McGraw Hill Irwin, Boston.

Suggested references

Web reference

1. <https://nptel.ac.in/courses/110101005/2>
2. <https://nptel.ac.in/downloads/110101005/>
3. <http://cec.nic.in/Pages/Home.aspx>
4. <http://en.wikipedia.org/wiki/Economics>
5. <http://www.investopedia.com/university/economics/#axzz1XwhFTmtm>
6. <http://www.tutor2u.net/blog/index.php/economics/>
7. <http://www.economicshelp.org/>
8. <https://www.intelligenteconomist.com/economics-blogs/>
9. <https://www.coursera.org/courses?query=managerial%20economics>
10. <https://www.edx.org/course/introduction-to-managerial-economics-0>
11. <https://www.mooc-list.com/tags/managerial-economics>
12. <https://online.stmary.edu/mba/courses/managerial-economics>
13. <https://www.tru.ca/distance/courses/econ3041.html>
14. <https://www.euomba.org/managerial-economic>

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Semester - I

Essentials of E- Commerce

Course Code – 116 A

No. of Credits :- 03

Objectives of the course

1. To acquaint the learner with knowledge on the basics of E-commerce.
2. To develop knowledge on various types of E-commerce business.
3. To develop practical knowledge on effective design of Website and Domain Registration.
4. To Develop knowledge on various modes of online transaction for crating convenience in day to day financial transactions and promoting cashless economy.
5. To introduce the learner to the concept of Electronic Data Inter exchange and its significance.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Overview of Electronic Commerce(EC)	Concept, Features and Functions of e-commerce practices v/s traditional practices ,scope and limitations of e-commerce , Recent trends in e-commerce , Risks in e-commerce and preventive measures	1. Conceptual understanding of basics of e-commerce
2	Types of e-Commerce Business	Definition and types of e-commerce business : B2B, B2C, C2B, C2C,B2G, C2G, B2A, C2A and P2P, B2B service provider.	1. Awareness on the various forms of e-commerce
3	Infrastructure	Internet and its role in e-commerce, Mobile and its role in e-commerce , procedure of registering an Internet domain , establishing connectivity to Internet ,tools and services of Internet , Requisites of selecting an appropriate domain name ,Website – Essential factors in designing and importance of an effective website	1. Technical knowledge on registration of a domain 2. Practical Knowledge on role of Internet in e-commerce 3. Analytical skills and Creative skills for web page designing

4	E- Payment and Electronic Data Inter exchange	<p>A. <u>E- Payment</u> : Transactions through Internet , requirements of e-payments systems, functioning of Debit and credit cards, pre and post payment services Overview on Online Payment Portals and apps in India, CC Avenue, Paytm, BHIM, UPI, Phone Pe etc. Concept of Payment Gateway and Payment Processor</p> <p>B. <u>Electronic Data Inter exchange</u>: Evolution, uses, benefits, Working of EDI, EDI standards (includes variable length EDI standards), Cost Benefit Analysis of EDI, Electronic Trading Networks, EDI Components, File types, EDI Services , EDI Software.</p>	<ol style="list-style-type: none"> 1. Practical Oriented Skills on E-commerce 2. Conceptual Clarity on Online Payment Process 3. Conceptual Clarity on EDI and Electronic
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Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	Lecture Methods / Guest Lectures	Online Educational Videos		Developing understanding on E-commerce
2	12	Guest Lectures by subject Experts / Case Study	Online Educational Videos and Success stories	Case study on any one success story	Awareness on various e-commerce platforms
3	12	PPT / Lectures / Guest Lectures	Demonstration by Industry Expert		Technical , Practical , Analytical and Creative Skills
4	14	Live Demonstrations/PPT/Lectures	Online Educational Videos	Actual online transactions of Money transfer and online purchase via online payment for small value orders (can be	Technical and Practical Skills

				undertaken as a group) Payments to vendors via various payment apps apps	
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Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ /Written Test /PPT	As per University norms	Certificate Web Page Designing
Unit – II	MCQ/Written test /Report Writing	As per University norms	Certificate course on Digital Marketing
Unit – III	Written Test/ Report and /or PPT on any 5 well designed websites	As per University norms	
Unit – IV	Written Test / MCQ	As per University norms	

References :

List of Books Recommended :-

1. The Complete E-Commerce Book - By Janice Reynolds
2. E-Commerce Website optimization – By Dan Corxen- John and Johaan van Tonder
3. E- Commerce – An Indian Perspective – By P.T.Joseph S.J.
4. E- Commerce – Business, Technology, Society – By Kenneth c. Laudomn and Carol Guercio Traver
5. Essentials of E-Commerce Technology – By. V.Rajaraman
6. E Business R(Evolution)- By Daniel Amor
7. E-Commerce Management - By Krishnamurthy
8. E-Commerce: Strategy, Technologies and Applications By David Whiteley

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Semester - I

Insurance and Transport- I (Insurance)

Course Code – 116 - B

No. of Credits :- 03

Objectives:

1. To acquaint students with the concepts of Insurance.
2. To create awareness regarding basic knowledge about Life Insurance, Fire Insurance and Marine Insurance.
3. To make the students aware of career opportunities in the field of Insurance

Unit No.	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1.	Introduction to Insurance 1.1 Meaning and Nature of Insurance 1.2 Importance of Insurance 1.3 Scope of Insurance 1.4 Principles of Insurance 1.5 Risk and Insurance 1.6 Types – Life and General Insurance 1.7 Difference between Life and General Insurance 1.8 Career opportunities in Insurance Sector	16	Lecture, PPT, Group Discussion, Library Work, Assignment Companies	<ul style="list-style-type: none">• Understanding the concept of insurance
2.	Life Insurance 2.1 Meaning and Features of Life Insurance 2.2 Nature of Life Insurance 2.3 Origin of Life Insurance 2.4 Importance of Life Insurance 2.5 Principles of Life Insurance 2.6 Types of Life Insurance Policies 2.7 Procedure of Life Insurance Contract	16	Lecture, PPT, Group Discussion, Library Work, Study Visit to Office of the Insurance	<ul style="list-style-type: none">• Understanding the concept of life insurance.

3.	Fire Insurance 3.1 Meaning and Features 3.2 Nature of Fire Insurance Contract 3.3 Types of Fire Insurance Policies	08	Lecture,PPT, Group Discussion, Library Work,	<ul style="list-style-type: none"> Understanding the concept of fire insurance
4.	Marine Insurance 4.1 Meaning and Features 4.2 Marine Insurance Contract 4.3 Types of Marine Insurance Policies	08	Lecture,PPT, Group Discussion, Library Work, Assignment	<ul style="list-style-type: none"> Understanding the concept of marine insurance
	Total	48		

References:

1. Khan M.Y. (1997), Financial Services, Tata McGraw-Hill Publishing Company Limited New Delhi .
2. Mishra M.N. (2004) Insurance - Principles and Practice, S. Chand and Company Ltd. New Delhi.
3. Gulati Neelam C., Principles of Insurance Management, Excel Books.
4. Haridas R., Life Insurance in India, New Century Publication New Delhi.
5. Godwin Frank, The Principles and Practice of Fire Insurance, Isaac Pitman and Sons Ltd. London.
6. Panda G.S., Principles and Practice of Insurance, Kalyani Publishers Ludhiana.
7. Kanwal L.S., Text Book of Insurance, Kalyani Publishers Ludhiana.
8. Mathew M.J., Insurance, RBSA Publisher Jaipur.
9. सराफमोहन,विमाशास्त्र,सी .जमनादासआणिकंपनी

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Semester - I

Marketing and Salesmanship- I

(Fundamentals of Marketing)

Course Code – 116 - C

No. of Credits :- 03

Objectives of the Course

1. To introduce the basic concepts in Marketing.
2. To give the insight of the basic knowledge of Market Segmentation and Marketing Mix
3. To impart knowledge on Product and Price Mix.
4. To establish link between commerce, business and marketing.
5. To understand the segmentation of markets and Marketing Mix.
6. To enable students to apply this knowledge in practicality by enhancing their skills in the field of Marketing.

Unit No.	Unit Title	Contents	Purposed Skills To Be Developed
1	Introduction to Market and Marketing	1.1 Meaning and Definition of Market 1.2 Classification of Markets 1.3 Marketing Concept: Traditional and Modern 1.4 Importance of Marketing 1.5 Functions of Marketing: Buying, Selling, Assembling, Storage, Transportation, Standardization, Grading, Branding, Advertising, Packaging, Risk Bearing, Insurance, Marketing Finance, Market Research and Marketing Information. 1.6 Selling vs. Marketing	The basic knowledge of Market and Marketing will be developed amongst students.

2	Market Segmentation and Marketing Mix	<p>2.1 Market Segmentation: -</p> <p>2.1.1 Introduction</p> <p>2.1.2 Meaning and Definition</p> <p>2.1.3 Importance</p> <p>2.1.4 Limitations</p> <p>2.1.5 Bases for Segmentation</p> <p>2.2 Marketing Mix</p> <p>2.2.1 Introduction</p> <p>2.2.2 Meaning & Definition</p> <p>2.2.3 Elements of Marketing Mix- Product, Price, Place and Promotion</p> <p>2.2.4 Importance of Marketing Mix</p>	Students will develop the Marketing Segmentation knowledge along with the basic concept of Marketing Mix.
3	Product Mix and Price Mix	<p>3.2 Product Mix</p> <p>3.2.1 Meaning and Definition</p> <p>3.2.2 Product Line and Product Mix</p> <p>3.2.3 Product Classification</p> <p>3.2.4 Product Life Cycle</p> <p>3.2.5 Factors Considered for Product Management</p> <p>3.3 Price Mix</p> <p>3.3.1 Meaning and Definition</p> <p>3.3.2 Pricing Objectives</p> <p>3.3.3 Factors Affecting Pricing Decision</p> <p>3.3.4 Pricing Methods</p>	Students will get proper insight of Product and Price Mix.

4	Place Mix and Promotion Mix	<p>a. Place Mix</p> <ul style="list-style-type: none"> i. Meaning and Definition of Place Mix ii. Importance iii. Types of Distribution Channels – consumer goods and Industrial Goods iv. Factors Influencing selection of Channels <p>4.2 Promotion Mix</p> <ul style="list-style-type: none"> 4.2.1 Meaning of Promotion Mix 4.2.2 Elements of Promotion Mix- Personal Selling, Public Relation and Sales Promotion 4.2.3 Factors Affecting Market Promotion Mix 4.2.4 Promotion Techniques or Methods 	Students will develop the skills of promoting a product along with gaining knowledge about the distribution channels.
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Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Expected Outcome
1	14	Power Point Presentation, Survey Analysis	Short Film AV Application	Student will get acquainted with the basics of marketing field.
2	07	Power Point Presentation, Survey Analysis, Group Discussion	Short Film AV Application	It will highlight on the core marketing concepts namely 'Marketing Mix'. It will help students to implement this knowledge in practicality by enhancing their skills in the field of market segmentation.
3	14	Conceptual Learning Group Discussion	AV Application	Students will develop the skills of Pricing the product along with gaining knowledge on Product Mix
4	13	Conceptual Learning, Power Point Presentation, Group Discussion	Short Film, AV Application Use of You Tube	It will help the students to apply the various techniques of Promotion and understand the various channels of distribution

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Marketing Management	Philip Kotler	Pearson Publication	
2	Marketing Management	Rajan Saxena	McGraw Hill Education	
3	Principles of Marketing	Philip Kotler	Pearson Publication	
4	Sales & Distribution Management	Tapan K Panda	Oxford Publication	
5	Advertising Management	Rajiv Batra	Pearson Publication	
6	Retail Management	Swapna Pradhan	McGraw Hill Publication	
7	Retail Management	Gibson Vedamani	Jayco Publication	
8	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication	
9	Supply Chain Management	Sunil Chopra, Peter Meindl & D. V. Karla	Pearson Publication	

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Semester - I

Consumer Protection and Business Ethics - I

Course Code – 116 - D

No. of Credits :- 03

Objectives of the Program

1. To develop general awareness of consumerism among the students.
2. To understand the consumers rights, responsibility and role of United Nations.
3. To have a comprehensive understanding about the existing law on consumer protection in India.
4. To create awareness among the students about dispute redresses machinery and basic procedures for handling consumer dispute.
5. To understand the issues relating to e-commerce, e-Banking emerging issues and internet regulations.

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Consumer Protection - An Overview	Consumerism- Meaning, Evolution, Rational, Need and Importance of Consumerism, Consumer protection- objectives, scope and importance, Consumer rights and Standardization United Nations guideline on consumer protection- Objectives, scope of application , general principles and framework for consumer protection	understand the concept of consumerism Equip the students with knowledge the evolution, need and importance, of consumerism Understand the role of United Nations to protect consumer's interest.
2	Consumer Education and Awareness	Consumer education-Need and importance, Consumer Responsibility Role of consumer Association and Councils in consumer education and Awareness- Voluntary organization, Consumer protection councils, Media, Educational Institute and Government Skills required for career in Consumer studies field	Handling the emerging issues about consumer protection Acquaint knowledge and skills for career opportunity.

5.	Consumer Protection Law in India *	Consumer Protection Movement in India Consumer Protection Act 1986- Overview features, important definitions-consumers, Goods, services, Defect , Deficiency, unfair trade practices, Dispute, Complaint - Objectives, Consumer Disputes Redressal Agencies. (Composition, Jurisdiction, Powers and Functions.) Procedure of filling complaint and Procedure to deal with complain.	Compressive understanding about the existing consumer protection Act 1986. Apply the Law for consumer protection
6.	E -Commerce and consumer Protection	E Commerce- scope and limitations, Need and importance of E commerce , Prospects and challenges of Ecommerce and its effect on consumer Need and importance of E-Education consumer Protection in E-Banking Recent Emerging Issues in E-Commerce	Understand the concept of E commerce and Consumer Protection Acquaint students about various issues of E commerce. Able to appreciate the emerging questions and policy issues

[Note: Recent amendments in the Acts and relevant Landmark cases decided by courts are expected to be studied]

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Documentary , PPT, Narration, Quiz, Survey Analysis Article review	Short film about consumer movement, Role of UN	Report Review	Acquaint knowledge and maturity to understand the consumers interest
2	12	Project making, Street play, jingles, slogan Competition,	Use of You tube, Review of Movie	New Emerging Issues in consumer protection	To get training to face emerging issues. To seek career opportunity in this field.

3	12	Case study, Poster making, Interview of lawyer , Mute court	Case Analysis, Mute court ,E filing of the case	Recent Laws and silent feature	To Acquaint knowledge and application of laws
4	12	Virtual Learning, Group Discussion,	Film on cyber security, Internet precautions	Project on E COMMERCE and Consumer protection	To defend and safety in e commerce. To learn e skills

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Grahak Darshan	Mr. Bindu Madhav Joshi	Akhil Bhartiya Grahak Panchayat	Pune
2	Grahak Sanrakshan Adhiniyam	Ad Ghare S S	Mukund Publication	Pune
3	E- Commerce : An Indian Perspective	Dr.P. T. Joshep	PHI Publication	New Delhi
4	E Banking in India	Dr R K Uppal	New Century Publication	New Delhi
5	Consumer education and empowerment	Dr. S. S. Singh, Dr.Sapna Chadah	Abhijit Publication	New Delhi
6	GrahakRaja Jaga Ho	Prof. G. V. Kayandepatil	Chaitanya Publication	Nashik
7	United Nations Guidelines on Consumer Protection	unctad.org	UNCTAD	UNCTAD Geneva Switzerland
8	The Consumer Protection Act, 1986	Act	Govt of India	Delhi
9	The law of E Commerce	Dr A Alghamdi	Auther House	Mumbai

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Semester - I

Business Environment & Entrepreneurship - I

Course Code – 116 - E

No. of Credits :- 03

Objectives of the course:

- 1) To understand the concept of Business Environment and its aspects
- 2) To make students aware about the Business Environment issues and problems of Growth
- 3) To examine personality competencies most common to majority of successful entrepreneurs and to show how these competencies can be developed or acquired
- 4) To understand the difference between Entrepreneurial and non-Entrepreneurial behaviour
- 5) To provide knowledge of the significance of Entrepreneurship in economy
- 6) To familiarize the students with the contribution of selected institutes working to promote Entrepreneurship
- 7) To generate entrepreneurial inspiration through the study of successful Entrepreneurs

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Business Environment	Concept- Importance - Inter relationship, between environment and entrepreneur, Aspects of Environment- Natural- Economic - Political - Social - Technical - Cultural - Educational - Legal & Cross-cultural – Geographical etc.	Understanding the concept of Business Environment and its aspects Skill-correlating aspects of business environment and entrepreneur
2	Environment Issues	Pollution-Concept and types –Causes of pollution- Remedies of Pollution, Remedies of pollution-protecting the natural environment-Conservation of natural resources - Opportunities in Environment	Making students aware about business environment issues and problems of growth Skills-capable of understanding and analysing environment issues and finding out solutions to resolve these issues

3	Problems of growth	Unemployment- Concept-Types-Causes- Remedies, Poverty- Concept- Causes- Remedies , Regional Imbalance- Concept-Effects –Solutions , Social injustice- Concept, Effects, Solutions ,Black Money –Meaning – Sources –Effects- Measures, Lack of technical knowledge and information-Problems-Remedies	Understanding the problem of growth Skill-Application of mind to resolve the problem of growth
4	The Entrepreneur	Evolution of the term entrepreneur –Definition - Competencies of an Entrepreneur – Distinction between a) entrepreneur and manager-b)Entrepreneur and Enterprise, Intrapreneur-Concept and importance –Distinction between Entrepreneur and Intrapreneur	Understanding the concept of entrepreneur, competencies of a successful entrepreneur, realising the difference between various concepts Skill-knowing the entrepreneurial competencies and imbibing the same by students

Teaching Methodology- F.Y.B.Com Semester-I, Paper-I

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Case Study-Role play	Related videos and PPT	Distribute aspects of business environment in group and ask them to prepare in brief report on it- Field Assignment	Understanding of various aspects business environment useful for would be entrepreneurs
2	12	Conducting survey and collecting information about various types of pollution	Film shows with the help of environment related organizations	Undertake survey of pollution level, its ill effects and remedies	Understanding of various aspects of pollution and its ill effects
3	12	Collecting necessary information through various resources	Related videos and PPT	Compilation of facts, figures and remedies	Understanding of Problems and their causes and remedies
4	12	Case Study	Biographical CDs of successful entrepreneurs	Interview of various types of entrepreneurs e.g. First Generation entrepreneur, Women entrepreneur, Social entrepreneur and collect entrepreneurial competencies, Collection of success stories	Understanding the concept of entrepreneur, competencies of a successful entrepreneur

				of persons organisation in the area, arranging guest lecture by eminent entrepreneurs on various aspects of entrepreneur and entrepreneurship	
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References

Sr. No	Title of Book	Author/s	Publication	Place
1	Business Environment	Francis Cherunilam	Himalaya Publishing House	New Delhi
3	Dynamics of Entrepreneurship Development and Management	Desai Vasant	Himalaya Publishing House	New Delhi
4	Entrepreneurial Development	Khanka S.S.	S. Chand	New Delhi
5	Entrepreneurial Development	Gupta, Shrinivasan	S. Chand	New Delhi
6	Udyog	--	Udyog Sanchalaya	Mumbai
7	Indian Economy	Ruddar Datt, K.P.M. Sundharam	S. Chand	New Delhi

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Semester – I

Foundation Course in Commerce

Course Code – 116 – F

No. of Credits :- 03

Objectives of the course

1. To acquaint the student with knowledge of forms of business organizations and new business models.
2. To understand the latest government regulations and policies with relation to business in India .
3. To introduce the students to the various entrepreneurial development programmes in India .
4. To update the students with the latest developments in Service sector in India.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Forms of Business Organization	A. Organization – Meaning , Importance B. Sole Proprietorship , Partnership , LLP , Joint Stock Companies, Joint Ventures , Cooperative, Government form of Business Organization(Departmental, Corporation , Government company), Non Government Organizations – Meaning , Definition , Structure , Advantages and Disadvantages	<ul style="list-style-type: none">▪ Conceptual Understanding on the various forms of Business Organization,
2	Types of Business Models	Franchise, Brick and Mortar, e- Commerce, Bricks and Clicks ,Nickel and Dime, Freemium , Subscription ,Aggregator, Online Market Place , Data Licensing/ Data Selling , Digital Advertising ,Affiliate Marketing, Drop Shipping , Agency Based, Peer to Peer Catalyst/Platform, Block Chain	<ol style="list-style-type: none">1. Overview of the emerging types of business models

3	Industrial Policies and Recent Programmes for Start ups in India	<ol style="list-style-type: none"> 1. Overview of recent Industrial Policies in India – New Industrial Policy 1991, EXIM Policy , India New Foreign Trade Policy 2015 – 2020 , FDI Policy 2. Overview of : <ol style="list-style-type: none"> a. Start up India b. Atal Innovation Mission (AIM) c. Make in India d. Digital India e. Support To Training And Employment Programme For Women (STEP) f. Trade-Related Entrepreneurship Assistance And Development (TREAD) g. Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 	<ol style="list-style-type: none"> 4. Overview of the various policies supporting business in India 5. Awareness on the recent programmes to promote and support for business
4	Emerging Trends in Service Sector	<p>Overview of Recent trends –</p> <ol style="list-style-type: none"> 1. Banking Sector - Internet and Mobile Banking 2. Indian Post Payments Bank 3. Insurance Sector –Malhotra Committee Report 4. Logistics 5. BPO, KPO , TPO , and LPO 6. New trends in Tourism- Religious, Rural, & Medical tourism 	<ol style="list-style-type: none"> 4. Awareness of Recent Trends in the Service Sector

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	PPT , Project Charts	Educational Videos	Individual assignment report	Developing understanding on various forms of business organizations
2	08	Guest Lectures by subject Experts / Industry Expert , Internet Assignments , Case Study Discussion on Real Life success stories	Educational Videos, Videos on Real Life success stories	Case analysis and Discussions, Business Games	Conceptual Clarity and Awareness on Latest Changes
3	14	PPT and Internet Research	https://www.india.gov.in/my-government/schemes	Report Writing , Presentation	Understanding on various Government Policies and Promotion of Entrepreneurial spirit among learners
4	14	Demonstration Method of Online Banking and Mobile Banking , Guest Lectures from experts of respective areas	Educational Videos	Field Visit Internet Research Report	Hands on Training to understand online Baking Awareness on emerging trends and knowledge enhancement

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ / PPT / Written Test	As per University norms	
Unit – II	Chart Presentation / MCQ/ Written Test	As per University norms	Undertaking a small course under Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
Unit – III	Written Test / Open Book Examination	As per University norms	Certificate Course on Soft Skills for Business
Unit – IV	PPT/ MCQ/Written Test/ Field Visit and Report	As per University norms	

References :

List of Books Recommended :-

1. Financial Management – I. M. Pandey.
2. Financial Management – Theory & practical – Prasanna Chandra
3. Financial Management – S. C. Kuchhal
4. Public Sector in India – Laxmi Nariyan
5. Indian Economy – Rudder Datt
6. Indian Economy – KPM Sundaram
7. Law & practice of banking – S. R. Davar
8. The Business Model Book – Adam J Bock , Gerard George
9. Business Model Innovation – Alexander Osterwalder , Yves Pigneur
10. <https://www.india.gov.in/my-government/schemes>

Syllabus for F.Y.B.Com
Semester-II, Paper-II
Subject Name: - Financial Accounting- II
Course Code - 122

Objectives of the course

This course is intended to introduce the basic theory, concepts and practice of financial accounting and to enable students to understand information contained in the published financial statements of companies and other organizations. It includes the preparation of accounting statements, but their uses and limitations will also be emphasized.

Depth of the program – fundamental Knowledge

Objective of the Program

1. To impart knowledge of various software used in accounting
2. To impart knowledge about final accounts of charitable trusts
3. To impart knowledge about valuation of intangible assets
4. To impart knowledge about accounting for leases

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Software used in Accounting	<ol style="list-style-type: none">1. Types of Accounting Software2. Use of Accounting Software3. Installation of Accounting Software4. Advantages and disadvantages of Accounting Software <p>Voucher entry and Report Generation including GST transactions</p>	<ul style="list-style-type: none">• Students are expected to acquaint themselves with Computerised accounting, its application and utility.

2	Final Accounts of Charitable Trust (Clubs, Hospitals, Libraries etc.)	<ol style="list-style-type: none"> 1. Meaning and Characteristics 2. Accounting Records 3. Income and Expenditure Account 4. Receipt and Payment Account 5. Balance Sheet and Adjustments 	<ul style="list-style-type: none"> • Understanding the accounting process of accounting of charitable trusts • Recording basic accounting transactions and prepare annual financial statements; and • Analyzing , interpreting and communicating the information contained in basic financial statements and explain the limitations of such statements
3	Valuation of Intangibles	<ol style="list-style-type: none"> 1. Valuation of Goodwill (Problem) 2. Valuation of Brands 3. Valuation of Patents, Copyright and Trademark etc. 	<ul style="list-style-type: none"> • Learning the concept of intangible assets and the methods of their valuation.
4	Accounting for Leases	<ol style="list-style-type: none"> 1. Types of Lease (Finance Lease and Operating Lease) 2. Finance Lease (Hire Purchase and installment) (Theory) 3. Operating Lease 4. Royalty, 5. Minimum Rent, 6. Short Workings, 7. Recoupment Of Short Working, 8. Lapse of Short Working <p>Journal Entries and Ledger Accounts in the Books of Landlord and Lessee</p>	<ul style="list-style-type: none"> • Understanding the process and methods of leasing.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Hands-on experience of using accounting software on computers	Videos available on YouTube	Voucher entries in tally	Students will be able to acquire in-depth knowledge
2	12	Visit to charitable trust for collection of relevant information	Videos available on YouTube	Visit report	Students will be able to acquire in-depth knowledge
3	12	Case studies on intangible assets and its valuation	Videos available on YouTube	Report writing	Students will be able to acquire in-depth knowledge
4	12	Case studies and expert lectures.	Videos available on YouTube	NA	Students will be able to acquire in-depth knowledge

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Advanced Accounts	M.C. Shukla, T.S. Grewal, S.C. Gupta	S. Chand Publication	New Delhi.
2.	Financial Accounting for B.Com	CA (Dr.) P.C. Tulsian S.C. Gupta	S. Chand Publication	New Delhi.
3.	Financial Accounting	Dr. Kishor Jagtap	Tech- Max Publications,	Pune
4.	Introduction to Accountancy	S.R.N Pillai & Bhagavathi	S.Chand & CompanyLtd	New Delhi

5.	Corporate Accounting	Raj Kumar Sah	Cengage Publications	Noida, Uttar Pradesh
6.	Principles of Accountancy	Principles of Accountancy	S.Chand & CompanyLtd	New Delhi
7.	Advanced Accounting	S. N. Maheshwari		
8.	GST Law and Analysis with Conceptual Procedures	Bimal Jain and Isha Bansal (Set of 4 Volumes)	Pooja Law Publishing Company	New Delhi
9.	Guidance Note on GST by ICAI	--	The Institute of Chartered Accountants of India	New Delhi

Practical for Semester – II

Topic	Mode of Practical
Introduction to Computerised accounting, Accounting software, Features, advantages and disadvantages	Library Assignment
Company creation	Computer Laboratory
Groups and ledgers creation	Computer Laboratory
Voucher entries including GST and Report Generation	Computer Laboratory

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First Year B. Com Semester-II Course Code - 123 Business Economics (Micro) - II

Objectives:

1. To understand the basic concepts of micro economics.
2. To understand the tools and theories of economics for solving the problem of decision making by consumers and producers.
3. To understand the problem of scarcity and choices.

Depth of the program – Fundamental Knowledge

Objectives of the Program

1. To impart knowledge of business economics
2. To clarify micro economic concepts
3. To analyze and interpret charts and graphs
4. To understand basic theories, concepts of micro economics and their application

Unit No.	Unit Title	Contents	Purpose skills to be developed
1	Cost and Revenue	1.1 Concepts and Types of Cost- Economic Cost and Accounting Cost, Private Cost and Social Cost , Actual Cost and Opportunity Cost, Explicit Cost and Implicit Cost, Incremental Cost and Sunk Cost, Fixed Cost and Variable Cost 1.2 Relation between Total Cost, Average Cost and Marginal Cost 1.3 Cost Curves in Short run and Long run 1.4 Concept of Total Revenue, Average Revenue and Marginal Revenue	<ul style="list-style-type: none">• To understand the concept and types of cost• To make the students know about short run and long run cost concepts• To impart knowledge about types of revenue Skills: Interpretation of cost curves, integrate cost and revenue concepts, draw inferences

2	Pricing Under Perfect Market Conditions	<p>2.1 Pure Competition: Meaning and Features</p> <p>2.2 Features of Perfect Competition</p> <p>2.3 Price Determination in Perfect Competition</p> <p>2.4 Equilibrium of Firm and Industry in Short Run and Long Run</p>	<ul style="list-style-type: none"> • To help the students understand the concept of pure and perfect competition • To impart knowledge about equilibrium of firm and industry in short and long run. <p>Skills: Understanding, writing skills, critical thinking</p>
3.	Pricing Under Imperfect Market Conditions	<p>1.1 Meaning of Imperfect Competition</p> <p>1.2 Monopoly: Features and Equilibrium, Price Discrimination</p> <p>3.3 Monopolistic Competition- Features and Equilibrium.</p> <p>3.4 Oligopoly: Concept and Features</p> <p>3.5 Duopoly: Concept and Features</p> <p>3.6 Comparison of Perfect and Imperfect Competition</p>	<ul style="list-style-type: none"> • To develop ability to understand the market structures under imperfect competition • Ability to compare perfect and imperfect competition <p>Skills: Understand complex relations, problem solving skill, analytical skill</p>
4	Factor Pricing	<p>4.1 Marginal Productivity Theory of Distribution</p> <p>4.2 Rent- Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent</p> <p>4.3 Wages-</p> <p>4.3.1 Meaning and Types of Wages-</p> <p>a) Minimum Wages b) Money Wages c) Real Wages d) Subsistence Wages e) Fair Wages</p> <p>4.3.2 Backward Bending Supply Curve of Labour</p>	<ul style="list-style-type: none"> • To understand the theory of marginal productivity • To understand the concept and theories in factor pricing <p>Skills: Critical thinking, logical thinking, apply information processing skills</p>

		<p>4.3.3 Role of Collective Bargaining in Wage Determination</p> <p>4.4 Interest-Meaning, Loanable Fund Theory, Liquidity Preference Theory</p> <p>4.5 Profit- Meaning, Risk and Uncertainty Theory of Profit, Dynamic Theory of Profit, Innovation Theory of Profit</p>	
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Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	8	<ul style="list-style-type: none"> • Open book discussion, • Case studies 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<p>Types of cost in industries</p> <p>Comparison of cost and revenues in industries</p> <p>Trends of cost and revenue in industries</p>	<ul style="list-style-type: none"> • Will understand the concept and types of cost • Students will know about short run and long run cost concepts • Students will have knowledge about types of revenue
2	8	<p>Digital lectures</p> <p>Interactive lectures</p>	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<p>Application of perfect competition markets in the markets like that of agricultural products, dairy products etc</p>	<ul style="list-style-type: none"> • Students will understand the concept of pure and perfect competition • Students will know about the equilibrium of firm and industry in short and long run.

3	14	<ul style="list-style-type: none"> • Game oriented classes • Dramatization • Group discussion 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Study of price and output trends in oligopoly markets • Price and non price competition in monopolistic competition 	<ul style="list-style-type: none"> • Will develop ability to understand the market structures under imperfect competition • Will be able to compare perfect and imperfect competition
4	18	<ul style="list-style-type: none"> • Group discussion • Teacher driven power point presentation 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Application of backward bending supply curve of labor in the market • Study of application of theories of factor pricing 	<ul style="list-style-type: none"> • Will understand the theory of marginal productivity. • Will understand the concept and theories in factor pricing

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Advanced Economic Theory, Microeconomic Analysis	Ahuja H.L	S.Chand and Company	New Delhi
2.	Price Theory and Applications	Jack Hirshlifer	Prentice Hall of India, Pvt. Ltd	New Delhi
3.	Microeconomics,	Paul A. Samuelson and William D. Nordhaus	McGrawhill International Ed	New York
4.	First Principles of Economics,	Richard G. Lipsey, Colin Harbury:	Gerorge Weidenfeld and Nicolon Ltd,	London
5.	Consumer Behaviour and Managerial Decision Making,	Frank R. Kardes: Pearson,	Prentice Hall,	New Delhi
6.	, Microeconomics	R. Glenn Hubbard, Anthony Patrick O.	Pearson, Prentice Hall,	New Delhi

		Brien		
7.	Microeconomics: Principles, Application and Tools	O'Sullivan, Sheffrin, Perez	Pearson, Prentice Hall,	New Delhi
8.	Priniples of Economics	Karl E. Case, Ray C.Fair,	Pearson,Prentice Hall	New Delhi

Suggested References
Web Reference

Sr. No	Lectures	Films	PPTs	Articles
1	https://www.youtube.com/watch?v=oA8kL7OD74o	https://www.economicsonline.co.uk/Business_economics/Perfect_competition.html	https://www.slideshare.net/zeeshanyounas35/perfect-and-imperfect-market-competition-76374490	http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-70542016000300337
2	https://www.economicshelp.org/blog/311/markets/monopolistic-competition/	https://www.youtube.com/watch?v=TTJ4kFX6uRM	https://slideplayer.com/slide/6410262/	http://www.economicdiscussion.net/price/factor-pricing-concept-and-theories/3875
3	http://www.economicdiscussion.net/price/factor-pricing-concept-and-theories/3875	https://www.youtube.com/watch?v=66fKCrsl_e_8 https://www.youtube.com/watch?v=qXmGnQ0WzPM	http://delhi.gov.in/wps/wcm/connect/40fd320047adb2d2aa2fff3f47d42062/economics-Rands.pps?MOD=AJPERES&lmod=-277090329	https://www.investopedia.com/ask/answers/032515/what-difference-between-perfect-and-imperfect-competition.asp

Syllabus for B. Com. Semester: - II

Subject Name: - Business Mathematics and Statistics - II

Course code: - 124 (A)

Depth of the program – Basic Knowledge of Mathematics and Statistics

Objective of the Program

1. To introduce the basic concepts in Finance and Business Mathematics and Statistics
2. To familiar the students with applications of Statistics and Mathematics in Business
3. To acquaint students with some basic concepts in Statistics.
4. To learn some elementary statistical methods for analysis of data.
5. The main outcome of this course is that the students are able to analyze the data by using some elementary statistical methods

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Matrices and Determinants (up to order 3 only)	Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix via Adjoint Matrix, Homogeneous System of Linear equations, Condition for Consistency of homogeneous system, Solution of Non-homogeneous System of Linear equations (not more than three variables), Applications in Business and Economics, Examples and Problems.	<ol style="list-style-type: none">1. To understand the concept of matrices and determinants.2. To understand the application of determinant in solving linear equations3. To understand applications of matrices and determinants in business and economics.
2	Linear Programming Problems (LPP) (for two variables only)	Definition and terms in a LPP, formulation of LPP, Solution by Graphical method, Examples and Problems	<ol style="list-style-type: none">1. To understand the concept of LPP and its application in business and decision making.2. To understand graphical method to solve business optimization problems with two variables.
3	Correlation and Regression	Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship. Karl Pearson's coefficient of correlation for ungrouped data. Spearman's rank correlation coefficient. (with tie and without tie) Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties (without proof). Examples and problems.	<ol style="list-style-type: none">1. To use correlation for knowing the relationship between two variables.2. To use regression for prediction

4	Index numbers	Concept of index number, price index number, price relatives. Problems in construction of index number. Construction of price index number: Weighted index Number, Laspeyre's, Paasche's and Fisher's method. Cost of living / Consumer price index number: Definition, problems in construction of index number. Methods of construction: Family budget and aggregate expenditure. Inflation, Uses of index numbers, commonly used index numbers. Examples and problems.	<ol style="list-style-type: none"> 1. To know different types index numbers and problems in their construction. 2. To know the applications of various index numbers.
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Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Expected Outcome
1	12	ICT	Students will be able to apply the theory of matrices to solve business and economic problems.
2	12	ICT	Students will be able represent business and economic optimization problems involving two variables as LPP and solve those problems using graphical method
3	16	ICT	<p>Students will able to predict the type of relationship between bivariate data.</p> <p>Students will be able predict the value of unknown from give bivariate data.</p>
4	08	ICT	<p>Students will be able compute different index numbers.</p> <p>Students will be able to compute cost of living.</p>

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Practical Business Mathematics	S. A. Bari	New Literature Publishing Company	New Delhi
2.	Mathematics for Commerce	K. Selvakumar	Notion Press	Chennai
3.	Business Mathematics with Applications	Dinesh Khattar & S. R. Arora	S. Chand Publishing	New Delhi
4.	Business Mathematics and Statistics	N.G. Das & Dr. J.K. Das	McFraw Hill	New Delhi
5.	Fundamentals of Business Mathematics	M. K. Bhowal	Asian Books Pvt. Ltd	New Delhi
6.	Operations Research	P. K. Gupta & D. S. Hira	S. Chand Publishing	New Delhi
7.	Mathematics for Economics and Finance: Methods and Modeling	Martin Anthony and Norman Biggs	Cambridge University Press	Cambridge
8.	Financial Mathematics and Its Applications	Ahmad Nazri Wahidudin	Ventus Publishing ApS	Denmark
9.	Fundamentals of Mathematical Statistics	Gupta S. C. and Kapoor V. K.,	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
10.	Statistical Methods	Gupta S. P.:	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
11.	Applied Statistics	Mukhopadhyaya Parimal	New Central Book Agency Pvt. Ltd.	Calcutta.
12.	Fundamentals of Statistics	Goon A. M., Gupta, M. K. and Dasgupta, B.	World Press	Calcutta.

13.	Fundamentals of Applied Statistics	Gupta S. C. and Kapoor V. K.:	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
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Suggested references
Web reference for Semester I & II

1. www.freestatistics.tk(National Statistical Agencies)
2. www.psychstat.smsu.edu/sbk00.htm(Onlinebook)
3. www.bmj.bmjournals.com/collections/statsbk/index.shtml
4. www.statweb.calpoly.edu/bchance/stat-stuff.html
5. www.amstat.org/publications/jse/jse-data-archive.html(International journal on teaching and learning of statistics)
6. www.amstat.org/publications/chance(Chancemagazine)
7. www.statsci.org/datasets.html(Datasets)
8. www.math.uah.edu/stat(Virtual laboratories in Statistics)
9. www.amstat.org/publications/stats(STATS : the magazine for students of Statistics)
10. www.stat.ucla.edu/cases(Case studies in Statistics).
11. www.statsoft.com
12. www.statistics.com
13. www.indiastat.com
14. www.unstat.un.org
15. www.stat.stanford.edu
16. www.statpages.net
17. www.wto.org
18. www.censusindia.gov.in
19. www.mospi.nic.in
20. www.statisticsofindia.in

Computer Concepts & Applications - II

Semester – II
Course Code -124 (B)

Unit 1 Introduction to E-commerce Tools

[12]

Process of E-Commerce

Types of E-Commerce; Role of Internet and Web in E-Commerce; Technologies Used in E-Commerce Systems

E-Commerce Activities:

Various Activities of E-Commerce; Various Modes of Operation Associated with E-Commerce; Elements and Resources Impacting E-Commerce and Changes; Types of E-Commerce Providers and Vendors; Opportunity Development for E-Commerce Stages; Development of E-Commerce Business Case; Components and Factors for the Development of the Business Case; Steps to Design and Develop an E-Commerce Website.

Unit 2 Introductions to E-Marketing

[14]

E-Marketing:

Traditional Marketing; E-Marketing; Identifying Web Presence Goals – Achieving web presence goals, Uniqueness of the web, Meeting the needs of website visitors, Site Adhesion: Content, format and access; Maintaining a Website; Metrics Defining Internet Units of Measurement; Online Marketing; Advantages of Online Marketing.

E-Customer Relationship Management:

Customer Relationship Management (CRM) – Marketing automation, Enterprise customer management; Customer Relationship Management Areas; CRM Processes; Architectural Components of a CRM Solution – Customer's information repository, Campaign management, Event triggers, business logic and rules repository, Forecasting and planning tools, Electronic Customer Relationship Management; Need, Architecture and Applications of Electronic CRM.

Supply Chain Management:

Supply Chain Management (SCM); Goals of SCM; Functions of SCM; Strategies of SCM; Electronic SCM and its benefits; Components of Electronic SCM; Electronic Logistics and its Implementation.

Unit 3 Electronic Payment System

[14]

Electronic Data Interchange (Introduction to EDI, EDI Architecture Financial EDI, Overview of the technology involved in EDI

Introduction to EPS

Application of Online payment system ,Introduction to EFT (Electronic Fund Transfer) Types of EFT (NEFT, RTGS), E-Payment Systems: Electronic Funds Transfer; Digital Token Based E-Payment Systems; Modern Payment Systems; Steps for Electronic Payment; Payment Security; Net Banking.

Introduction to Digital Signature and Digital Certificates, Stages of SET

Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card

Unit 4 Introduction to M-Commerce

[8]

Definition, Need and Scope, Advantages and disadvantages of M-commerce, M-Commerce and its applications.,

Types of M-Commerce. Products and Services of M-Commerce,

Mobile payment application. Difference between E-commerce and M-Commerce.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
Unit – I	12	Use ICT or presentation on E-commerce Tools	U-tube Tutorial on E-commerce Tools	-	Familiar with E-commerce Tools
Unit – II	12	Use ICT or presentation on E-Marketing	U-tube Tutorial E-Marketing	One case study on E-commerce Website	Familiar with E-Marketing
Unit – III	12	Use ICT or presentation on Electronic Payment System	U-tube Tutorial Electronic Payment System	Handle One E-payment Transition application Bhim, Pay...etc	Familiar with Electronic Payment System
Unit – IV	12	Use ICT or presentation on M-Commerce	U-tube Tutorial M-Commerce	-	Familiar with M-Commerce

Reference Books

- [1]. Computer Fundamentals by: Anita Goel, Pearson Education India ISBN: 9788131742136
- [2]. Connecting with Computer Science, by Greg Anderson, David Ferro, Robert Hilton, Course Technology, Cengage Learning, ISBN:9781439080351
- [3]. Fundamentals of Computer : For undergraduate courses in commerce and management, ITL Education Solutions Limited, Pearson Education, ISBN:9788131733349
- [4]. Introduction to Computer Science, 2/e, ITL Education Solutions Limited, Pearson Education, ISBN:9788131760307
- [5]. Frontiers of Electronic Commerce, Ravi Kalakota, Andrew B. Whinston, Pearson Education, ISBN:9788177583922

- [6]. Internet: The Complete Reference, Margaret Levine Young, Tata McGraw Hill Education Private Limited, ISBN: 9780070486997
- [7]. On the Way to the Web: The Secret History of the Internet and Its Founders, A. Banks, Apress Publication, ISBN: 9781430208693
- [8]. Computers and Commerce: A Study of Technology and Management at Eckert-Mauchly Computer Company, Engineering Research Associates, and Remington, Arthur L. Norberg, MIT Press (MA), ISBN: 9780262140904
- [9]. Essential of E-commerce technology By V. Rajaraman, Prentice Hall India Learning Private Limited ISBN 9788120339378
- [10]. E-commerce Fundamental and Application By Henry Chan, Wiley ISBN: -978126514694
- [11]. Information Technology By Dr. Kishor Jagtap, Tech-Max Publications, Pune

Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - II

Subject : - Organizational Skill Development- II

Course Code - 125 (A)

Objectives of the course

1. To imbibe among the students the qualities of a good manager and develop the necessary skill sets
2. To develop the technical skills of the students to keep up with the technological advancements and digitalization
3. To develop the communication skills of students and introducing them to the latest tools in communication
4. To develop writing, presentation, interpersonal skills of the students for effective formal corporate reporting.
5. To educate the students on the recent trends in communication technology and tools of office automation

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Office Manager	<ol style="list-style-type: none">a. Qualities of office manager, skills of office manager - Interpersonal skills, Presentation skills, thinking and Negotiation skills ,Duties and Responsibilities of office managerb. Goal Setting:- Concept, Importance of goals, SMART(Specific, Measurable, Achievable, Realistic and Time Bound)c. Time Management :-Meaning, Techniques, Principles and Significance	<ol style="list-style-type: none">1. Developing the necessary set of managerial skills2. Developing Goal setting and Time management skills in all areas of life
2	Management Reporting (Office Reports)	<ol style="list-style-type: none">a. Meaning, Purpose or Objectives and Classification of Report, Principles of preparation of report, qualities of good report, steps in report presentation, evaluating the report ,follow up of reportsb. Office Communication :- Meaning, Significance, Barriers and Recent trends in Communication such as	<ol style="list-style-type: none">1. Enhancing the communication skills2. Developing report writing skills for formal reporting3. Usability of latest Communication Media

		E-mail, Video Conferencing, Tele- Conferencing, Internet, Intranet , WWW, etc.,	
3	Work Measurement and standardization of office work	<p>a. Definition, Objects, Importance, steps in work measurement, techniques of work measurement - Time study and Motion study</p> <p>b. Standardization of office work:- Meaning, objects, areas of standardization, types of standards, methods of setting standards, advantages and limitations of standardization</p>	<ol style="list-style-type: none"> 1. Conceptual Clarity on the concept of need and importance of work measurement 2. Developing Technical and analytical skills for performance measurement. 3. Skills to develop ideal standards at work place.
4	Office Automation	Objects of Mechanization, Advantages of Mechanization, Factors in selecting office machines, Leasing versus Purchasing Office equipment , Types of modern Office Machines	<ol style="list-style-type: none"> 1. Enhancement of Technical knowledge and developing technical skills to adapt to the technical advancements 2. Critical thinking skills and technical skills to overcome the problem of choice among options

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Power Point Presentation SMART Goal Setting activity for oneself for 3 yrs Role plays	TV shows on Management	Self SMART Goal Setting Report in Detail for 3 years	Conceptual Clarity Goal Setting and Goal Measurement, Enhancing the Time Management Skills
2	12	Power Point Presentation Online Videos ,Use of Latest communication Media Live in Class Rooms	Use of Latest Communication Technology and Communication Applications	Report writing on Recent trends in Communication	Enhancing Communication Skills ,Usability of latest communication media
3	12	Guest Lectures by Experts			Development Technical and analytical skills
4	12	PPT , Educational Videos	Online Videos	Report on various office automation tools	Development of Technical skills

References :

List of Books Recommended :

1. **Modern Office Management – By Mills, Geoffrey**
2. **Office Management – By Dr. R.K. Chopra , Priyanka Gauri**
3. **Office Management – By R.S.N. Pillai**
4. **Office Management – By K.L.Maheshwari , R.K . Maheshwari**
5. **Modern Office Management : Principles and Techniques – By J.N.Jian , P.P.Singh**

F.Y B.Com.

Optional Paper

Subject Name: Banking and Finance

Course Code: 125(B)

SEMESTER II: FUNDAMENTALS OF BANKING – II

Objectives:

- To develop the working capability of students in banking sector
- To Make the Students aware of Banking Business and practices.
- To enlighten the students regarding the new concepts introduced in the banking system.

Credit: 04

No. of Lectures: 48

Unit No.	Topics	No. of Lectures	Teaching Method
1.	Lending Principles and Balance Sheet of a Bank Safety, Liquidity, Profitability, Diversification of risks and other Principles of Lending, Conflict between Liquidity, Profitability and Safety Customer assessment through CIBIL and other similar agencies Balance sheet of a bank.	10	Lecture, Expert Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home, Assignment, Visit to a bank
2.	Negotiable Instruments Definition, meaning and characteristics of Negotiable instruments Definition, meaning and characteristics of Promissory Note, Bill of Exchange and Cheque. Types of Cheques- Bearer, Order and Crossed Types of Crossing- General and Special. Dishonour of Cheque	12	Lecture, PPT/ Poster Presentation, Group Discussion, Library /Home Assignment, Visit to a bank

3.	<p>Endorsement Definition and meaning of Endorsement Types of Endorsement- Blank, Full or Special, Restrictive, Partial, Conditional, Sans Recourse, Facultative. Effects of Endorsement.</p>	08	Lecture, PPT/ Poster Presentation, Group Discussion, Library /Home Assignment, Visit to a bank
4.	<p>Technology in Banking Role and Uses of Technology in Banking Automated Teller Machine (ATM) – onsite and offsite ATM, Cash Deposit machine, Cheque Deposit machine, Passbook Printing Machine, Note and Coin counting device, Fake currency detector, Credit card, Debit card –Personal Identification Number (PIN) – Use and Safety, Mobile Banking – Mobile Banking Applications - BHIM (Bharat Interface for Money) / UPI (Unified Payments Interface), Net Banking , Core Banking Online enquiry and update facility, Home Banking- Corporate and Personal. Precautions in using Technology in Banking Current Trends in Banking Technology</p>	18	Lecture, Expert Lecture, PPT/ Poster Presentation, Group Discussion, Library / Home Assignment, Visit to a bank

References:

1. Majumdar N. C., ‘Fundamentals of Modern Banking’, New Central Book Agency (P) Ltd., New Delhi.
2. Arondekar A.M. & Others, ‘Principles of Banking’, Macmillan India Pvt. Ltd.
3. Srinivasan D. & Others, ‘Principles & Practices of Banking’, Macmillan India Pvt. Ltd.
4. Agarwal O.P, (4th Edition, 2017), ‘Banking and Insurance’, Himalaya Publication House.
5. Gopinath M. N., (1st Edition, 2008) ‘Banking Principles and Operations’, Snow White Publications Pvt. Ltd, Mumbai.
6. Gordon E. & Natarajan K., (21st Revised Edition), ‘Banking – Theory, Law and Practice’ ,Himalaya Publication

House.

- 7. Kaptan S S & Choubey N S, “E-Indian Banking in Electronic Era”, Sarup & Sons, New Delhi 2003.**
- 8. Padmalatha Suresh, Justin Paul, “Management of Banking and Financial Services” Second Edition, 2013, Published By Dorling Kindersley (Pearson)**

F.Y.B.com

Optional Paper

Subject name: Defense Organization and Management in India

COURSE CODE: 125 (D)

SEMESTER- II: DEFENCE ORGANISATION AND MANAGEMENT IN INDIA-II

Objectives:

- 1) To understand the Indian intelligence services.
- 2) To know the Evolution of War techniques and Economic warfare.
- 3) To understand Indian internal security.

Unit No.	Topic	No. of Lectures	Teaching Method
1.	Indian Intelligence Services 1.1 History & Types of Intelligence. 1.2 Process & Principals of Intelligence. 1.3 Devices for Collecting Intelligence. 1.4 Role of Intelligence. 1.5 Counter Intelligence. 1.6 Indian Intelligence Organization.	12	Lecture, PPT, Group Discussion, Library Work, Assignment
2.	Evolution of War Techniques 2.1 Definition of war 2.2 Concept of war 2.3 Causes of war 2.4 Function of war 2.5 Elements of war 2.6 Resources of war	12	Lecture, PPT, Group Discussion, Library Work, Study Visit

3.	Economic Warfare 3.1 Meaning 3.2 War time Economy 3.3 Economic Mobilization 3.4 Remedy 3.5 War Economy & War Effects 3.6 Cost of War.	12	Lecture,PPT, Group Discussion, Library Work,
4.	Economic Constraints on Indian Internal Security 4.1 Economic Diversification in various states of India 4.2 Economic Influence on State & Centre Relations 4.3 Unemployment and Poverty. 4.4 Economic losses due to Natural Calamities.	12	Lecture,PPT, Group Discussion, Library Work, Assignment
	Total	48	

References:

- 1) C. Lakshmi (1998), Trends in India's' Defense Expenditure," ABC, New Delhi'.
- 2) Venkateshwaram A. L., 'Defense Organisation in India', Sage Publication, New Delhi.
- 3) Chaudhari A. P. 'Hkkjrh; ;qn/k ra=kphmRdkarh,' Prashant Publication, Jalgaon
- 4) Col.(Retd) S. Sandeep, 'Funding for Defense and Development' Sumit enterprises, New Delhi.
- 5) Sali M.L., 'Military Georgraphy' Manas Publication, New Delhi.
- 6) Chaudhari A.P.,';qn/kfoKku&laj{k.k o lkefjd'kkL=' Diamond Publication, Pune.
- 7) Raju G. C. Thomas (1978) – The Defense of India a Budgetary Perspective of Strategy and Politics," Mac Millan Publication, New Delhi.
- 8) L t. Gen. R. K. Jasbir Singh (1999), 'India's Defense Year Books,'Nataraj Publication, Dehradun.
- 9) Jadhav V.Y, Hkkjrkph jk"V^h; lqj{kk, " Snehvardhan Publication , Pune

Revised Syllabi (2019 Pattern) for three years B.Com Degree Course (CBCS)

Option paper: - Theory and Practice of Co-operation

Semester:-F.Y.B.Com -Semester II

Course Code - 125 (E)

Subject: - -: Theory and Practice of Co-operation- II

Objectives:

1. To acquaint the students with types of co-operatives.
2. To study the role of Government in Co-operative movement.
3. To Analysis the impact of LPG on Co-operation movement.
4. To study the means of Co-operative education and Training.

Depth of Programme: - Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Types of Co-operative	Rural Co-operative and Urban Co-operative Agriculture Co-operative and Non Agriculture Co-operative Credit Co-operative and Non Credit Co-operative Weaker Sections Co-operatives Federation of Co-operatives	i. To understand the Rural Co-operative and Urban C-operative institution ii. To understand the Credit Co-operative and Non credit Co-operative Society
2	Co-operative Management	Co-operative Management , Nature and function, The Role of General Body, Management committee Chairman and Managing Director/Secretary, Professional Management Co-operatives ,Role of leadership in Co-operative Management	i. To understand Co-operative Management ii. To understand Role of leadership in Co-operative Management iii. To understand Professional Management Co-operatives

3	Impact of Liberalization ,Privatization and Globalization on Co-operative movement	Impact of Liberalization, Impact of Privatization , Impact of Globalization , Opportunities for Co-operative movement in global era	To understand the Impact of Liberalization, Privatization and Globalization on Co-operative movement
4	Co-operative Education and Training:.	Co-operative Education and Training, Objectives of Co-operative Education and Training, Role of National Co-operative union of India (NCUI) ,National Council for Co-operative Training (NCCT), Institutional arrangement for co-operative training, State Co-operative Union, Co-operative training, Education and Consultancy in Maharashtra, Regional Institute of Co-operative Management, Vaikunth Mehta National Institute of Co-operative Management Pune, Maharashtra	To understand the Objectives of Co-operative Education and Training, Training arrangement in India To understand Institutional arrangement for co-operative training

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and AV Application	Project	Expected Outcome
1	12	Documentary, Pre reading, Class discussion, examples from newspapers and internet resources, Article Review, PPT	Short Film Show on Types of Co-operative, AV Application (Audio and Visual Application)	Project Report on Credit Co-operative and Non Credit Co-operative	Understanding of basic knowledge of Types of Co-operative Society

2	12	Guest Lectures of eminent personalities, experience sharing, Pre reading, Class discussion, PPT, study visit to Co-operative department offices and Co-operative society	You Tube Video on Co-operative Management	Project on Nature and function of Co-operative management	Understanding Co-operative Management
3	12	Organise Seminar/workshop for students, Pre reading, Class discussion, Internet resources, case studies, Survey report	Use of You tube , review of particular topic	Project Report on the Impact of Liberalization ,Privatization and Globalization on Co-operative movement	Understanding the Impact of Liberalization ,Privatization and Globalization on Co-operative movement
4	12	Pre reading, Class discussion, examples through Newspapers and internet resources, Guest Lectures of eminent personalities ,PPT	Group discussion on Problems and suggestions of education and training programmes of Co-operative Education	Review of education and training programmes of Co-operative Education	Understanding Co-operative Education and Training . understanding Institutional arrangement for co-operative training

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit-I	Class participation, Assignment, Library Work, Unit Test, Group Discussion	Written Examination	Seminar/Workshop on Types of Co-operative Society
Unit-II	Class participation, Assignment, Library Work, Unit Test, Power point presentation	Written Examination	study visit to Co-operative Institution

Unit-III	Class participation, Assignment, Library Work, Unit Test, Group Discussion, PPT	Written Examination	Guest Lectures of eminent personalities
Unit-IV	Class participation, Assignment, Library Work, Unit Test, Classroom Discussion	Written Examination	study visit to Co-operative training Institution

References

Sr. No	Title of Book	Author/s	Publication	Place
1	Co-operation and Rural Development	Principal Dr.Nitin Ghorpade	Success	Pune
2	Co-operation- Principles and Practice-	Dr. D.G. Karve		
3	Theory, History and Practice of Co-operation	Dr. R.D. Beddy		
4	Bhartiya Sahkari Chalval- Tatve va Vyavhar (Marathi)	Prof. Jagdish Killol; Prof. Arvind Bondre; Prof. A. C. Bhavsar		
5	Sahkari Chalval 1904-2004 (Marathi)	Prof. K. L. F ale		
6	New Dimensions of Co-operative Management	G.S. Kamat	Himalaya Publication	New Delhi
7	Rural Development in India-Policies and Programme	Abdul Azees NP and S.M. Javed Aktar	Kalpaz Publication	
8	Human Resource Management Practices in Co-operative sector	Principal Dr.Shaikh Aftab Anwar	Idea Publication	New Delhi
9	Journal of Commerce and Management Thought(JCMT)			
10	Journal Co-operative Organization and Management , Journal of Co-operative studies			

F.Y.B.Com.
Semester - II
Optional Paper
Subject Name- Managerial Economics- II
Course Code - 125 (F)

Objectives:

1. To aware the students about various pricing practices.
2. The Students learn about the role of profit in business.
3. The Students should realize the importance of the different methods of capital budgeting as tool of project management.
4. To help the students in applying the knowledge so acquired in policy planning and managerial decision making

Unit No	Unit Title	Content	Purpose Skills to be developed
1	Forms of Business Organization	1.1 Sole Proprietorship - Meaning, features, Merits and Demerits. 1.2 Partnership - meaning, features, merits and demerits. 1.3 Joint Stock Company- Meaning, features, merits and demerits, Distinction between public company and private company.	1. To know the fundamental business organization 2.To understand the comparative merits and demerits of these organization.
2	Public Enterprises and MNCs	2.1 Public Enterprise- Meaning, features, merits and demerits, Types of Public Enterprises. 2.2 Public Private Partnership. 2.3 Multinational Corporations- Meaning, features, merits and demerits. 2.4 Role MNCs in India.	1. To understand the need for public enterprises. 2. To know the types of PEs. 3. To be familiar with the features and role of MNCs in an economy.

3	Pricing Practices-	<p>3.1 Factor affecting pricing decision</p> <p>3.2 Components in Pricing of the product</p> <p>3.3 Marginal Cost Pricing, mark-up pricing, transfer pricing, product line pricing, price skimming and penetration.</p> <p>3.4 Profit Management, Nature and measurement of profit, The hypothesis of profit maximization and its alternative.</p>	<p>1. To know the various pricing practices</p> <p>2. To know the importance of profit management in pricing practices.</p>
4	Capital Budgeting and Investment Analysis	<p>4.1 Meaning of Capital Budgeting, Need and nature of capital budgeting.</p> <p>4.2 Demand for Capital and Supply of Capital (sources of capital)</p> <p>4.3 Capital Rationing</p> <p>4.4 Methods of Capital Budgeting- Net Present Value (NPV), Internal Rate of Return (IRR), Payback period method, Average Rate of Return.</p> <p>4.5 Apprizing the profitability of project.</p>	<p>1. To know the importance capital in a business.</p> <p>2. To understand various technical concept related with investment decision.</p>

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	<ul style="list-style-type: none"> i. Open book discussion ii. Case studies iii. Group discussion 	<ul style="list-style-type: none"> i. You tube lectures on different types of business organization. 	<ul style="list-style-type: none"> i. Study of comparative merits and demerit of different business organisation 	<p>Students will learn about the intricacies of the various Business Organizations, their features and their comparative merits and demerits.</p> <p>In addition to that the student knows the features and role of MNCs in India.</p>
2	10	<ul style="list-style-type: none"> i. Case Studies ii. Group discussion iii. Pair learning 	<ul style="list-style-type: none"> i. You tube lectures on PEs and MNCs. ii. Films 	<ul style="list-style-type: none"> i. Study of role of MNCs. ii. Study of problem of PEs. 	<p>Student should know types of public enterprises and their comparative advantages and disadvantages. In addition to that students should features and role of MNCs in India.</p>
3	14	<ul style="list-style-type: none"> i. Case Studies ii. Group discussion. iii. Game oriented Classes. 	<ul style="list-style-type: none"> i. Films. ii. You tube lectures 	<ul style="list-style-type: none"> i. Study of pricing policy followed by a firm in your area. 	<p>Awareness of students about various pricing practices</p>
4	14	<ul style="list-style-type: none"> i. Case Studies ii. Open book discussion iii. Group discussion. 	<ul style="list-style-type: none"> i. You tube lectures ii. Films 	<ul style="list-style-type: none"> i. Study of method of capital budgeting. 	<p>Students should realize the importance of the different methods of Capital Budgeting and investment as a tool of profit management</p>

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Managerial Economics- Economic Tools for Todays Decision Makers,	Keat Paul G. and Philip K.Y. Young	Prentice Hall	Prentice Hall, New Jersey
2.	Managerial Economics,	D.N.Dwivedi D.N	Vikas Publishing House	Delhi
3.	Managerial Economics in a Global Economy	Salvatore D.	8th Edition, Oxford University Press.	
4.	Managerial Economics,	Sumitra Paul,	Macmillan 2008	
5.	P.L.Mehatha, Managerial	Managerial Economics	8th Ed. S.Chand Publishing	Economics, 8th Ed. S.Chand Publishing
6.	D.M.Mithani,	Managerial Economics-2008	Himalaya Publishing House	Mumbai
7.	Shankaran S.	Managerial Economics	Margham Publications,	Madras
8.	Thomas Christopher R. and Charles, Maurice S.,	Managerial Economics	McGraw Hill Irwin,	Boston

Suggested references Web reference

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<https://nptel.ac.in/downloads/110101005/>

<http://cec.nic.in/Pages/Home.aspx>

<http://en.wikipedia.org/wiki/Economics>

<http://www.investopedia.com/university/economics/#axzz1XwhFTmtm>

<http://www.tutor2u.net/blog/index.php/economics/>

<http://www.economicshelp.org/>

<https://www.intelligenteconomist.com/economics-blogs/>

<https://www.coursera.org/courses?query=managerial%20economics>

<https://www.edx.org/course/introduction-to-managerial-economics-0>

<https://www.mooc-list.com/tags/managerial-economics>

<https://online.stmary.edu/mba/courses/managerial-economics>

<https://www.tru.ca/distance/courses/econ3041.html>

<https://www.euomba.org/managerial-economics/>

Revised Syllabi (2019 Pattern) for three year B. Com. Degree Course (CBCS)
Semester – II
Essentials of E- Commerce

Course Code :- 126 A

No. of Credits : 03

Objectives of the course :-

1. To acquaint learners with electronic data interchange and its standards
2. To develop knowledge about e-commerce process and payment solution
3. To develop practical knowledge about security of e- commerce transactions
4. To help students understand traditional v/s electronic retailing

Depth of the programme : Fundamental Knowledge

Unit No.	Unit Title	Contents	Skills to be developed
1	Electronic data interchange	Concept – types- merits-limitations of paper Brand Business, Area groups of business, Essential documents for EDE gawky electronic data interchange simile, Steps to start EDI, EDI standards, Types of EDI files, EDI & internet, Merits of EDI, Bottlenecks & limitations	1. Conceptual understanding of Electronic Data Interchange, documentation and merits of EDI.
2	Commerce Process & Payment solution	Concept of payment solution – need, internet access solution- Areas of solution – solution provider , online commerce solution – essentials of good solution technology, standards for e-commerce, e-service, e-solution, e-business solution. Shopping cart – shopping cart software, Merchant account – Features –digital receipts for online payment, Payment system & devices, Cyber cash, features –utility, Credit card, smart card, features, utility, trades & securities, Internet currency	1. Awareness about payment solutions, various payment methods and modern modes of digital payments.

Unit No.	Unit Title	Contents	Skills to be developed
3	E-commerce – security	Need of E-Commerce security, cybercrimes- resources of privacy- tampering – proxy server system, Encryption – types of security – security precautions – cryptogram – data encryption standards & certificate authority, Ensuring electronic security – e-locking services, Security caution in e-commerce – public key – infrastructure firewall – secure socket layer secure electronic transactions	1. Understanding of E-Commerce security, precautions while using E-Commerce and methods & Process of E-Commerce security.
4	Business oriented E-Commerce	Features of B2B e-commerce, Business models, E-procedure, Virtual Market, Collaborative supply chain management, Intercompany integration, B2B e-commerce communication	1. Technical knowledge about virtual market and other business to business e-commerce communication.

Teaching Methodology:

Topic No.	Total Lectures	Teaching Methods	Film Shows and AV Applications
1	10	Lecture method ,Computer Laboratory demonstrations, Power Point Presentations	Online educational videos on related topics
2	12	Lecture method ,Computer Laboratory demonstrations, Power Point Presentations	Online educational videos on related topics
3	12	Lecture method ,Computer Laboratory demonstrations, Power Point Presentations	Online educational videos on related topics
4	14	Lecture method ,Computer Laboratory demonstrations, Power Point Presentations	Online educational videos on related topics

References:

1. E-Commerce – Henry chan willey, India
2. E-Commerce- P.T. Joseph P. H. I.
3. Understanding e-commerce, J. K. Shim A. A. Quareshi infinity books
4. E-commerce- P. W. Mann MJP publishers
5. E-commerce- C. S. Rayudu, Himalaya publishing house
6. E-commerce-K. K. Bajaj-D. Nag T. M. G. H.

F.Y. B.Com.

Optional Paper

Subject Name : Insurance and Transport - II

Course Code: 126 (B)

SEMESTER II - TRANSPORT

Objectives :

1. To acquaint students with the concepts of transport.
2. To create awareness regarding basic knowledge about transportation system in India.
3. To make the students aware of career opportunities in the field of transport.

No. of Lectures : 48

Unit No.	Topic	No. of Lectures	Teaching Method
1.	Introduction to Transport 1.1 Meaning 1.2 Importance of Transport 1.3 Types of Transport 1.4 Benefits of Transport 1.5 Problems of Transport Development in India 1.6 Measures to solve Transport Problems 1.7 Career opportunities in Transport Sector	12	Lecture, PPT, Group Discussion, Library Work, Assignment

<p>2.</p>	<p>Road Transport</p> <p>2.1 Meaning and Characteristics of Road Transport</p> <p>2.2 Importance of Road Transport in India</p> <p>2.3 Development of Road Transport in India since 1951</p> <p>2.4 Problems and Issues in Road Development</p> <p>2.5 Measures for Improvement in Road Transport</p>	<p>12</p>	<p>Lecture, PPT, Group Discussion, Library Work, Assignment</p>
<p>3.</p>	<p>Railway Transport</p> <p>3.1 Meaning and Features of Railway transport</p> <p>3.2 Significance of Railway transport</p> <p>3.2 Monorail and Metrorail</p> <p>3.3 Gauge of a railway track-Meaning and Classification</p> <p>3.4 Advantages and Limitations of Railway transport</p> <p>3.5 Progress of Railway Transport in India since 1951</p> <p>3.6 Problems of Indian Railways</p> <p>3.7 Measures to solve problems of Indian Railways</p>	<p>12</p>	<p>Lecture, PPT, Group Discussion, Library Work, Assignment</p>
<p>4.</p>	<p>Water and Air Transport</p> <p>4.1 Water Transport:</p> <p>4.1.1 Meaning and Significance of Water Transport</p> <p>4.1.2 Inland Water Transport and Coastal or Marine Transport</p> <p>4.1.3 Indian Shipping Growth and Problems</p> <p>4.1.4 Prospects of Water Transport in India</p>	<p>12</p>	<p>Lecture, PPT, Group Discussion, Library Work, Assignment</p>

	4.1.4 Limitations of Water Transport		
	4.2 Air Transport:		
	4.2.1 Meaning and Features of Air Transport		
	4.2.2 Importance of Air Transport		
	4.2.5 Progress of Air Transport in India		
	4.2.4 Problems and Prospects of Air Transport		
	Total	48	

References:

1. Misra S.K. and Puri V.K (2014) Indian Economy, Himalaya Publishing House, Mumbai.
2. India 2015, Ministry of Information and Broadcasting, Government of India.
3. Datt Gaurav and Mahajan Ashwani (2014) Datt and Sundharam Indian Economy, S. Chand and Company Ltd. New Delhi.
4. Agarwal A.N. (2001) Indian Economy, Problems of Development and Planning, WishwaPrakashan, New Delhi.
5. Shukla M.B. (2012) Indian Economy, Taxmann Publications(P)Ltd.,New Delhi.
6. Government of India, Economic Survey various Issues
7. Reserve Bank of India, Annual Report various issues
8. http://www.indianrailways.gov.in/railwayboard/uploads/directorate/stat_econ/IRSP_2016-17/Facts_Figure/Fact_Figures%20English%202016-17.pdf
9. <http://www.ncert.nic.in/NCERTS/l/legy210.pdf>
10. http://planningcommission.nic.in/reports/genrep/NTDPC_Vol_01.pdf
11. http://www.nwda.gov.in/upload/uploadfiles/files/NWDA_Annual_Report_English_2016-17-low.pdf
12. https://www.epw.in/system/files/pdf/1956_8/16/progress_of_indian_railways.pdf
13. https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail_transport_in_India.htm[https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail transport in Indi](https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/r/Rail_transport_in_Indi)

Revised syllabi (2019 Pattern) for three years B.com Degree course (CBCS)

FY B Com Semester : II

Course Code - 126 (C)

Subject : Marketing and Salesmanship- Fundamental of Marketing- II

1. Objective of the Course

1. To introduce the concept of Salesmanship.
2. To give insight about various techniques required for the salesman.
3. To inculcate the importance of Rural Marketing.
4. To acquaint the students with recent trends in marketing and social media marketing.

Depth of the Program - Fundamental Knowledge

Objectives of the Program

1. To help the students to prepare themselves for opportunities in marketing field.
2. To study elaborately the process of salesmanship.
3. To know about Rural Marketing which is an important sector in modern competitive Indian Scenario.
4. To educate the students about the sources and relevance of Recent trends in Marketing.

UNIT NO.	UNIT TITLE	CONTENTS	PURPOSE SKILLS TO BE DEVELOPED
1	Salesmanship	1.1 Meaning and Definition of Salesmanship 1.2 Features of Salesmanship 1.3 Scope of Salesmanship 1.4 Modern Concept of Salesmanship 1.5 Utility of Salesmanship 1.6 Elements of Salesmanship 1.7 Salesmanship : Arts or Science	Students will get the knowledge of Salesmanship and various approaches.

		<p>1.8 Salesmanship – a Profession</p> <p>1.9 Qualities of Salesman</p>	
2	Process of Selling	<p>2.1 Psychology of Salesmanship – Attracting Attention, Awakening Interest, Creating Desire and Action</p> <p>2.2 Stages in Process of Selling –</p> <ul style="list-style-type: none"> (i) Pre-Sale Preparations (ii) Prospecting (iii) Pre-Approach (iv) Approach (v) Sales Presentation (vi) Handling of Objections (vii) Close (viii) After Sales Follow-up 	Techniques of salesmanship skills will be developed.
3	Rural Marketing	<p>3.1 Rural Marketing</p> <ul style="list-style-type: none"> 3.1.1 Introduction 3.1.2 Definition of Rural Marketing 3.1.3 Features of Rural Marketing 3.1.4 Importance of Rural Marketing 3.1.5 Present Scenario of Rural Market 3.1.6 Challenges and Opportunities in Rural Marketing 	Awareness and importance of Rural Marketing amongst students.
4	Recent Trends in Marketing	<p>4.1 Digital Marketing</p> <p>4.2 Green Marketing</p> <p>4.3 Niche Marketing</p> <p>4.4 E-marketing</p> <p>4.5 Social Media Marketing- Challenges and Opportunities</p>	Skills of Modern Marketing will be developed.

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Short Film AV Application		Students will get knowledge of the basics of salesmanship which is a vital aspect of marketing.
2	14	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Short Film AV Application		It will help the students to implement this knowledge in practicality by enhancing their skills in the field of marketing by using various techniques of salesmanship.
3	12	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	AV Application		It will help the students to gain insights about Rural Marketing and its uniqueness.
4	08	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Short Film, AV Application Use of You Tube		It will help the students to gain the insights about recent trends in marketing field.

Methods of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit - I	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Written Examination	Marketing Management Course
Unit - II	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Written Examination	Sales Marketing Management
Unit - III	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Written Examination	Rural Marketing Online Course
Unit - IV	Class Test, Group Discussion, Presentation, Case Study, Home Assignment	Written Examination	Online Marketing Course

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Marketing Management	Philip Kotler	Pearson Publication	
2	Marketing Management	Rajan Saxena	McGraw Hill Education	
3	Principles of Marketing	Philip Kotler & Gary Armstrong	Pearson Publication	
4	Sales & Distribution Management	Tapan K Panda	Oxford Publication	
5	Advertising Management	Rajiv Batra	Pearson Publication	
6	Retail Management	Swapna Pradhan	McGraw Hill Publication	
7	Retail Management	Gibson Vedamani	Jayco Publication	
8	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication	
9	Supply Chain Management	Sunil Chopra, Peter Meindl & D. V. Karla	Pearson Publication	

Syllabus for B. Com. Semester –II
Subject Name: - Business Ethics - II
Course code:- 126 (D)

Depth of the program – Fundamental Knowledge

Objective of the Program

1. To enhance students' general awareness of ethical dilemmas at work.
2. To understand differing perceptions of interests in business-related situations
3. To introduce the concept of Corporate Social Responsibility, corporate Governance and explore its relevance to ethical business activity
4. To examine whether ethics set any boundaries on Accounting, marketing, IT, Social Media and workplace.
5. To prepare students to play a constructive role in improving the sustainable development with which they may become involved.

Unit No	Unit Title	Contents	Purpose Skills to be developed
1	Business Ethics	Business ethics–Meaning, definitions, scope , objectives, need and Principles. Human values and moral –meaning, formation and importance. Professional Ethics-meaning and significance, management and ethics Gandhian approach in Ethics. Global Trends in Ethics.	1. Equip the students with a skills to resolve the business problems with ethical norms. 2. Recognize the inherent conflict of interest in many business decisions.

2	Corporate Social Responsibility	<p>CSR – concept, scope, forms of CSR, dimensions of CSR, legal and ethical foundation for CSR, steps to attain CSR,</p> <p>International Approach to CSR</p> <p>CSR Activities in-</p> <ul style="list-style-type: none"> a. Social welfare, b. Healthcare, c. Education and d. Infrastructure 	<p>Understanding the scope CSR and it's scope</p> <p>2. To know the global trends</p>
3.	Corporate Governance and Business ethics	<p>Corporate Governance- concept, objectives, features, core principles of good corporate governance, advantages, system of corporate governance and SEBI's guideline</p> <p>Whsle Blowing- Meaning causes and types.</p> <p>Current issues of Business ethics in-</p> <ul style="list-style-type: none"> a. Accounting, b. Social Media, c. IT, d. Marketing and Advertisement e. Harassments and discrimination at workplace 	<p>Acquaint the students with corporate governance and global business ethics.</p>

4.	Sustainable Development and Ethics	<p>Sustainable Development- concept, need principles and importance, Goals of sustainable development and challenges to achieve SD.</p> <p>Achievements of Sustainable Development in India- clean water, clean energy, no poverty, zero hunger, Good Health, quality education, climates action and Industry innovations infrastructure.</p> <p>Ethics and sustainable development,</p>	<p>Identify various facts of sustainable development Apply the knowledge of sustainable development for people education</p>
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Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Article Review, Group Discussion, Quize	Documentary	-	Acquaint knowledge and maturity to understand the Business Ethics
2	12	Survey report. Poster presentation, Guest lecture	Short film	-	Application of CSR in various sector
3	12	Interview, Game, PPT, Narrating	Documentary	-	To analyze corporate governance in India
4	12	Project making, Street play, jingles m	Short Film	Project	To understand and achieve sustainable development

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	Continuous Evolution	Written Exam	Related Short Term Course/ Seminar/Workshop
Unit – II	Continuous Evolution	Written Exam	Related Short Term Course/ Seminar/Workshop
Unit – III	Continuous Evolution	Written Exam	Related Short Term Course/ Seminar/Workshop
Unit – IV	Continuous Evolution	Written Exam	Related Short Term Course/ Seminar/Workshop

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Ethics in Management	S.A. Sherlekar ,	Himalaya Publication	New Delhi
2.	Business Ethics and corporate Governance	S S Khanka	S. Chand Publication	Mumbai
3.	Business Ethics and Corporate Governance	S. K. Bhatia	Deep and Deep sons	New Delhi
4.	Corporate Governance : Principle, Policies and Practices	Bob Tricker	Oxford University Press	New Delhi
5.	Management by Values	S.K.Chakraborti ,	Oxford University Press	Mumbai
6.	Business Ethics And Corporate Governance	A. C. Fernando	Dorling Kindersly	Mumbai
7.	E Commerce - A Study in Business Ethics	Rituparna Raj	Himalaya Publication	New Delhi
8.	E-Commerce and It' Applications	Dr. U. S. Pandey, Rahul Srivastava and Saurabh Shukla.	S. Chand & Company,	New Delhi
9.	The sustainable development goals	United Nations	United Nations Publication	UN

10.	Atlas of Sustainable Development Goals 2017: from World Development Indicators	World Bank	World Bank Publication	-
11.	Business Ethics And Corporate Governance	A. C. Fernando	Dorling Kindersly	Mumbai
12.	The age of sustainable development goals	Jeffery D Saches and Ki Moon Ban	Columbia University Press	- -

Suggested References -Web Reference

Sr. No	
1	http://www.mca.gov.in/MinistryV2/csrdatasummary.html
2	Csr.gov.in
3	https://www.acclimited.com/sustainable/corporate-social-responsibility
4	https://www.youtube.com/watch?v=FN0kRR98518
5	https://sustainabledevelopment.un.org/?menu=1300
6	https://www.toppr.com/guides/business-communication-and-ethics/business-ethics/meaning-and-ethical-principles-in-business/

Syllabus for F.Y.B.Com

Semester-II, Paper-II

Subject Name: - Business Environment & Entrepreneurship - II

Course Code:-126 (E)

Depth of Programme: - Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Entrepreneurial Behaviour	Nature- Comparison between entrepreneurial and non-entrepreneurial, Personality-Habits of Entrepreneurs – Dynamics of Motivation	Understanding the difference between entrepreneurial and non-entrepreneurial, personality, Habits of Entrepreneurs Skill-developing entrepreneurial personality and developing habits of entrepreneurs in students
2	Entrepreneurship	Concept- Need and Importance of Entrepreneurship - Economic Development and Industrialization - Role of Entrepreneurship in economy- Entrepreneur as a catalyst	Providing knowledge and significance of entrepreneurship Skill-Realising role of entrepreneurship in economy
3	Institutions working for promoting entrepreneurship	<ol style="list-style-type: none">1) Entrepreneurship Development Institute of India (EDII)2) Maharashtra Centre for Entrepreneurship Development (MCED)3) District Industries Centre (DIC)4) Maharashtra Chamber of Commerce, Industries and Agriculture(MCCIA)5) Role of local NGO in promoting Entrepreneurship	Gaining knowledge of various institutions promoting entrepreneurship Skill-Acquaintance with these institutions

4	Study of entrepreneurs	1) Hanumant Gaikwad (BVG) 2) Kiran Mazumdar Shaw 3) Suwasini Kirloskar 4) Any successful Entrepreneur from your area	Getting inspiration from the entrepreneurs Skill-Developing entrepreneurial personality by getting inspiration from the entrepreneurs
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Teaching Methodology- F.Y.B.Com Semester-II, Paper-II

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Study of entrepreneurial and non-entrepreneurial personalities with the help of properly designed questionnaire	Related videos and PPT, Film 'Entrepreneurship' produced by Asian Centre for Research and Training (Pune)	A group of 3 to 5 students to interview entrepreneurial and non-entrepreneurial personalities and note the difference among them, also study habits of entrepreneurs, Shadow Training, Work experience, Entrepreneurship and Management Games	Understanding the difference between entrepreneurial and non-entrepreneurial personalities and thereby getting inspiration to make students personality entrepreneurial
2	12	Study of contribution of entrepreneurship in economic development (Study of selected advanced nations)	Film 'Entrepreneurship' produced by Asian Centre for Research and Training (Pune)	Form a group of 3 to 5 students to search role of entrepreneurship in economy, visit to exhibitions to get insight of entrepreneurship	Understanding the significance of entrepreneurship in economy thereby getting inspiration to become entrepreneur
3	12	Visit website of related institutions working for promoting entrepreneurship	Acquire CDs of related institutions working for promoting entrepreneurship	Visit to offices/regional offices of related institutions working for promoting entrepreneurship	Knowing the functions of related institutions
4	12	Study of Biographies of entrepreneurs and presenting in students group	Films on lives of Entrepreneurs	A group of students to interview entrepreneurs	Inspiration from study of Biographies to become entrepreneurs

Method of Evaluation: F.Y.B.Com Semester-II, Paper-II

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit-I	Class participation, Assignment, Library Work, Unit Test, Case Studies	Semester Examination-10% MCQ 70% Descriptive Questions 20% Short Notes	Study of Entrepreneurial and Non-entrepreneurial Behaviour
Unit-II	Seminar, Class participation Assignment, Library Work, Unit Test	Semester Examination-10% MCQ 70% Descriptive Questions 20% Short Notes	Entrepreneurship Development
Unit-III	Seminar, Class participation Assignment, Library Work, Unit Test	Semester Examination-10% MCQ 70% Descriptive Questions 20% Short Notes	Introduction to institutions working for promoting entrepreneurship
Unit-IV	Seminar, Class participation Assignment, Library Work, Unit Test, Field Work	Semester Examination-10% MCQ 70% Descriptive Questions 20% Short Notes	Inspiring Entrepreneurship

References

Sr. No	Title of Book	Author/s	Publication	Place
1	Business Environment	Francis Cherunilam	Himalaya Publishing House	New Delhi
3	Dynamics of Entrepreneurship Development and Management	Desai Vasant	Himalaya Publishing House	New Delhi
4	Entrepreneurial Development	Khanka S.S.	S. Chand	New Delhi
5	Entrepreneurial Development	Gupta, Shrinivasan	S. Chand	New Delhi
6	Udyog	--	Udyog Sanchalaya	Mumbai
7	Indian Economy	Ruddar Datt, K.P.M. Sundharam	S. Chand	New Delhi

Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - II (F.Y.B.Com)

Course Code - 126 (F)

Subject : - **Foundation Course in Commerce**

1. Preamble

It is essential for every student of commerce to have understating on the recent improvements and innovations in commerce. The Current commerce industry has seen a major shift from Physical to Digital , with significant emphasis on the service sector form the previous era of manufacturing , from Business to Entrepreneurship.

The students of Commerce need to develop an understanding on the importance of Management and Administration in the early years to develop the skills required for a successful future

Objectives of the course

1. To introduce the students to the Concept of Entrepreneurship
 2. To improve the understanding of the students on E- Commerce
 3. To improve the knowledge of students on recent trends in Retail Sector
 4. To introduce the students to the concept of Management and Administration
- Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Skills to be developed
1	Entrepreneurship	Entrepreneurship : Introduction , difference between Business and Entrepreneurship , Qualities of an Entrepreneur Role of Entrepreneur in Social and Economical Development of the Country Types of Entrepreneurs	<ol style="list-style-type: none">1. Conceptual Understanding on Entrepreneurship ,2. Motivate the students develop Entrepreneurship Skills3. Develop Innovative entrepreneurial ideas

2	E-Commerce	<p>Introduction- Meaning, Features, Functions and Scope of E-Commerce-Importance and Limitations of E-Commerce.</p> <p>Types of E-Commerce: B2B, B2C, C2B, C2C,B2G, C2G, B2A, C2A and P2P, B2B service provider.</p>	<ol style="list-style-type: none"> 1. Understanding e- Commerce and its future prospectus 2. Awareness on the various forms of e-commerce
3	Retailing	<p>Introduction, Concept of Organized and Unorganized Retailing, Trends in Retailing, Innovations in Retailing in India , Growth of Organized Retailing in India, Measures adopted by Unorganized Retailers for Survival, FDI in Retail in India.</p> <p>Digital Retailing and Overview</p>	<ol style="list-style-type: none"> 1. Introduction to the Recent trend in Retailing 2. To develop conceptual understating on Digital Retailing
4	Management and Administration	<ol style="list-style-type: none"> a) Management: Concept and Features b) Administration: Concept and Features c) Difference between and Management and Administration d) Scope of Management 	<ol style="list-style-type: none"> 1. Conceptual understating on Management and Administration

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	PPT , Success Stories , Organizing Entrepreneurship Fairs al College Level , Guest Lectures by Successful Entrepreneurs	Interview videos and Documentaries and Motivation Videos of Eminent Entrepreneurs	Project on Innovative entrepreneurial Ideas	Developing Entrepreneurial Spirit among the students
2	12	Guest Lectures by subject Experts / Industry Expert , Internet Assignments , Case Study Discussion on Real Life success stories	Educational Videos, Videos on Real Life success stories	Case analysis and Discussions,	Conceptual Clarity and Awareness on Latest trends in e-commerce
3	12	PPT and Internet Research , Field visit to Organized and Unorganized Retail Sector.	Online Videos, Live demonstration on Online Retail e.g. Amazon, Big Basket etc.	Interview of Retailers and Managers in Organized and Unorganized Retail Sector / Project on a Retail Outlet in Organized and Unorganized	Understanding on the recent changes and innovations in the Retail Sector
4	12	PPT , Guest Lectures	Educational Videos	Project Report	Conceptual understanding on Management and Administration Understanding on Difference between Management and Administration

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ / PPT / Written Test	As per University norms	Entrepreneurship Development Workshop with Certification
Unit – II	Chart Presentation / MCQ/ Written Test	As per University norms	Certificate Course E- Commerce
Unit – III	Written Test / Open Book Examination	As per University norms	Diploma Course on Retail Management
Unit – IV	PPT/ MCQ/Written Test/ Field Visit and Report	As per University norms	Workshop on Leadership Development

References :

List of Books Recommended :-

- Introduction To E – Commerce, Dhawan, Nidhi, International Book House
- E- Commerce - Rajaraman
- Business Organisation Management Maheshwari, Rajendra P ,Mahajan, J. P . International Book House
- Business Organization and Principles of Management by Dutta Chowdury, Central Education
- Retailing Management, Levy Michael., Weitz Barton A, Tata Mcgraw Hill
- Strategic Management, David, Fred R., Phi Leraning
- Government Policies on FDI in Retail.
- Retail Management - S.C. Bhatia Atlantic Publishers & Dist, 2008
- Retail Survival of the Fittest: 7 Ways to Future-Proof Your Retail Store by Francesca Nicasio
- Retail Management : Rajnish Tuli , Nidhi Varma Srivastava , Paperback
- Entrepreneurial Development by Khanka S.S , S.Chand
- Innovation and Entrepreneurship by Peter F. Drucker
- The Oxford Handbook of Entrepreneurship Edited by Anuradha Basu, Mark Casson, Nigel Wadeson, and Bernard Yeun

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**Revised Syllabi for Three - Year Integrated
B.Com. Degree course
(From June 2013)**

1) INTRODUCTION

The revised syllabi for B.Com Degree Course will be introduced in the following order.

- | | | |
|------|--------------------|-----------|
| i) | First Year B.Com. | 2013-2014 |
| ii) | Second Year B.Com. | 2014-2015 |
| iii) | Third Year B.Com. | 2015-2016 |

The B.Com. Degree Course (Revised Structure) will consist of three Years. The first year annual examination will be held at the end of the first year. The Second Year annual examination will be held at the end of the second year. The Third annual examination shall be held at the end of the third year.

2) ELIGIBILITY

1. No Candidates shall be admitted to enter the First Year of the B.Com. Degree Course (Revised Structure) unless he/she has passed the Higher Secondary School Certificate Examination of the Maharashtra State Board of Higher Secondary Education Board or equivalent or University with English as a passing subject.
2. No candidate shall be admitted to the annual examination of the First year B.Com. (Revised Structure) unless he/ she has satisfactorily kept two terms for the course at the college at the college affiliated to this University.
3. No candidate shall be admitted to the annual examination of the Second Year unless he/she has kept two terms satisfactorily for the course at the college affiliated to this University.
4. No candidate shall be admitted to the Third year of the B.Com. Degree Course (Revised Structure) unless he/she has passed in all the papers at the First Year B.Com. Examination and has passed in all the papers at the first Year B.Com. Examination and has satisfactorily kept terms for the second year and also two terms for the third year of B.Com. satisfactorily in a college affiliated to this University.

3) A.T.K.T. Rules :

As far as A.T.K.T. is concerned, a student who fails in two theories and one practical head of passing at F.Y.B.Com may be admitted to S.Y.B.Com. likewise a student who fails in the two theory and one practical head of passing at S.Y.B.Com may be admitted to T.Y.B.Com. But a student passing S.Y.B.Com but fails in any subject at F.Y.B.Com cannot be admitted to T.Y.B.Com.

4) (A) Revised Structure of B.Com. Course.

F.Y.B.Com. w.e.f. 2013-14	
Sr. No.	Compulsory / Main Subjects
101	Compulsory English
102	Financial Accounting
103	Business Economics (Micro)
104 (A)	Business Mathematics and Statistics
	or
104 (B)	Computer Concepts and Applications
105	Optional Group (Any one of the following) a) Organizational Skill Development. b) Banking & Finance c) Commercial Geography d) Defense Organization and Management in India e) Co-Operation. f) Managerial Economics
106	Optional Group (Any one of the following) a) Essentials of E-Commerce b) Insurance & Transport c) Marketing & Salesmanship d) Consumer Protection & Business Ethics. e) Business Environment & Entrepreneurship f) Foundation Course in Commerce
107	(Any one of the language from the following groups) Modern Indian Languages (M.I.L.) -: Compulsory English / Marathi / Hindi / Gujarathi / Sindhi / Urdu / Persian. Modern European Languages (M.E.L.) -: French / German. Ancient Indian Languages (A.I.L.) -: Sanskrit. Arabic.

S.Y.B.Com. w.e.f. 2014-15	
Sr. No.	Compulsory / Main Subjects
201	Business Communication.
202	Corporate Accounting.
203	Business Economics (Macro)
204	Business Management
205	Elements of Company Law
206	Special Subject – Paper I (Any one of the following) a) Business Administration b) Banking & Finance. c) Business Laws & Practices.

	<ul style="list-style-type: none"> d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.
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T.Y. B.Com. w.e.f. 2015-16	
Sr. No.	Compulsory / Main Subjects
301	Business Regulatory Framework (Mercantile Law)
302	Advanced Accounting.
303 (A)	Indian & Global Economic Development
	Or
303 (B)	International Economics
304	Auditing & Taxation
305	Special Subject – Paper II (Same special subject offered at S.Y. B.Com.) <ul style="list-style-type: none"> a) Business Administration b) Banking & Finance. c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.
306	Special Subject – Paper III (Same special subject offered at S.Y. B.Com.) <ul style="list-style-type: none"> a) Business Administration b) Banking & Finance. c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.

B) Subjects Carrying Practical's

There will be practical examination for the F.Y.B.Com. for the subject Financial Accounting. There will be practical and practical examinations for the special subjects at S.Y.B.Com. and T.Y.B.Com. levels. There will be Practical for the S.Y.B.Com level Compulsory subject Business Communication & for T.Y.B.Com Auditing & Taxation.

(C) A Student must offer the same Special Subject at T.Y.B.Com. which he has offered at S.Y.B.Com.

(D) In an exceptional cases, a student may change the subject chosen by him at second year during the first term of the third year provided he keeps the additional terms of the new subject at S.Y.B.Com.

4. EXTERNAL CANDIDATES

- 1) The student who has registered his name as the external student will appear at the annual examination.
- 2) The result of external student will be declared on the basis of Annual Examination of 80 marks for practical subjects by converting the same out of 100.
- 3) No foreign student shall be allowed to register as an External Student.

5. MEDIUM OF INSTRUCTION.

Medium of instruction for B.Com. degree course shall be either Marathi or English except languages.

The Medium of instructions for Business Communication (S.Y.B.Com) shall be English only.

6. WORKLOAD

The present norms of workload of lectures, tutorials and practicals per subject in respect of B.Com. Course shall continue.

7. UNIVERSITY TERMS

The dates for the commencement and conclusion of the first and the second terms shall be as determined by the University Authorities. The terms can be kept only by duly admitted students. The present relevant ordinances pertaining to grant of terms will be applicable.

8. VERIFICATION AND REVALUATION

The candidate may apply for verification and revaluation or result through Principal of the College which will be done by the University as per ordinance framed in that behalf.

9. EQUIVALENCE AND TRANSITORY PROVISION

The University will conduct examination of old course for next three academic years from the date of implementation of new course.

The candidate of old course will be given three chances to clear his subjects as per the old course and thereafter he will have to appear for the subjects under new course as per the equivalence given to old course.

10. RESTRUCTURING OF COURSES

This new revised structure shall be made applicable to the colleges implementing 'Restructured Programme' at the undergraduate level from June, 2004. The existing pattern of 'C', 'D', and 'E' Components shall be continued.

The Colleges under the Restructured Programme which has revised their structure in the light of the "2008 Pattern" shall be introduced with effect from academic year 2010-11.

11. SETTING OF QUESTION PAPERS

1. A candidate shall have the option of answering the question in any of the subjects either in Marathi or English except in languages.
2. The question papers shall be framed so as to ensure that no part of the syllabus is left out of study by a student.
3. The question paper shall be balanced in respect of various topics outlined in the syllabus.
4. The question papers shall have combination of long and short answer type question. As far as possible short answer type questions should not exceed 15 to 20 percent.
5. There shall be no overall option in the question paper, instead, there shall be internal options (such as either/ or and three short answers out of five etc.).
6. In case of question paper under the Special Subject (Paper No. III) one question carrying 10 marks will be set on current knowledge in relating subject in the academic year.

S.Y. B.Com.
Compulsory Paper
Subject Name -: Business Communication.
Course Code -: 201.

Objectives of the Course:

1. To understand the concept, process and importance of communication.
2. To develop awareness regarding new trends in business communication.
3. To provide knowledge of various media of communication.
4. To develop business communication skills through the application and exercises.

Medium of Instruction : English

Unit No.	TERM: I	Periods
1	Introduction of Business Communication: Introduction, Meaning, Definition, Features, Process of Communication, Principles, Importance, Barriers to Communication & Remedies.	12
2	Methods and Channels of Communication: Methods of Communication-Merits and Demerits&Channels of Communication in the Organisation and their Types, Merits & Demerits	10
3	Soft Skills: Meaning, Definition, Importance of Soft Skills Elements of Soft Skills: 1) Grooming Manners and Etiquettes 2) Effective Speaking 3) Interview Skills 4) Listening 5) Group Discussion 6) Oral Presentation	16
4	Business Letters: Meaning, Importance, Qualities or Essentials, Physical Appearance, and Layout of Business Letter	10
	Total Periods	48
	TERM: II	
5	Types and Drafting of Business Letters: 1) Enquiry Letters 2) Replies to Enquiry Letters 3) Order Letters 4) Credit and Status Enquiries 5) Sales Letters 6) Complaint Letters 7) Collection Letters 8) Circular Letters	16
6	Job Application Letters: Meaning, Types & Drafting of Job Application Letters, Bio-Data/Resume	08

	/Curriculum Vitae	
7	Internal and other Correspondence: 1) Office Memo (Memorandums) 2) Office Orders 3) Office Circulars 4) Form Memos or Letters 5) Press Releases	12
8	New Technologies in Business Communication: Internet: Email, Websites, Electronic Clearance System, Writing a Blog Social Media Network: Twitter, Facebook, LinkedIn, YouTube, Cellular Phone, WhatsApp Voice Mail Short Messaging Services Video Conferencing Mobile	12
	Total Periods	48

Recommended Books:

1. Asha Kaul (1999), "Business Communication", Prentice Hall of India, New Delhi.
2. Chaturvedi P. D. & Chaturvedi Mukesh (2012), "Managerial Communication", Pearson, Delhi.
3. Madhukar R. K. (2005), "Business Communication", Vikas Publishing House Pvt. Ltd., New Delhi.
4. Mamoria C. B. & Gankar S. V. (2008), "Personnel Management", Himalaya Publishing House, Mumbai.
5. Nawal Mallika (2012), "Business Communication", Cengage Learning, Delhi.
6. Rajendra Pal & Korlahalli (2007), "Essentials of Business Communication", Sultan Chand & Sons, New Delhi.
7. Sharma R. C. & Krishan Mohan, "Business Correspondence & Report Writing", Tata McGraw Hill Publishing Co. Ltd.
8. Sinha K. K. (2003), "Business Communication", Galgotia Publishing Company, New Delhi.
9. Sinha K. K. (2008), "Business Communication", Galgotia Publishing Company, New Delhi.
10. Vasishth Neeru & Rajput Namita (2006), "Business Communication", Kitab Mahal, Allahabad.

Assessment Pattern

Internal Assessment (Term End Examination)	:	20 Marks
Practical Examination	:	20 Marks
Annual Examination	:	<u>60 Marks</u>
Total Marks	:	<u>100 Marks</u>

Question Paper Pattern

Term End Examination

Q. 1: Answers in 20 Words: (Attempt any Seven) (Total 10 Questions)	:	14 Marks
Q. 2: Answer in 50 Words: (Attempt any Two) (Total 4 Questions)	:	08 Marks
Q. 3: Answer in 100 Words (Attempt any Three) (Total 5 Questions)	:	18 Marks
Q. 4: Answer in 500 Words (Attempt any One) (Total 2 Questions)	:	20 Marks

Annual Examination:

Q. 1: Term I Syllabus OR Q. 1: Term I Syllabus	:	16 Marks
Q. 2: Term I Syllabus OR Q. 2: Term I Syllabus	:	16 Marks
Q. 3: A: Term I Syllabus OR Q. 3: A: Term I Syllabus	:	08 Marks
Q. 3: B: Term II Syllabus OR Q. 3: B: Term II Syllabus	:	08 Marks
Q. 4: Term II Syllabus OR Q. 4: Term II Syllabus	:	16 Marks
Q. 5: Short Notes (Attempt any Four) (Total 6 Short Notes on Term II Syllabus)	:	16 Marks

Guidelines for completion of Practicals:

- 1) At least Four Practicals should be completed during the academic year by students in consultation with subject teacher.
- 2) Practical should be based on visit as well as library assignments.
- 3) A subject teacher has special privileges to make the allotment of practical topics.
- 4) Students should discuss with the subject teacher at the time of selection of practical topics.
- 5) If a student fails to complete minimum number of practicals, then the student shall not be eligible for appearing at the practical examination.

List of suggested Topics for Practicals:

Sr. No.	Topics
1	Analysis of Case Studies on Business Communication
2	Analysis of Posters/Pictures (Non-Verbal)
3	Barriers to Communication through Case Studies
4	Barriers to Listening through attending seminars/conferences/public meetings.
5	Drafting of Unsolicited/Solicited Job Application Letter with Bio-Data/Resume/CV
6	Collection & Drafting of various Business Letters
7	Group Discussions
8	Class Room Presentations on various Topics
9	Interview Skills
10	Use of Technology in Communication
11	Drafting of Memos
12	Drafting of Press Releases/Notes
13	Drafting of Office Orders
14	Drafting of Office Circulars
15	Any other topics to be suggested by the Subject Teachers

S.Y. B.Com.
Compulsory Paper
Subject Name :- Corporate Accounting
Course Code :- 202

Objectives:-

To enable the students to develop awareness about Corporate Accounting in conformity with the provisions of Companies Act and Accounting as per Indian Accounting Standards.

1. To make aware the students about the conceptual aspect of corporate accounting
2. To enable the students to develop skills for Computerized Accounting
3. To enable the students to develop skills about accounting standards

Term – I

Unit	Topic and Contents	No. of Lectures
1.	Accounting Standards:- Detailed Study of Accounting Standards 5, 6, 10, 14, 21 with Practical Examples numerical case studies, Application nature.	08
2.	Company Final Accounts:- Preparation of Final Accounts- Forms and contents as per Provisions of Companies Act (As Amendment upto the beginning of the relevant academic year) As per Revised Schedule- VI	14
3.	Company Liquidation Accounts:- Meaning of Liquidation- Modes of winding up – (a) Preparation of Liquidator final statement of Account (b) Preparation of Statement of Affairs and Deficiency Account.	12
4.	Computerized Accounting Practices:- Conceptual background - (a) Inventory Accounting (b) Payroll Accounting (c) MIS Reports including Demonstration and Hands Experience.	14
Total		48

Term – II

Unit	Topic and Contents	No. of Lectures
5.	Accounting for Amalgamation, Absorption and External Reconstruction of Companies:- Meaning- Vendor and Purchasing Companies- Purchase Consideration- Accounting entries- and Preparation of Balance Sheet after Amalgamation, Absorption and External Reconstruction.	14
6.	Accounting for Internal Reconstruction:- Meaning- Alteration of Share Capital, Reduction of Share Capital-Accounting Entries and preparation of Balance Sheet After Internal Reconstruction	10
7.	Holding Company Account:-	14

	Preparation of consolidated Balance sheet of Holding Company with one subsidiary only. Adjustment of inter company transactions, unrealized profit of stock.	
8.	Valuations of Shares:- Concept of Valuation, Need for Valuation, Special Factors affecting Valuation of Shares, Methods of Valuation - (a) Net Assets Method, (b) Yield Basis Method, (c) Fair Value Method.	10
	Total	48

Notes:-

1. Question Paper for Termend and Annual Examination should consist of :
 - Theory Questions :- 30%
 - Problems :- 70%
2. In the Question Paper of Annual Examination, the weightage to the syllabus should be as follows:
 - i) 40% on the total syllabus of the First Term.
 - ii) 60% on the total syllabus of the Second Term.
3. Colleges are required to use only licensed copy of software.

Recommended Books:-

1. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd.)
2. Advanced Accountancy: By S.P. Jain & K.N. Narang (Kalyani Publishers)
3. Advanced Accountancy: By R.L.Gupta & M. Radhaswamy (Sultan Chand & Sons)
- 4 Company Accounts: By S.P. Jain & K.L. Narang
- 5 Advanced Accounts: By Paul Sr.
- 6 Corporate Accounting: By Dr. S. N. Maheshwari & S.K. Maheshwari
- 7 Corporate Accounting: By Mukharji & Hanif
8. Corporate Accounting: By Dr. K. N. Jagtap, Dr. S. D. Zagade, Dr. H. M. Jare
9. Accounting Standard: By D. S. Rawat.
10. Accounting Standards –as issued by Institute of Chartered Accountants of India.

Journals:-

1. The Chartered Accountant : Journal of the Institute of Chartered Accountants of India.
2. The Accounting World : ICFAI Hyderabad
3. Journal of Accounting & Finance : Accounting Research Association of Jaipur.

S.Y. B.Com.
Compulsory Paper
Subject Name -: Business Economics (Macro)
Course Code -: 203

Objectives:

1. The objective of the course is to familiarize the students the basic concept of Macro Economics and application.
2. To Study the behavior of the economy as a whole.
3. To Study the relationship among broad aggregates.
4. To apply economic reasoning to problems of the economy.

Term – I		
Sr. No	Topic	No. of Lectures
UNIT- 1	<u>Basic Concepts of macro Economics</u> 1.1 Meaning of Macro Economics <u>1.2 Nature and Scope of Macro Economics</u> 1.3 Significance and limitations of Macro Economics 1.4 Difference between Micro and Macro Economics	08
UNIT- 2	<u>National Income</u> 2.1 Meaning & Importance of National Income 2.2 Concept - <u>a) Gross National Product (GNP)</u> b) Net National Product (NNP) c) Income at Factor cost or National Income at Factor Prices d) Per Capita Income e) Personal Income (PI) f) Disposable Income(DI) 2.3 Measurement of National Income – Circular Flow of Income-Two sector model 2.4 Difficulties in Measurement of National Income	14
UNIT- 3	<u>Money</u> 3.1 Meaning and functions of Money 3.2 Demand for Money – Classical and Keynesian Approach <u>3.3 Supply of Money</u> a) Role of Central Bank – Credit Control- Quantitative and Qualitative b) Reserve Bank of India’s New Money Measures 3.4 Role of Commercial Banks – Process of Multiple Credit Creation and its limitations	12
UNIT- 4	<u>Value of Money</u> 4.1 Meaning & Concept of Value of Money <u>4.2 Quantity Theory of Money</u> 4.3 Cash Balance approach – Cambridge Equation - Pigou, Marshall, Keynes 4.4 Milton Friedman’s Approach 4.5 Difference between Quantity Theory and Cash Balance Approach	14

	Theory	
Term - II		
UNIT- 5	<u>Inflation and Deflation</u> 5.1 Inflation and Deflation – Meaning, Causes and effects 5.2 Demand Pull and cost Push inflation <u>5.3 Inflationary Gap</u> 5.4 Philips Curve – Supply side Economics 5.5 Stagflation	10
UNIT- 6	<u>Trade Cycle -</u> <u>6.1 Meaning, Definition and features of Trade Cycle</u> 6.2 Phases of Trade Cycle 6.3 Policy for control of Trade Cycle – Monetary and Fiscal Measures	12
UNIT- 7	<u>Theories of Output and Employment</u> 7.1 Classical Theories of Employment – Says , Pigou , Fisher 7.2 Keynesian Criticism on Classical Theories of Employment 7.3 Keynesian Theory of Employment	12
UNIT-8	<u>Public Finance</u> 8.1 Meaning, Nature and Scope of Public Finance 8.2 Principle of Maximum Social advantage-Dr. Dalton’s Approach 8.3 Public Revenue and Expenditure <u>8.4 Types of Taxation</u> 8.5 Principles of Taxation 8.6 Effects of Taxation 8.7 Causes of increasing Public Expenditure	14

Basic Reading List

1. Ackey, G (1976) Macro Economics Theory and Policy, Macmillan Publishing Company, New York
2. Ahuja H. L. (2002) Macroeconomics Theory and Policy, Chand and Co. Ltd New Delhi.
3. D’souza Errol (2008) Macroeconomics : Person Publication, New Delhi.
4. Gupta S.B. (1994) Monetary Economics, S. Chand and Co. Delhi
5. Jingan M.L. (2002) Macro Economic Theory, Vrinda Publication, Delhi
6. Vaish M. C. (2002) Macro Economic Theory, Vikas Publishing House, N. Delhi
7. Shapiro E (1996) Macro Economic Analysis; Galgotia Publication, New Delhi

ADDITIONAL READING LIST

1. Dillard, D. (1960), The Economics of John Maynard Keynes, Crossby Lockwood and Sons, London.
2. Day A.C.L. (1960) Outline of Monetary Economics, Oxford University Press, Oxford
3. Higgins, B. (1963), Economic Development: Principles, Problems and Policies, Central Book Depot, Allahbad.
4. Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, Macmillan, London.
5. Kindleberger, C.P. (1958), Economic Development, McGraw-Hill Book Company, New York.
6. Lucas, R. (1981), Studies in Business Cycle Theory, MIT Press, Cambridge, Massachusetts.

S.Y. B.Com.
Compulsory Paper
Subject Name :- Business Management
Course Code :- 204

Objective:

1. To provide basic knowledge & understanding about business management concept.
2. To provide an understanding about various functions of management.

UNIT NO	CHAPTER	PERIODS
	TERM-I	
Unit –I	OVERVIEW OF MANAGEMENT Meaning, Definition, Management: Is it Science, Art or profession? Characteristics of Professional Management. The need of Management Study. Process of Management, Level Of Management, Managerial Skills, Challenges before management , Brief Review of Management Thought with reference to FW Taylor & Henry Fayol	12
Unit –II	PLANNING & DECISION MAKING. Planning-Meaning, Definition, Nature, Importance, Forms, Types Of Planning, Steps in Planning, Limitations Of Planning. Forecasting-Meaning & Techniques. Decision Making- Meaning, Types Of Decisions & Steps In Decision Making.	12
Unit III	ORGANIZATION & STAFFING Meaning, Process & Principles, Departmentalization, Organization Structure, Authority and Responsibility, Delegation of authority, Difficulties in delegation of Authority, Centralization verses Decentralization, Team Work. Staffing-Meaning, Need & Importance of Staffing, Recruitment-Sources and Methods of Recruitment.	12
Unit IV	DIRECTION & COMMUNICATION Direction- Meaning, Elements, Principles, Techniques & importance.. Communication-Meaning, Types, Process of Communication & importance of effective Communication. Barriers to Communication.	12
	Total	48
	TERM-II	
UNIT-V	MOTIVATION Meaning, importance, Theories of motivation, Maslow’s Need Hierarchy Theory, Herzberg’s Two factors Theory, Douglas Mc Gregor’s Theory of X & Y & Ouchi’Theory Z. McClelland’s Theory.	12
UNIT-VI	LEADERSHIP Meaning, Importance, Qualities & Functions of a Leader, Leadership Styles for Effective Management .Contribution of Mahatma Gandhi, Dr. Babasaheb Ambedkar & Pandit Jawaharlal Neharu	12

Unit- VII	CO-ORDINATION AND CONTROL Meaning and Need , Techniques of establishing Co-ordination, difficulties in establishing co-ordination, Control-Need, steps in the process of control & Techniques.	12
Unit-VIII	RECENT TRENDS IN BUSINESS MANAGEMENT Business Ethics, Corporate Social Responsibility, Corporate Governance, Disaster Management, Management of Change	12
	Total	48

Recommended Books:

1. Principles of Management - Koontz & O'Donnel
2. The Management Process - R S Davar
3. Essentials of Management - Koontz & O' Donnel Tralel McGrow Hill Publishing House
4. Business Administration - Mritunjoy Banerjee
5. Principles & Practice - T N Chhabra, Dhanapat Rai & Co.of Management.
6. Management – LM .Prasad.
7. Super Highway: Bill Gates Foundation
8. Makers of Modern India - NBT Publishers
9. Indian Business leaders

S.Y. B.Com.
Compulsory Paper
Subject Name -: Elements of Company Law.
Course Code -: 205

Objectives:

- 1) To impart students with the knowledge of fundamentals of Company Law.
- 2) To update the knowledge of provisions of the Companies Act of 2013.
- 3) To apprise the students of new concepts involving in company law regime.
- 4) To acquaint the students with the duties and responsibilities of Key Managerial Personnel.
- 5) To impart students the provisions and procedures under company law.

Term – I		
Sr. No.	Topic	Lectures
Unit 1	<p>Introduction to the New Act & Concept of Companies:</p> <p>1.1. Background and Salient Features of the Act of 2013, Overview of the changes introduced by the Act of 2013;</p> <p>1.2. Nature and types of Companies, Definitions and important features of a Company- Distinction between a company and a partnership - Lifting or Piercing the Corporate Veil</p> <p>1.3. Types of Companies based on various criteria including one man company, dormant company, sick and small company, associate company.</p> <p>1.4. Distinction between private and public company (Advantages, Disadvantages and privileges of both the companies) - Conversion of a private company into a public company - Conversion of a public company into a private company.</p>	13
Unit 2	<p>Formation and Incorporation of a Company:</p> <p>2.1. Stages in the Formation and Incorporation.</p> <p style="padding-left: 20px;">2.1.1. Promotion: Meaning of the term ‘Promoter’ / Promoter Group - Legal Position of Promoters, Pre-incorporation contracts.</p> <p style="padding-left: 20px;">2.1.2. Registration/ Incorporation of a company : - Procedure, Documents to be filed with ROC. Certificate of Incorporation- Effects of Certificate of Registration.</p> <p style="padding-left: 20px;">2.1.3. Floatation/ Raising of capital.</p> <p style="padding-left: 20px;">2.1.4. Commencement of business.</p>	8
Unit 3	<p>Documents relating to Incorporation and Raising of Capital:</p> <p>3.1 Memorandum of Association: Meaning and importance- Form and contents- Alteration of memorandum.</p> <p>3.2 Articles of Association: Meaning- Relationship of and distinction between Memorandum of association and Articles of association- Contents and form of Articles- Alteration of articles- Doctrine of constructive notice- Doctrine of Indoor Management.</p> <p>3.3 Prospectus: Meaning and Definition- Contents- Abridged form of</p>	07

	prospectus- Statutory requirements in relation to prospectus- Deemed prospectus- Shelf prospectus - Statement in lieu of prospectus- Mis-statement in a prospectus and Liabilities for Mis-statement.	
Unit 4	Capital of the Company 4.1 Various Modes for Raising of Share Capital including private placement, public issue, rights issue, bonus shares. 4.2 ESOS, Sweat Equity Shares, Buy-back of shares. 4.3 Allotment of Shares: Meaning- - Statutory provisions for allotment, improper and irregular allotment- Consequences of irregular allotment. 4.4 Calls On Shares: Meaning- Requisites of a valid call, Calls in advance 4.5 Share Certificates: Meaning, Provisions regarding issue of share certificates - Duplicate Share Certificate. 4.6 Share Capital – Meaning, Structure (Kinds) – Concept of Securities – Definition, Nature and Kinds of Shares.	14
Unit 5	Forfeiture, Surrender & Transfer of Shares 5.1 Forfeiture and Surrender of Shares: Meaning of forfeiture of shares: - Conditions/Rules of valid forfeiture- Effect of forfeiture- Re-issue of forfeited shares- Annulment of forfeiture- 5.2 Surrender of shares 5.3 Transfer and transmission of shares - meaning and procedure distinction between transfer and transmission 5.4 Nomination of shares	6
	Term – II	
Sr. No.	TOPIC	Lectures
Unit 6	E-Governance and E-Filing: 6.1 Introduction- Meaning of E-Governance 6.2 Advantages of E-Governance, 6.3 Basic understanding of MCA Portal 6.4 E-filing (Ss. 397 to 402), DIN-Directors Identification Number (Ss. 153-159)	06
Unit 7	Management of Company: 7.1 Board of Directors: Definition, Powers, Restrictions, Prohibition on Board. (Ss. 179 to 183) 7.2 Director: Meaning and Legal position of directors. 7.3 Types of Directors – Types including Executive, Non-Executive, Independent, Additional, Alternate, Interested, Nominee Director, Related Party Transactions (Ss. 188) 7.4 Appointment of Directors, Qualifications and Disqualifications. 7.5 Powers, Duties, Liabilities of Directors, Remedies for Breach of Duties. 7.6 Loans to Directors (S. 185), Remuneration of Directors	10
Unit 8	Key Managerial Personnel (KMP) 8.1 Meaning, Definition and Appointments of Managing Director,	10

	<p>Whole Time Director, Manager, Company Secretary Term of office/ Tenure of appointment, Remuneration –</p> <p>8.2 Distinction between Managing Director, Manager and Whole Time Director - Role (Powers, Functions of above KMP)</p> <p>8.3 Corporate Social Responsibility (CSR) [U/S 135] – Concept who is Accountable, CSR Committee, Activities under CSR,</p> <p>8.4 Role of Board of Directors.</p> <p>8.5 Prevention of Oppression and Mismanagement (Ss. 241 to 246)</p>	
Unit 9	<p>Company Meetings:</p> <p>9.1 Board Meeting – Meaning and Kinds</p> <p>9.2 Conduct of Meetings - Formalities of valid meeting [Provisions regarding agenda, notice, quorum, proxies, voting, resolutions (procedure and kinds) minutes, filing of resolutions, Virtual Meeting]</p> <p>9.3 Meeting of Share Holders General Body Meetings, Types of Meetings A. Annual General Meeting (AGM), Ss. 96 to 99 B. Extraordinary General Meeting (EOGM) – S. 100</p> <p>9.4 Provisions regarding convening, constitution, conducting of General Meetings contained in Ss. 101 to 114</p>	12
Unit 10	<p>10.1 Revival and Re-habilitation of Sick Companies (S. 253-269)</p> <p>10.2 Compromises, Arrangements and Amalgamation: Concept and Purposes of Compromises, Arrangements, Amalgamation, Reconstruction – Fine distinction between these terms.:</p> <p>10.3 Winding –up: Meaning of winding-up, Dissolution of company, Conceptual understanding of winding-up by the Tribunal, Compulsory winding-up, Members’ voluntary winding-up, Creditors’ voluntary winding-up</p>	10

Recommended Books
<ol style="list-style-type: none"> 1) Bharat’s – Companies Act, 2013 with comments, Edited by: Ravi Puliani, Advocate Mahesh Puliani, Bharat Law House Pvt. Ltd., New Delhi, 19th Edition, 2013. 2) Introduction to Company Law, Karn Gupta, Publication: LexisNexis, 2013, Gurgaon, Haryana, India. 3) The Companies Act, 2013. With notes to Legislative Clauses. 2014 Edition. Corporate Professionals – where excellence is Law, CCH – a Wolters Kluwer business. Wolters Kluwer (India) Pvt. Ltd., DLF – Cyber City, Gurgaon, Haryana (India) 4) Insights into the New Company Law – PrachiManekar LexisNexis, Gurgaon, Haryana, India, 2013. 5) Taxman’s, Company Law Ready Reckoner, V.S. Datey, Printed at – Tan Prints (India) Pvt. Ltd. Jhajjar, Haryana, India., 13th September, 2013. 6) Analysis of Companies Act, 2013, Corporate Professionals – where excellence is Law., CCH – a Wolterskluwer business., Corporate Professionals India Pvt. Ltd., New Delhi, India., Published by – Wolters Kluwer (India) Pvt. Ltd., 2013.

S.Y. B.Com.
Business Administration Special Paper I
Subject Name -: Business Administration
Course Code -: 206 – A.

Objectives:

1. To provide basic knowledge about various forms of business organizations
2. To acquaint the students about business environment and its implications thereon.
3. To aware them with the recent trends in business

UNIT NO	CHAPTER	PERIODS
TERM-I		
UNIT-I	BUSINESS ADMINISTRATION CONCEPTS Business - Definition, Characteristics, scope & Objectives of business- Economic & Social perspectives . Commerce- Meaning, Concept. Trade & Aids to trade- Meaning & Definition of the Terms: Administration, Management and Organization. Functions of Administration	12
UNIT-II	FORMS OF BUSINESS ORGANIZATION Sole Proprietorship, Partnership Firm, Limited Liability Partnership, Joint Ventures, Joint Stock Company, Co-operative Society- features, Merits & Limitations. Non Profit joint Stock Company under section 25 of the Companies Act Suitability of a form of organization- Factors determining the suitability of form of Organisation	12
UNIT III	BUSINESS ENVIRONMENT Meaning, Constituents of business environment-Economic, International, Social, Legal, Cultural, Educational, Political, Technological & Natural. Interaction of business & environmental forces. Social Responsibilities	12
UNIT IV	BUSINESS PROMOTION Business Unit- Promotion: Concept of promotion, stages in business promotion, Factors affecting location & Size, Present trends in location, size of business unit. Role of Govt in the promotion of SEZ	12
Total		48
TERM-II		
UNIT- V	LEGAL ASPECTS Compliance of legal requirements in promoting business unit, Licensing, Registration, Filing returns & other documents. Important legal provisions governing promotion & establishment of unit.	12
UNIT-VI	PRODUCTIVITY Meaning, Importance & measurement of productivity. Factors affecting productivity, techniques, Measures to boost productivity, Role of National Productivity Council- Product Quality Control ISO-9000, 14000, Quality Circles	12
UNIT-VII	RECENT TRENDS IN BUSINESS MANAGEMENT Liberalisation, Privatization, Globalization -meaning, concept –implications & consequences, SEZ, BPO, KPO and LPO .Public Private Partnership .MKCL	12

UNIT-VIII	INDUSTRIAL SICKNESS Meaning, definition, symptoms, causes & Consequences of industrial sickness. Role of Government in prevention of industrial sickness. Role of BIFR.	12
	Total	48

Recommended Books

1. Modern Business Organization & Management N. Mishra Allied Publishers – Bombay
2. Essentials of Business Administration K. Aswathappa – Himalaya Publications
3. Business Administration :S.C.Saxena – Sahitya Bhavan Agra
4. The Administrative Process :Stephen Robbins -
5. Business Organization
6. Industrial Administration & Management: J Batty McDonald
7. MKCL annual Report

S.Y. B.Com.
Banking & Finance Special Paper I
Subject Name -: Indian Banking System - I
Course Code -: 206 – B.

Objectives:

1. To create the awareness among the students of Indian banking system.
2. To enable students to understand the reforms and other developments in the Indian Banking
3. To provide students insight into the functions and role of Reserve Bank of India.

Term – I		
Sr. No	Topic	No. of Lectures
UNIT 1	Structure and Role of Indian Banking System: Structure of Indian Banking System Central bank - Commercial banks - Cooperative banks – Developmental Banks- Regional Rural Banks - Local Area Banks Difference between scheduled and non scheduled bank Role of banking system in the economic growth and development	12
UNIT 2	Private sector banks: A) Private sector banks in India: Their progress and performance after Banking Sector Reforms B) Foreign banks in India: Their problems and prospects of Foreign Banks Regulation of Foreign banks in India	12
UNIT 3	Nationalized banks: Social control over banks, Nationalization of banks - Arguments for and against nationalization, Objectives of nationalization, Progress of nationalized banks pertaining to branch expansion, deposit mobilization, credit development and priority sector lending: Lead Bank Scheme,	12
UNIT 4	State Bank of India Evolution of State Bank of India, organization and management of State Bank of India, Subsidiary Banks to State Bank of India. Role of State Bank of India : As an agent of the RBI, as a commercial bank, its role in industrial finance, in foreign exchange business, in agricultural finance and rural development, and in assisting weaker Sections of the Society Merger of SBI Subsidiaries.	12
	Total Period	48
Term II		
UNIT 5	Regional Rural Banks and National Bank for Agricultural and Rural Development (NABARD) : A) Reasons for establishment of Regional Rural Banks (RRBs), Meaning of RRBs, Difference between RRBs and Commercial banks, Objectives of RRBs, Organization and Management of RRBs, Functions of RRBs, Progress, performance and problems of RRBs, Consolidation of RRB`s B) National Bank for Agricultural and Rural Development (NABARD): Objectives, Functions and Performance	12
UNIT 6	Cooperative Credit System :	12

	<p>A) Principles of cooperation, Evolution of cooperative credit system. Meaning, objectives, organization, functions, progress and problems of:</p> <ol style="list-style-type: none"> 1. Primary Agricultural Cooperative Credit societies, 2. District Central Cooperative banks, 3. State Cooperative Banks <p>B) Urban Cooperative Credit Societies C) Urban Cooperative Banks</p>	
UNIT 7	<p>Reserve Bank of India (RBI) : Evolution of the Reserve Bank of India, Organization and Management of the RBI</p> <p>A) Functions of the RBI: Issue and Management of currency Banker to the government Bankers' bank: lender of the last resort, central clearance Supervision of banking system, controller of credit-Qualitative and Quantitative methods of credit control, Custodian of foreign exchange reserves Collections and furnishing of credit information Agricultural finance, Export finance, Industrial finance</p> <p>B) Changing role of RBI: Promotional role, Development role & Super regulation work.</p>	12
UNIT 8	<p>Banking Sector Reforms: Rationale and objectives of reforms, Problems of nationalized banks</p> <p>A) Recommendations of the Narasimham Committee (I) Reforms of the committee pertaining to- Deregulation of interest rate, CRR (Cash Reserve Ratio), SLR (Statutory Liquidity Ratio), CD Ratio- Credit Deposit Ratio Interest rate structure, Directed credit programme, Income recognition, Asset classification, Capital adequacy norms, Provisioning, Redefining of the NPAs Management of Non Performing Assets (NPAs), Debt Recovery Tribunals,</p> <p>B) Recommendations of the Narasimham Committee (II) Consolidation of banking system, Directed credit programme, Revision in the Capital adequacy</p> <p>C) Financial Inclusion: Role of Micro Finance – Development of Self Help Groups</p>	12
	Total Period	48

Recommended Books:

1. Functions and Working of the RBI: Reserve Bank of India Publications.
2. Financial Sector Reforms and India's Economic Development: N.A.Majumdar
3. Central Banking and Economic Development: Vasant Desai
4. Monetary Economics: S.B. Gupta
5. Banking in India - S. Panandikar
6. Banking: S.N. Maheshwari
7. Report on Trends and Progress of Banking in India: Reserve Bank of India Publication.
8. Indian Banking System (भारतीय बँक व्यवसाय प्रणाली) - Prin. Dr. B. R. Sangle
9. Indian Banking System (भारतीय बँक व्यवसाय प्रणाली) - Prin. Dr. B. R. Sangle,
Dr. Murtadak, Dr.M. U. Mulani, Dr. T. N. Salve
10. Annual Reports of Banks
11. Indian banking system - Dr. Rita Swami
12. Indian Banking System - Dr. B.R. Sangle, Dr. G.T. Sangle, Dr. Kayande Patil and
Prof. N.C. Pawar
13. Indian Banking System - Prof. S.V. Joshi, Dr. C.P. Rodrigues and Prof. Azhar Khan

S.Y. B.Com.
Business Laws & Practices Special Paper I
Subject Name -: Business Laws & Practices.
Course Code -: 206 – C.

Objectives –

- 1) To impart the students with the knowledge and understanding important Business Laws.
- 2) To acquaint the students with Laws of Insurance, Life Insurance, Marine Insurance, Fire and other insurance.

Sr. No.	Topic	No. of Lectures
Term – I		
Unit - 1	The Maharashtra Agricultural Produce Marketing (Regulation) Act, 1963 –	12
	Background, Meaning, Definition –	
	Agricultural Produce, Agriculturist, Broker, Buyer, bye-laws, Commission Agent, Director, Coolee, Local Authority, Market Area, Market Committee, Processor, Secretary, Retail sales, State Marketing Board. Agriculture Produce, Marketing (Clause 6 to 10). State Agricultural Produce Marketing Board (Clause 39 A to 39 O) Amalgamation of division of market committees office and servants of market committee.	
Unit - 2	The Law of Insurance -	12
	Introduction, Meaning & Characteristics of Insurance, Importance of Insurance, Basic Principles of General Insurance, Contract of Insurance, Type of Insurance. Basic Terms – Insured, Insurer, Premium, Policy subject matter of Insurance, Claim, Proposal. Insurance Interest. Double Insurance and Reinsurance.	
Unit - 3	Life Insurance -	12
	Meaning, Definition of Life Insurance, Features of Life Insurance, Importance of life Insurance. Basic Principles of Life Insurance. Advantages of Life Insurance, Type of Life Insurance Policy, Procedure of Life Insurance Policy. Settlement of Claims of Life Insurance of Policy, Nomination of Policy. LIC- Object, Constitution & Functions, Challenges before LIC, Social Responsibility of LIC.	
Unit - 4	Fire Insurance -	12
	Meaning of Fire Insurance, Definition of Fire Insurance, Types of Fire Insurance Policies, Basic Principles in Fire Insurance Policies, Settlement of Claims of Fire Insurance, Difference between Life Insurance & Fire Insurance, Private Insurance Companies in India, Social Corporate Responsibilities of Private Insurance Companies.	

Term - II		
Sr. No.	Topic	No. of Lectures
Unit - 5	Marine Insurance & Other Insurance – Meaning, Definitions, Type of Marine Insurance Policies, Terms in Marine Insurance Policy. Difference between Fire Insurance & Marine Insurance, Difference between Life Insurance & Marine Insurance. Contract of Fire Insurance, Motor Insurance Policy. Theft & Burglary Insurance Personal Accident Insurance, Rural Insurance in India.	12
Unit - 6	Maharashtra Co-operative Societies Act, 1960 Definition and Features of a Co-operative Society. Types of Co-operative Societies. Restriction on the society - Registration, Cancellation of Registration and De-registration of a Society. Bye Laws and Amendments of bye-laws.	12
Unit - 7	The Industrial Dispute Act, 1947 (Section 1 to 7, 22 to 29) Introduction and Definitions, Machinery for Settlement of Disputes, Strikes, Lockout, Layoff, Retrenchment, Closure and Re-starting of Undertaking.	12
Unit - 8	Partnership Act, 1952 <ul style="list-style-type: none"> • Meaning of Partnership, Features of Partnership • Registration & Formation of Partnership. • Kinds of Partners. • Rights, Duties and Liabilities of a Partner. • Reconstitution of Partnership Firm. • Incoming Partners. • Outing Partners. • Dissolution of a Partnership Firm. 	12

Recommended Books		
References –		
1. Labour and Industrial Laws	-	M.N. Mishra central Publications, Allahabad
2. Business Laws	-	Kuchhal M.C.
3. Industrial Law	-	P.L. Malir
4. Business Law	-	Avtar Sing
5. Mercantile Law	-	P.L. Ma...
6. Business Law	-	S.D. Geet and M.S. Patil

S.Y. B.Com.

Co-operation and Rural Development Special Paper I

Subject Name -: Co-operation and Rural Development.

Course Code -: 206 – D.

Objectives:-

1. To acquaint students with the Concept of Co-operation.
2. To acquaint students with Co-operative legislation.
3. To create awareness regarding the role of State Govt. in development of Co-operative sector in Maharashtra.
4. To acquaint students with the role of Social reformers in rural development .
5. To understand the role of “Panchayat Raj “ in rural development.
6. To make the students aware about Globalization and its effects on rural development

Sr. No.	Topic	No- of Lectures
Unit 1	Co-operative Legislation in India 1.1 History of Co-operative Legislation 1.2 Co-operative Societies Act-1904, Objectives and Features 1.3 Co-operative Societies Act-1912, Objectives and Features 1.4 Bombay Provisional Co-operative Societies Act 1925, Main Provisions 1.5 Benefits of Co-operative Legislations	12
Unit 2	Multi-state Co-operative Societies Act 2.1 History, need and objectives 2.2 Registration of Societies 2.3 Bye- laws of Co-operative societies 2.4 Management of Co-operative Societies 2.5 Role of Central Registrar	12
Unit 3	Maharashtra State Co-operative Societies Act 1960 3.1 Maharashtra Co-operative Societies Act 1960 amended up to August 2013 –Provisions regarding a) Registration of Co-operative Societies b) Membership of Co-operative Societies c) Privileges and Duties of Co-operative Societies d) Management of Co-operative Societies e) Supervision of Co-operative Societies f) Audit of Co-operative Societies g) Role of Registrar for Co-operative Societies o f Maharashtra State	12
Unit 4	Functions, Progress and Problems of Co-operatives 4.1 Agriculture Credit through Co-operatives a) Primary Agriculture Credit Societies(PACS) b) District Central Co-operative Banks c) State Co-operative Bank 4.2 Co-operative Sugar Factories 4.3 Dairy Co-operatives 4.4 Non Agricultural Credit Co-operatives 4.5 Urban Co-operative Banks 4.6 Housing Co-operative Societies 4.7 Consumer Co-operatives	12

Term – II		
Unit 5	Rural Development 5.1 Definition, Meaning, Scope and Objectives 5.2 Significance of Rural Development 5.3 Role of Co-operative movement in Rural Development of Maharashtra 5.4 Approaches of Rural Development a) Individual Approaches b) Group Approaches c) Mass Approach	12
Unit 6	Role of Social Reformers in Rural Development . (Thought & Work) 6.1 Mahatma Jotiba Phule 6.2 Chhatrapati Shahu Maharaj 6.3 Mahatma Gandhi. 6.4 Dr. Babasaheb Ambedkar. 6.5 Karmaveer Bhaurao Patil 6.6 Dr. Dhananjayrao Gadgil. 6.7 Dr. Panjabrao Deshmukh	12
Unit 7	Rural Development and Panchayat Raj System 7.1 Concept and Structure of Panchayat Raj 7.2 Importance of Panchayat Raj System 7.3 Important Provisions of Panchayat Raj Act 7.4 Effects of Panchayat Raj System on Rural Development 7.5 Limitations of Panchayat Raj	12
Unit 8	a) Rural Development through Peoples Participation 8.1 Concept of Peoples Participation 8.2 Importance of Peoples Participation 8.3 Mahatma Gandhi National Rural Employment Guarantee Scheme 8.4 Development Strategy of Model Villages	06
	b) Globalization and Rural Development 8.5 Concept of Globalization 8.6 Merits and Demerits of Globalization 8.7 Opportunities of Globalization for Rural Development 8.8 Effects of Globalization on Rural Development	06

Recommended Books :

- 1) G.S.Kamat –Cases in Co-operative management.
- 2) K.K.Taimani- Co-operative Organization and Management.
- 3) G.S.Kamat – New Dimensions of Co-operative Management.
- 4) Vasant Desai – Fundamentals of Rural Development.
- 5) V.M.Dandekar and Rath – Poverty in India.
- 6) Dr. P.R.Dubhashi – Rural Development and Administration in India.
- 7) V.Reddy – Rural Development in India.
- 8) S.K. Gopal – Co-operative Farming in India.
- 9) B. Mukharji – Community Development.
- 10) I.C.A State and C-operative Movement.

S.Y. B.Com.
Cost and Works Accounting Special Paper I
Subject Name -: Cost and Works Accounting.
Course Code -: 206 – E.

Objectives:

To Impart The Knowledge Of:

1. Basic Cost concepts.
2. Elements of cost.
3. Ascertainment of Material and Labour Cost.

SR. NO.	TOPIC	LECTURES
Unit 1	Basics Of Cost Accounting	
1.1	Concept of Cost, Costing, Cost Accounting and Cost	16
1.2	Accountancy.	
1.3	Limitations of Financial Accounting.	
1.4	Origin of Costing.	
1.5	Objectives of Costing.	
1.6	Advantages & Limitations of Costing.	
1.7	Difference Between Financial Accounting and Cost Accounting. Cost Units and Cost Center.	
Unit 2	Elements Of Cost	
2.1	Material, Labour and other Expenses.	16
2.2	Classification of Costs.	
2.3	Preparation of Cost Sheet, Quotation, Tenders.	
Unit 3	Material Control	
3.1	Need and Essentials of Material Control.	16
3.2	Functions of Purchase Department.	
3.3	Purchase Procedure.	
3.4	Purchase Documentation.	
3.5	Stock Levels.	
3.6	Economic Order Quantity. (EOQ)	

Term – II

SR.NO.	TOPIC	LECTURES
Unit 4	Material Accounting	
4.1	Stores Location and Layout.	16
4.2	Types of Stores Organization.	
4.3	Classification and Codification of Material.	
4.4	<u>Stores and Material Records –</u> Bin Card, & Store Ledger etc.	
4.5	<u>Issue of Material and Pricing Methods of Issue of Material:-</u> (a) FIFO. (b) LIFO. (c) Simple Average Methods. (d) Weighted Average Methods.	
4.6	Stock valuation, Use of computer in store Accounting.	

Unit 5	Inventory Control	
5.1	Stock Taking, Periodic and Perpetual Method.	08
5.2	ABC Analysis.	
5.3	Inventory Ratios.	
Unit 6	Labour Cost, Remuneration And Incentives	
6.1	Records & Methods Of Time Keeping and Time Booking Study of New Methods.	12
6.2	<u>Methods Of Remuneration-</u> ❖ Time Rate System, ❖ Piece Rate system, ❖ Taylor's Differential Piece rate System.	
6.3	<u>Incentive Plan-</u> Halsay Premium Plan,	
6.4	❖ Rowan Premium Plan. ❖ Group Bonus Schemes.	
Unit 7	Other Aspects Of Labour	
7.1	Labour Turnover.	10
7.2	Job Analysis & Job Evaluation Key.	
7.3	Merit Rating.	
Unit8	Direct Cost	
8.1	Concept and Illustrations.	02
		Total 48

Note-

Allocation of Marks

50% for Theory

50% for Practical Problem.

❖ **Teaching Methodology**

1. Class Room Lectures.
2. Guest Lectures.
3. Visit to Industries.
4. Group Discussion.
5. Collection of Records & Documents.

❖ **Recommended Books :**

1. S.P. Lyengar - Cost Accounting Principles and Practice, Sultan Chand , & Sons Accounting Taxman's, New Delhi.
2. M.N. Arora - Cost Accounting Principles and Practice Vikas Publishing House Pvt.Ltd. New Delhi.
3. S.N. Maheshwari and S.N.Mittal- Cost Accounting, Theory and Problems, Mahavir book Depot, New Delhi.

4. B.L. Lall and G.L. Sharma - Theory and Techniques of Cost Accounting. Himalaya Publishing House, New Delhi.
5. V.K. Saxena and Vashista - Cost Accounting – Text book. Sultan Chand and Sons – New Delhi
6. V.K. Saxena and Vashista - Cost Audit and Management Audit. Sultan Chand and Sons – New Delhi
7. Jain and Narang - Cost Accounting Principles and Practice. Kalyani Publishers
8. N.K. Prasad - Principles and Practice of Cost Accounting Book Syndicate Pvt. Ltd., Calcutta.
9. N.K. Prasad - Advanced Cost Accounting Syndicate Pvt Ltd., Calcutta.
10. R.K. Motwani - Practical Costing. Pointer Publisher, Jaipur
11. R.S.N. Pillai and V. Bhagavati - Cost Accounting.
12. Horne, Grain and Datar - Cost Accounting and Managerial Emphasis.
13. Cost Accounting - Bhatta HSM, Himalaya Publication
14. Cost Accounting - Prabhu Dev, Himalaya Publication
15. Advanced Cost Accounting - Made Gowda, Himalaya Publication

Journals -

1. Cost Accounting Standards - The ICWA of India, Calcutta
2. Management Accountant - The ICWA of India, Calcutta

Website - icwajournal@hotmail.com

CD: -On Cost-Sheet Prepared by Asian Center for Research and Training, Pune.
Trimurti, 27B, Damle Complex, Hanuman Nagar, Senapati Bapat Road, Pune-16
director_acrtpune@yahoo.co.in

S.Y. B.Com.
Business Statistics Special Paper I
Subject Name -: Business Statistics.
Course Code -: 206 – F.

Objectives:

1. To understand and Master the concepts, techniques & applications of Statistical Methods and Operations Research.
2. To develop the skills of solving real life problems using Statistical Methods.
3. To make students to understand the art of applying statistical techniques to solve some real life problems.
4. To gain knowledge of Statistical Computations.

Sr. No.	Topic	No. of Lectures
Unit 1	Theory of Attributes (up to order three only): Introduction Classification, Notation, dichotomy, types of classes, Order of a class, dot operator to find relation between class frequency (up to order three, Fundamental set of class frequencies, Consistency up to three attributes, Independent and Association of two attributes, Yule's Coefficient of association, example and problems.	14
Unit 2	Multiple Regression, Multiple and Partial Correlation: Introduction, Multiple Regression, Statement of equation of plane of regression of X_1 on X_2 and X_3 , Standard Error of Estimate, Partial and Multiple Correlation, Advantages and limitations of multiple Correlation Analysis. example and problems	16
Unit 3	Vital Statistics : Introduction, Methods of collecting vital Statistics, Mortality rates : CDR, ASDR, STDR (direct method), Fertility rates: CBR, ASFR, TFR, GFR Population Growth rate: GRR and NRR, example and problems	10
Unit 4	Life Tables: Introduction, Construction of life table, functions (l_x , L_x , p_x , q_x , e_x , T_x) and their interpretation, Expectation of life, example and problems.	08
Term 2		
Unit 5	Time Series: Introduction, Definition, Components of Time Series, The Trend, Seasonal variation , Cyclical variation, Irregular variation, Methods of estimating Trends, Moving averages (with periods 3,4,5), Fitting of trend line and second degree curve, Exponential smoothing, Example and problems	14

Unit 6	Simplex Method: Definition of Linear programming problem , Canonical and standard form duality relation between primal and dual, example and problems on simplex method two iterations only, meaning of unbounded solution, basic feasible solution, alternate solution, degenerate solution	14
Unit 7	Transportation Problem (T.P). / optimization (only minimization): Introduction, balanced and unbalanced TP, Initial Basic Feasible Solution IBFS using NWCR, MMM, VAM, Optimal solution using MODI method. Example and problems.	14
Unit 8	Assignment Problem (A.P): Introduction, concept minimization and maximization, Hungarian method example and problems	06

Recommended Books :

1. S.P Gupta - Statistical Methods
2. S.C. Gupta - Fundamentals of Statistics
3. J.S Chandran - Statistics for Business and Economics
4. Dr. A.B. Rao - Quantitative Techniques for Business
5. Business Statistics - S. C. Gupta, Gupta Indra
6. Operation Research - V. K. Kapoor
7. Statistical Methods - S. P. Gupta

S.Y. B.Com.
Business Entrepreneurship Special Paper I
Subject Name -: Business Entrepreneurship.
Course Code -: 206 – G.

Objectives:

1. To create entrepreneurial awareness among the students.
2. To provide the conceptual background of types & patterns of Entrepreneurship
3. To develop Entrepreneurial competencies among students.

Term – I		
Sr.No.	Topic	No. of Lectures
<u>UNIT1</u>	<u>Entrepreneur & Entrepreneurship</u> Definition, meaning - functions of an entrepreneur - Need & importance of Entrepreneurship - Problem of unemployment - importance of wealth creation - Enterprise v/s Entrepreneurship - Self-employment v/s Entrepreneurship - Entrepreneurial Competencies - Behavioral pattern of an Entrepreneur - Entrepreneurial Motives - David C. McClelland's Theory of Need for Achievement & Kakinada Experiment	12
<u>UNIT2</u>	<u>Study of Biographies of Entrepreneurs (Co-operatives sector)</u> 1. Dr. Vitthalrao Vikhe Patil, Pravranagar 2. Karamveer Bhaurao Patil, Satara 3. Shree. Bhausahab Hire, Nashik 4. Sahkar Maharshi Bhausahab Santuji Thorat, Sangamner 5. Shree Ratnappa Kumbhar, Sangali 6. Shree Dhanjajrao Gadgil, Pune	12
<u>UNIT3</u>	<u>Creativity & Innovation</u> Creativity – meaning - Creativity Process - Techniques & tools of creativity Innovation: Meaning - Sources of innovation – Peter Drucker's Principles of innovation - Do's & Don'ts of innovation	12
<u>UNIT4</u>	<u>Business Ethics & Social Responsibility of Business</u> Business goals - Social responsibility - Business Ethics – Social responsibility towards their stakeholders: Investors – Owners – employees - Govt. & Society at large - Leadership by Example - Code of ethics - Ethical structure - Social Audit Brief introduction to corporate Governance	12

Term – II		
Sr. No.	Topic	No. of Lectures
<u>UNIT1</u>	<u>Group Entrepreneurship</u> Concept - meaning & significance - Individual Entrepreneurship v/s Group Entrepreneurship - Advantages & disadvantages of Group Entrepreneurship Self-Help group - Definition - meaning & Evolution - Nature - scope of – SHG - Administration functions & operation SHG's - Do's & Don'ts with suitable illustration of Self-Help group	12
<u>UNIT2</u>	<u>Various Entrepreneurial opportunities - Role of service sector in national Economy</u> Types of service ventures, Service - industry management, Success	12

	factors in service ventures - Opportunities to service industry in rural & urban areas Distinction between service industry & manufacturing industries.	
<u>UNIT3</u>	Franchising – Definition - meaning & Types - Advantages to the franchisee & franchisor - Franchisee Relationship Steps in starting franchisee - Cautions in franchising - Business process outsourcing	12
<u>UNIT4</u>	Challenges in Entrepreneurship Development Challenges-Social, Cultural, Educational, political, economical, International situation, Cross Cultural aspects Measures & Challenges of globalization & entrepreneurship development in India	12

Recommended Books :

1. Desai Vasant - “Dynamics of Entrepreneurial Development & Management”, Himalaya Publication House.
2. Hisrich Robert D. & Michael, ‘Entrepreneurship’, Tata McGraw Hill Publishing Company, New Delhi.
3. Chary S.N. “Business Guru speak”, Macmillan Business Books 2002
4. Drucker Peter-Innovation & Entrepreneurship Heinemann London (1985)
5. Piramal Gita-Business Legends – Penguin Book India (p.)Ltd.1998.
6. Gupta & Shrinivasan ‘Entrepreneurial Development’, Sultan Chand & Co.
7. Pandit Shrinivas- Thought Leaders- Tata McGraw Hill Publishing Company.
8. Devkar Yogiraj -‘Udyojakata’ Continental Publication,Pune.
9. Piramal Gita-‘Business Maharaje’ Tra.Ashok Jain,Mehata Publishing House,Pune.
10. Amrutghatha, Amey Prakashan, Pune. (Autobiography of Bhausahab Thorat)
11. Amrutmanthan , Amey Prakashan, Pune. (Autobiography of Bhausahab Thorat)

Journals :

1. ‘Journal of Entrepreneurship’, Entrepreneurship Development Institute of India,Ahmedabad.
2. Mahratta Chamber of Commerce, Industries & Agriculture, Pune’s Magazine – “Sampada”.
3. MCED’s –“Udyojak”.
4. “Vanijya Vishwa” ,The Poona Merchant Chamber’s Magazine.

VCD’s on ‘Entrepreneurship’ & ‘Motivation’ Produced by Asian Centre for Research & Training ‘Trimurti’,27/B,’Damle Bunglow’,Hanumannagar, Senapati Bapat Road,Pune 411016.

Email: director_acrt@yahoo.co.in,acrtpune@gmail.com

[www.http://sites.google.com/site/acrtpune](http://sites.google.com/site/acrtpune).

Practical’s : At least 4 practical’s should be completed during the academic year.

1. Interview with entrepreneur.
2. Case study of each entrepreneurs mentioned in syllabus (5).
3. Social Responsibility of business.
4. Visit to industry.
5. Social audit.
6. Business Ethics.
7. S H G
8. Group entrepreneurship.
9. Franchising.
10. Information about service industry.

S.Y. B.Com.
Marketing Management Special Paper I
Subject Name -: Marketing Management.
Course Code -: 206 – H.

Objectives:-

- To orient the students recent trends in marketing management
- To create awareness about marketing of eco friendly products in the society through students
- To inculcate knowledge of various aspects of marketing management through practical approach
- To acquaint the students with the use of E-Commerce in competitive environment
- To help the students understand the influences of marketing management on consumer behavior

FIRST TERM

Unit No.	Unit Details	Lectures
1.	Elements of Marketing Management: Meaning, Nature and Scope of Marketing Management - Components of Marketing Management - Marketing Management Philosophy - Marketing Characteristics in Indian context - Marketing Management process - Marketing Planning.	16
2.	Current Marketing Environment in India : A) with special reference to Liberalization, Globalization and Privatization- economic environment- demographic- technological - natural - political - socio cultural. B) Change in market practices- global marketing- case studies	10
3.	Marketing Communications – Meaning, Definition and objectives - Marketing Communication Mix- Traditional Media-New Age Media-Marketing Communication through product cues – Different forms of appeal for communication.	12
4.	Services Marketing :- Unique features of Services - classification of services – Growth of Services: The global and the Indian scene- new generation services – tasks involved in services marketing.	10

SECOND TERM

Unit No.	Unit Details	Lectures
5.	E- Marketing:- Meaning, Definition and utility of e-marketing. Advantages, limitations and challenges before e – marketing. Online and Offline marketing, Present status of e-marketing in India, Scope for e -marketing in Indian scenario – online marketing strategies	14
6.	Rural Marketing:- Introduction – basic features – contemporary rural marketing environment- problems, challenges and marketing strategies – present status of rural marketing in India.	12
7.	Green Marketing:- Meaning, Definition and Importance - Role of Marketing Manager in Green Marketing- Marketing mix of green marketing – principles of success of green	12

	products – case studies.	
8.	Consumer Behavior and Buying decision process: Definition- consumer behavior and marketing – factors influencing consumer behavior and buying decision- various buying motives – stages involved in buying decision	10

Suggested references Books

1. Marketing Management – Philip Kotler
2. Marketing Management – Rajan Saxena (Latest Edition)
3. Marketing Management, Indian context – global prespective -Ramaswami Namakumari
4. Marketing Management – Pankaj Madan & Hemraj Verma Amit Mittal
5. Marketing Management (Text and Cases) - Rajagopal
6. Marketing Concepts and Cases – Michael J. Etzel, Bruce J. Walkar, Willam J. Stanton, Ajay Pandit
7. Introduction to e- Commerce- Nidhi Dhawan
8. Electronic Commerce –Bharat Bhaskar
9. Retailing and E-tailing - S.L.Gupta, Mittal & Nayyar
10. E- Commerce: Fundamentals and Applications- Henry Chan, Lee
11. Marketing in the new global order: challenges and opportunities –Tapan Panda and Navin Donthu

S.Y. B.Com.
Special Paper I
Subject Name -: Agricultural and Industrial Economics.
Course Code -: 206 – I.

Objectives:

1. To study the basic concepts of Agricultural and Industrial Economics.
2. To understand the working of the Agricultural and industrial sector.

Term-I		
Sr. No.	Topic	No. of Lectures
Unit-1	<u>Basic Concept of Agricultural Economics</u> 1.1 Definition , Nature and scope of Agricultural Economics 1.2 Importance of Agriculture in Indian Economy	08
Unit-2	<u>Role of Agriculture</u> 2.1 Role of Agriculture in Economic Development 2.2 Peculiarities of Agriculture as Sector of Economy. 2.3 Nature of risk and uncertainly in Agriculture. 2.4 Measures to control risk and uncertainly	10
Unit-3	<u>Organization of Agricultural Production</u> 3.1 Concept of forming firm 3.2 Farm Management inputs and outputs 3.3 Size of the farm small versus large.	10
Unit-4	<u>Demand for Agricultural Product</u> 4.1 Nature of demand for agricultural product 4.2 Different purposes of demand 4.3 Factor affecting demand for agricultural product 4.4 Pattern and trend of demand main agricultural product	10
Unit-5	<u>Supply of Agricultural Product</u> 5.1 Nature of supply of agricultural product 5.2 Factors affecting supply (Technology, Fertilizers, Irrigation etc.) 5.3 Supply during short and long period.	10
<u>Term-II</u>		
Unit-6	<u>Introduction of Industrial Economics</u> 6.1 Definition , meaning, nature, scope and importance of Industrial Economics. 6.2 Scope and significance of Industrial Economics 6.3 The concept of plant, firm and industry.	8

Unit-7	<u>Organization of Industrial Production</u> 7.1 Traditional and modern approach to the theory of firm 7.3 Optimum size of firm 7.3 Factors affecting optimum size of firm	10
Unit-8	<u>Location of Industry</u> 8.1 Theories of location of industries-Weber and Sergeant Florence 8.2 Factors affecting location of industries	10
Unit-9	<u>Diversification and combination</u> 9.1 Meaning of diversification of Industry 9.2 Types of diversification of firm 9.3 Industrial Integration 9.4 Combination of Industries 9.5 Industrial Monopoly – Causes and affects 9.6 Survival of small firm in modern economy	10
Unit-10	<u>Industrial Productivity and Efficiency</u> 10.1 Industrial productivity – meaning 10.2 Factors affecting industrial productivity 10.3 Industrial efficacy – Economic and Non-Economic aspect	10

Recommended Books :

1. Agricultural Economics and Indian Agriculture: Dr. S.S. Chinna – Kalyani Publishes – Ludhiana – New Delhi.
2. Agricultural Problems in India – C.B.Mammoria 1976.
3. Hey D.A. and D.J.Morris – Industrial Economics and Organization: Theory and Evidence.
4. S.C.Kuchal – Industrial Economy of India, 1981.
5. Cherunillam International Economics 1999, Tata McGraw Hill Co.Ltd.
6. Dutt and Sundharam – Indian Economy, S.C.Chand & Co. 2008.

S.Y. B.Com.
Special Paper I
Subject Name -: Defense Budgeting, Finance & Management.
Course Code -: 206 – J.

Objective: To acquaint the students with the economic and financial aspects of Defence.

Term – I		
Sr. No.	Topic	No. of Lectures
UNIT 1	Defence as an Economic Problem a) Silent Features of India Economy b) Relationship between defence and Economy c) Defence as an Economic Problem – Meaning and Importance	12
UNIT 2	Peace Time Economy a) Aims and Objectives b) Merits and Demerits c) Pre-war preparation d) Mobilization of resource for defence	12
UNIT 3	War–time Economy a) Aims and Objectives b) Merits and Demerits c) Techniques of controlling inflation and rationing Methods of war finance	12
UNIT 4	Defence production in India a) Role in Defence Production Public Sector Undertaking b) Role of private sector in Defence production c) Role of Foreign Collaboration d) Role of Defence Research and Development Organization e) Self Reliance Programme & Transfer of Technology	12
Term – II		
Sr. No.	Topic	No. of Lectures
UNIT 5	Defence planning in India a) Meaning and Importance of Defence Planning b) Meaning and programming c) Definition of Budget and Budgeting d) Types of Budgeting e) Importance of Zero Base Budgeting	12

UNIT 6	Defence Expenditure a) Productivity or Non-Productivity b) More or Less Analysis c) Causes of Increasing Defence Expenditure d) Impact of Decreased Expenditure on Armed Forces	24
UNIT 7	Factors determining the size of Defence Expenditure a) External and Internal Security Threat Perception b) Political Ideology c) Leadership d) National Power/Capability etc.	12
UNIT 8	Analysis of India's Defence Expenditure a) Phase I – 1947-1962 b) Phase II – 1962-1971 c) Phase III – 1971-1990 d) Phase IV – 1990 to present day	12

Recommended Books :

1. Agrwal, Rajesh K., Defence Production & Development (New Delhi: Gulab Vazirani for Arnold – Heinemann Publisher, 1978)
2. Deger, S. & Sen, S., Military Expenditure in the Third World Countries: The Economic Effects (London: Routledge & Kegan Paul, 1986)
3. Dutta, Meena & Sharma Jai Narain., Defence Economics (New Delhi: Deep & Deep Publication)
4. Ghosh, Ameya, India's Defence Budget & Expenditure Management in a Wider Context (New Delhi: Lancer Publishers & Spantech, 1996)
5. Kennedy, Gavin, Defence Economics (London: Gerald Duckworth and Co. Ltd., 1983)
6. Hitch, Charles J., and Mcken, Ronald N. The Economics of Defence in the Nuclear Age (Combridge, Mass: Havard University Press, 1960)
7. Khanna, D. D. and Mehrotra, P. N. Defence Versus Development: A case study of India, (New Delhi: Indus Publication Company, 1993)'
8. Nada, Ravi, National Security Perspective Policy and Planning (New Delhi: Lancer Books, 1991)
9. Subramanyam, K., India's Security Perspective, Policy and Planning (New Delhi: Lancer Books, 1991)
10. Thomas, Raju, G. C., The Defence of India: A Budgetary Perspective of Strategu and Politics (Meerut: The Macmillan Company of India Limited, 1978)
11. Thomas, Raju G. C., Indian Security Policy (Princeton, New Jersey: University Press, 1986)

S.Y. B.Com.
Special Paper I
Subject Name -: Insurance Transport and Clearance
Course Code -: 206 – K.

Objectives:

- 1) To acquaint the students with basic concepts in insurance and tourism.
- 2) To develop a right understanding to study various facets of insurance and tourism.
- 3) To aware about the Role and importance of insurance and tourism business

Term-1		
Sr. No.	Topic	No. of Lecturers
Topic -1	Basic principles of insurance, Working of Life Insurance business, Organizational structure of Life Insurance business, Life Insurance scenario in India.	10
Topic-2	Types of life insurance policies- whole life, endowment, money back, group insurance, unit linked insurance policy, pension plan. Role of insurance agent, field officer, surveyor, assessor and responsibilities of insurer.	10
Topic-3	Principles of General Insurance, Comparison between General and Life Insurance. Study and scope of General Insurance in India. Introduction to the marketing of General Insurance business in India. Insurance contribution to Gross Domestic Product (GDP).	10
Topic-4	Role of General Insurance Company of India (GIC). Types of General Insurance- Fire, Marine, Motor, Personal Accident, Health, Engineering, Crop etc. Study of various policies and insurance cover , study of risk factors, insurance claims.	10
Topic-5	Regulations of insurance business in India, Insurance Regulatory Development Authority (IRDA) Economical Growth and Employment Development in Insurance Sector. Opportunities and challenges before Indian Insurance business, Career in insurance business.	08
Term-II		
Sr. No.	Topic	No. of Lecturers
Topic -1	Tourism-Types of tourists, tourism, recreation and leisure and study of tourism activities. Inter regional and intra regional tourism. Potential areas of tourism development and need for tourism planning, Govt. policies for Tourism Development.	10

Topic-2	Forms of Tourism- Religious, ethnical, geographical, educational, health, sports, heritage, historical, hill region and coastal region. Potential areas for tourism development- Health, Agro & Sport tourism.	10
Topic-3	Tour operators- their responsibilities, planning of tour- pre tour and post tour activities. Essentials of tour planning tour packages- types of tours, group tours, packages, travel agency resources, time table, calendars, study of local weather conditions. Carrier in tourism industry.	10
Topic-4	Tourism Accommodation- significance and types of accommodation - Hotels holiday homes, resorts, cottages, tent houses, dharamshalas. Hotel meal plans, rates, rooms category, locations and reservations. Current trends in Tourism industry.	10
Topic-5	Impact of tourism on -Economy- environment, social and cultural aspects of the society. Current scenario of Tourism in India. Opportunities and challenges before Indian Tourism.	08

Recommended books and reports

1. Insurance- Principles and Practices- M.N. Mishra, Dr. S.B. Mishra (S. Chand)
 2. Insurance- Principles and Practices- Vinayakan, N.M. Radhaswamy & V. Vasudevan.
 3. Life Insurance in India- G.R. Desai
 4. Insurance Theory and Practice-Nalini Prava Tripathy, Prabir Pal (PHI Publication)
 5. General Insurance- Principles and Practice- by P. Mitra, Academic Publication
 6. Life Insurance in India- by Suryapal Singh, Sahitya Bhavan Publication
 7. IRDA -Annual Reports & Journal.
 8. LIC council reports.
 9. Annual Reports of LIC of India.
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1. Tourism Promotion and Development- G.S. Batra & R.C. Agarwal
 2. Tourism Industry in India- Dr. M. Selvam.
 3. Tourism Development in India- A Satish Babu
 4. Geography of Transport in India- Dr. B.C. Vaidya, Concept Publication, New Delhi.
 5. Tourism Development in India- By S.J. Srivastava.

S.Y. B.Com.
Computer Programming and Application Special Paper I
Subject Name -: Computer Programming and Application.
Course Code -: 206 – L.
(First Term) (VB Script)

Objective:

- To learn to use VBScript, transform Web pages from static text and images into functional, interactive, and dynamic e-commerce tools.
- To embed VBScript code in an HTML document.
- To use VBScript operators; write code that makes decisions based on existing conditions, using control structures and loops.
- To enable communication with a Web page visitor using Message and Input boxes.
- To use the DOM to control the layout of HTML pages, add effects, and get information from users.

Sr. No.	Topic Name	No. of Lectures
<u>Unit 1</u>	<u>Introduction To VBScript</u> 1.1VBScript and the Web 1.1.1 VBScript's Popularity 1.1.2 VBScript Defined 1.1.3 Platform or Host Dependence 1.1.4 Scripting Languages 1.2VBScript Basics 1.2.1 Embedding VBScript in HTML 1.2.2 VBScript to Display Information 1.2.3 Hiding VBScript from Older Browsers 1.2.4 Code Documentation and Formatting	06
<u>Unit 2</u>	<u>Variables ,Arrays, and VBScript Operators</u> 2.1 Variables, Subtypes, and Constants 2.1.1 Variables Defined, Declared 2.1.2 Variants and Subtypes 2.1.3 Assigning Values to Variables 2.1.4 Determining Variant Subtype 2.1.5 Data Subtype Conversion 2.1.6 Numeric and Literal Constants 2.2 Arrays 2.2.1 Groups of Similar Variables 2.2.2 One-Dimensional Arrays 2.2.3 Multi-Dimensional Arrays 2.3 VBScript Operators 2.3.1 VBScript Operators 2.3.2 Arithmetic Operator Precedence 2.3.3 Comparison Operators 2.3.4 Logic Operators 2.3.5 String Concatenation	14

	2.4 Program Control and Structure 2.4.1 Control Statements 2.4.2 Four Control Structures 2.4.3 Using Loops	
Unit 3	<u>VBScript Procedures and Control Structures</u> 3.1 VBScript Procedures 3.1.1 Procedures 3.1.2 Subroutine Procedures 3.1.3 Scope of Variables 3.1.4 Function Procedures 3.1.5 Randomize and RND 3.2 Strings and Numbers 3.2.1 Strings 3.2.2 Formatting Numbers 3.3 Message and Input Boxes 3.3.1 Message Box 3.3.2 Input Boxes 3.4 Dates and Times 3.4.1 Dates and Times 3.4.2 Splitting Up Dates and Times 3.4.3 Page Updates	10
Unit 4	<u>Handling Documents and Events</u> 4.1 The Document Object Model 4.1.1 What Does VBScript Manipulate? 4.1.2 History and Background of the DOM 4.1.3 Properties, Methods, Events and Collections 4.1.4 Internet Explorer 5.x DOM 4.2 Event Handlers 4.2.1 Top-Down vs. Event-Driven Programming 4.2.2 Mouse Events 4.2.3 Keyboard Events 4.2.4 Validation and Error Handling	10
Unit 5	<u>Working With Database</u> 5.1 Basic Database Connectivity (MS Access or MySQL) 5.1.1 Introduction to Basic Queries with Select, Insert, Update, Delete commands 5.1.2 Send and Retrieve Data through Forms	08

Books:

- VBScript Programmer's Reference-Third Edition by Adrian Kingsley-Hughes, Kathie Kingsley-Hughes and Daniel Read
ISBN-13 9788126514915, WROX-Wiley
- Microsoft VBScript: Step by Step Paperback by Bargain Price
- VBScript in a Nutshell, 2nd Edition, Paul Lomax, Matt Childs, Ron Petrusha, ISBN-13: 978-0596004880, Publication- O'Reilly Media

(Second Term) (RDBMS)

Objective:

You will learn how to create and access data using Structured Query Language (SQL), the programming language used by most relational database management systems.

<u>Sr. No.</u>	<u>Topic Name</u>	<u>No. of Lectures</u>
<u>Unit 1</u>	<u>Structured Query Language – I</u> 1.1 Introduction 1.2 What is RDBMS? 1.3 Introduction to SQL 1.4 SQL Language Elements 1.5 Classification of SQL commands 1.7 Creating and Managing Tables 1.8 Applying Constraints	10
<u>Unit 2</u>	<u>Structured Query Language – II</u> 2.1 Introduction 2.2 Basic Data Retrieval 2.2.1 Column Aliases 2.2.2 Duplicate Rows 2.3 Restricting and Sorting Data 2.4 Dual Table 2.5 Single Row Functions 2.5.1 Numeric Functions 2.5.2 Character Functions 2.5.3 Date Time Functions 2.5.4 Conversion Functions 2.6 Joins	10
<u>Unit 3</u>	<u>Advanced Queries And Database Objects</u> 3.1 Introduction 3.2 Aggregate Functions 3.3 Group by Having Clause 3.3.1 Comparing Having clause and where clause 3.4 Creating Other Database Objects 3.4.1 Views 3.4.2 Indexes 3.4.3 Sequences 3.4.4 Synonyms 3.5 Sub queries 3.5.1 Sub query in DDL and DML commands	10
<u>Unit 4</u>	<u>Security Privileges, SET Operators & Datetime Functions</u> 4.1 Introduction 4.2 Enhancements to GROUP BY function 4.2.1 ROLLUP Operator	10

	4.2.2 CUBE Operator 4.2.3 GROUPING Function 4.3 SET OPERATORS 4.3.1 INTERSECT Operator 4.3.2 UNION Operator 4.3.3 UNION ALL Operator 4.3.4 MINUS Operator 4.4 DATETIME FUNCTIONS 4.4.1 Parsing Date and Time 4.5 Controlling User Access 4.5.1 System privileges 4.5.2 Object Privileges 4.5.3 What a user can grant? 4.5.4 GRANT/REVOKE PRIVILEGES	
<u>Unit 5</u>	<u>Advanced Subqueries</u> 5.1 Introduction 5.2 Multiple Column Subqueries 5.2.1 Coding Subqueries in the FROM clause 5.3 Scalar Subqueries 5.4 Correlated Subquery 5.5 WITH clause 5.5.1 Functions of the WITH clause 5.6 Hierarchical Queries	08

Books:

- SQL: THE COMPLETE REFERENCE 3rd Edition Author: James Groff, Paul Weinberg, Andy Oppel
Tata Mc-graw Hill Publishing Co.ltd.-New Delhi ISBN : 9781259003882
- SQL, PL/SQL: The Programming Language Of Oracle (With CD-ROM) 4th Revised Edition Author: Ivan Bayross BPB PUBLICATIONS
ISBN-13 9788176569644
- Oracle Database 11G: The Complete Refere 1st Edition Author: KEVIN LONEY , Tata Mcgraw Hill Education Private Limited
ISBN-13 9780070140790
- MySQL, The Complete Reference By Vikram Vaswani, ISBN 0-07-222477-0, Tata McGraw Hill
- The Complete Reference in Microsoft Access 2007, Andersen, ISBN13: 9780070222854
- Learning MySQL by O'reilly, Seyed M.M Tahaghogi, Hugh E. Williams, Oreilly Media

Savitribai Phule Pune University
Faculty of Commerce & Management
S Y B Com (Semester III)
(Choice Based Credit System)
Revised Syllabus (2019 Pattern)

CORE COURSE – I

Subject: Business Communication-I

Course Code: 231

Total Credits: 04 (Theory 03 + Practical 01=04)

1. Objectives of the Course:

- a. To understand the concept, process and importance of communication.
- b. To acquire and develop good communication skills requisite for business correspondence.
- c. To develop awareness regarding new trends in business communication.
- d. To provide knowledge of various media of communication.
- e. To develop business communication skills through the application and exercises.

Medium of Instruction: English

Unit No.	Unit Title	Contents	Skills to be developed
1	Introduction of Business Communication	1.1 Introduction, Meaning, Definition. 1.2 Characteristics, Importance of communication. 1.3 Principles of communication, Process of communication 1.4 Barriers to communication & Remedies. 1.5 Methods and Channels of Communication.	i. Conceptual Clarity and understanding the Meaning , Characteristics and Importance of communication. ii. To understand the Principles and Process of communication iii. To understand Barriers to communication
2	Business Letters	2.1 Meaning and Importance 2.2 Qualities or Essentials, Physical Appearance 2.3 Layout of Business	i. To understand the importance of business letters. ii. To understand Essentials

		Letter	Qualities of business letters.
3	Soft skills	3.1 Meaning, Need, Importance. 3.2 Elements of soft skills. a) Manners & Etiquettes, Grooming. b) Effective Listening & Speaking c) Interview Skills. d) Presentation e) Group Discussion. f) Problem-solving skills G)Time management abilities	i. To acquire the fundamental knowledge about soft skills ii. To understand the Elements of Soft Skills
4	Resume writing & Job Application letters	4.1 Introduction, essential elements of Bio data, Resume writing, Curriculum Vitae. 4.2 Meaning & Drafting of Job Application letter.	To understand Resume writing and Job application letter.

Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit ,	Relevant You Tub Videos ,Relevant slide show, online Video Short Film Show	Individual assignment report	Understanding of basic knowledge of Business Communication .

		internet resources			
2	10	Pre reading, Class discussion, internet resources, Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion, Library /Home Assignment ,Internal Assignment, case study	Relevant You Tub Videos , Short Film Show, A.V Application	Visit to Office	Understanding the importance and Essentials Qualities of business letters.
3	18	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources ,students Seminar/Workshop case study	Relevant You Tub Videos.PPT ,AV Application, online video	Presentation	Understanding the knowledge about soft skills.To create awareness about soft skill among the students
4	08	Guest Lectures of eminent Personalities , Group Discussion, Library visit ,Home Assignment ,case study	Online Videos, Relevant slide show , Short Film Show	Individual Resume / Bio-Data Writing	To create ability among the students for writing resume and Job application letter. To create ability among the students for Business Correspondence
Total	48				

References:

Sr. No	Title of Book	Author/s	Publication	Place
1	Business Communication	K. K.Sinha	Galgotia Publishing	New Delhi.

			Company	
2	Business Correspondence & Report Writing	R. C. Sharma & Krishan Mohan	Tata McGraw Hill Publishing Co. Ltd.	New Delhi.
3	Communication	C.S. Rayudu	Himalaya publication	Mumbai
4	Business Communication	Asha Kaul	Prentice Hall of India	New Delhi.
5	Business Communication	Vasishth Neeru & Rajput Namita	Kitab Mahal	Allahabad
6	Soft Skills	Dr. Alex	S.Chand Publication	Delhi
7	Essentials of Business Communication	Rajendra Pal & Korlahalli	Sultan Chand & Sons	New Delhi.
8	Managerial Communication	P. D. Chaturvedi & Mukesh Chaturvedi	Pearson	Delhi

Guidelines for completion of Practical's:

- 1) At least three Practical's should be completed during each semester by students in consultation with subject teacher.
- 2) Practical should be based on visit as well as library assignments, Project based, Activity based.
- 3) A subject teacher has special privileges to make the allotment of practical topics.
- 4) Students should discuss with the subject teacher at the time of selection of practical topics.
- 5) If a student fails to complete minimum number of practical's, then the student shall not be eligible for appearing at the practical examination.

CORE COURSE – II

Subject: CORPORATE ACCOUNTING -I

Course Code: 232

Total Credits: 03

Preamble

In the modern economic environment, the corporate sector is one of the major contributors towards GDP of any country and is also one of the largest and fastest growing sectors for providing employment opportunities. In last decade, the corporate sector has seen a massive growth in economic terms i.e. the volume of turnover, income and expenses etc. and also in terms of expansion of business across the globe. Accounting plays a vital role in this growth and to ensure safeguard of the interest of the stakeholders and the society. It is, therefore, important to educate the students of commerce in the accounting practices adopted by the corporate organizations.

Objectives of the course:

1. To acquaint the student with knowledge about various Concepts , Objectives and applicability of some important accounting standards associated with to corporate accounting.
2. To develop understanding among the students on the difference between commencement and incorporation of a company and the accounting treatment for transactions during the two phases.
3. To update the students with knowledge for preparation of final accounts of a company as per Schedule III of the Companies Act 2013
4. To empower to students with skills to interpret the financial statements in simple and summarized manner for effective decision making process.
5. To acquaint the student with knowledge about various Concepts , Objectives and applicability of some important accounting standards associated with to corporate accounting.
6. To develop understanding among the students on the difference between commencement and incorporation of a company and the accounting treatment for transactions during the two phases.
7. To update the students with knowledge for preparation of final accounts of a company as per Schedule III of the Companies Act 2013
8. To empower to students with skills to interpret the financial statements in simple and summarized manner for effective decision making process.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Skills to be developed
1.	Accounting Standards	<ul style="list-style-type: none">• Standards 5, 10, 14 Accounting and 21• Its applicability with Practical Examples.	<ul style="list-style-type: none">• To develop conceptual understanding about various Accounting Standards and its applicability in corporate accounting.

2.	Profit Prior to Incorporation	<ul style="list-style-type: none"> • Introduction to the process on incorporation of a company. • Difference between incorporation and commencement of a company. • Accounting of incomes and expenses during Pre- and Post-Incorporation period. • Basis of allocation and apportionment of income and expenses for the Pre- and Post-Incorporation period. 	<ul style="list-style-type: none"> • To develop Conceptual understating about Pre- and Post-Incorporation period. • To develop analytical skills (by understanding the allocation and apportionment of incomes and expenses for the Pre- and Post-Incorporation)
3.	Company Final Accounts	<ul style="list-style-type: none"> • Preparation of Company Final Accounts- Forms and contents as per Provisions Schedule III of the Companies Act 2013 (with the amendments for the relevant academic year) • Related adjustments and their treatment. 	<ul style="list-style-type: none"> • To understand Practical Application of financial statements along with various adjustments. • To understand revised format of company final accounts.
4.	Valuation of Shares	<ul style="list-style-type: none"> • Concept of Valuation, • Need for Valuation, • Special Factors affecting Valuation of Shares, Methods of Valuation – • Net Assets Method, • Yield Basis Method, • Fair Value Method 	<ul style="list-style-type: none"> • To understand the concept and need of valuation of shares • To understand the methods of valuation of shares.

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	Use of e-contents, online lectures and quiz, PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	Individual assignment report	Developing understanding on applicability of various Accounting Standards

2	12	Use of e-contents, online lectures and quiz, PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	---	Knowledge about types of profit and their apportionment
3	18	Use of e-contents, , online lectures and quiz, PowerPoint Presentations	Study of the Final Accounts an Indian Company from its Annual Report	Individual assignment of solving practical problems	Conceptual Clarity and Practical understanding
4	08	Valuation of shares of an Indian company based on Financial statements of latest relevant financial year by a Chartered Accountant / Subject Expert	Lectures of experts available on YouTube and other digital platforms	Group Activity - Project Report on Valuation of shares of an Indian company based on Financial statements of latest 3 relevant financial years	Analytical skills enhancement and Decision making skills of students will be developed

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ / Small Practical Problems	As per University norms	--
Unit – II	Practical Problems	As per University norms	--
Unit – III	Practical Problems written Test / MCQ	As per University norms	--
Unit – IV	Written Test /Report writing on valuation of shares of a company from its latest annual report	As per University norms	Certificate course on GST

List of Books Recommended :-

1. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co.Ltd.)
2. Advanced Accountancy: By S.P. Jain & K.N. Narang (Kalyani Publishers)
3. Advanced Accountancy: By R.L.Gupta & M. Radhaswamy (Sultan Chand & Sons)
4. Company Accounts: By S.P. Jain & K.L. Narang
5. Advanced Accounts: By Paul Sr.
6. Corporate Accounting: By Dr. S. N. Maheshwari & S.K. Maheshwari
7. Corporate Accounting: By Mukharji & Hanif
8. Accounting Standards –as issued by Institute of Chartered Accountants of India.

CORE COURSE – III

Subject: BUSINESS ECONOMICS (MACRO)

Course Code: 233

Total Credits: 03

Preamble:

An approach to Macro Economics is to examine the economy as a whole. This paper aims to provide knowledge about macroeconomics that includes macro-economic variables and theories. It also aims to make students familiar about the various concepts of macro-economics, national income, macro-economic theories and its implications in the economy.

Scope of the programme –

Basic Knowledge of Macro Economics

Objectives –

- To familiarize the students to the basic theories and concepts of Macro Economics and their application.
- To study the relationship amongst broad aggregates.
- To impart knowledge of business economics.
- To understand macroeconomic concepts.
- To introduce the various concepts of National Income.

Unit	Name and Content of the Chapter	Purpose & Skills to be Developed
Unit 1	Introduction to Macro Economics	Purpose: To make the students aware of concepts in macroeconomics Skills: Analyze & think critically, develop writing skills.
	1.1 Meaning and Definition of Macro Economics.	
	1.2 Nature of Macro Economics.	
	1.3 Scope of Macro Economics.	
	1.4 Significance of Macro Economics.	
	1.5 Limitations of Macro Economics.	
	1.6 Macro Economic Objectives.	
Unit 2	National Income	Purpose: To make the students aware of basic concepts in national income Skills: Analyze & think critically, quantitative aptitude and develop writing skills.
	2.1 Meaning and Importance of National Income.	
	2.2 Concepts: 2.2.1 Gross National Product (GNP) 2.2.2 Net National Product (NNP) 2.2.3 Gross Domestic Product (GDP) 2.2.4 Per Capita Income (PCI) 2.2.5 Personal Income (PI) 2.2.6 Disposable Income (DI)	
	2.3 Measurement of National Income:	

	Methods and Difficulties	
	2.4 Circular Flow of Income: Two sector model	
Unit 3	Theories of Output and Employment:	Purpose: To help the students to understand the concept of Employment and theory Output. Skills: Understanding, writing skills, critical thinking.
	3.1 The Classical Theory of Employment: J.B.Say	
	3.2 Keynes Criticism on Classical Theories of Employment.	
	3.3 Keynesian Theory of Employment.	
Unit 4	Consumption, Saving and Investment:	Purpose: To understand the concepts of Multiplier and Accelerator. To impart knowledge of Consumption Function, Saving and Investment Function Skills: Understanding, ability to analyze, quantitative aptitude and writing skills.
	4.1 The Consumption Function:	
	4.1.1 Meaning	
	4.1.2 Marginal Propensity to Consume (MPC)	
	4.1.3 Keynes's Psychological Law of Consumption.	
	4.1.4 Determinants of Consumption.	
4.2 The Saving Function:		
4.2.1 Meaning,		
4.2.2 Marginal Propensity to Save (MPS)		
4.2.3 Determinants of Savings		
4.2.4 Relationship between Consumption and Saving Function (MPC and MPS)		
4.3 Meaning and Types of Investment: Gross, Net, Induced and Autonomous.		
4.4 Marginal Efficiency of Capital and its Determinants.		
4.5 Concepts of Investment Multiplier and Acceleration Principal.		

Teaching Methodology:

Unit No.	Total Lectures	Innovative methods to be Used	Film shows and AV Applications	Project	Expected Outcome
1	08	<ul style="list-style-type: none"> Open book discussion Digital lectures Reading Projects 	You tube lectures on macro economics	<ul style="list-style-type: none"> Difference in goals of developed and developing 	Students will understand basic concepts of macroeconomics

				<p>economies</p> <ul style="list-style-type: none"> • Comparison between macro and micro economics 	<p>Will be able to analyze and interpret</p>
2	12	<ul style="list-style-type: none"> • Group discussion • Case studies • Problem solving based learning 	<p>You tube lectures, Lectures on SWAYAM Portal</p>	<ul style="list-style-type: none"> • Difficulties in estimation of National income in India. • Method of National Income used by India 	<p>Will know various concepts of national income Will understand the methods of calculation of national income and difficulties involved therein.</p>
3	14	<ul style="list-style-type: none"> • Pair learning • Group discussion • Open book discussion 	<p>Teacher oriented PPTs. You tube lectures</p>	<p>Critical evaluation of Classical theory Keynesian theory In present context</p>	<p>Will understand Says law of employment Will understand the difference between classical and Keynesian theory Able to interpret Keynes theory of effective demand.</p>
4	14	<ul style="list-style-type: none"> • Group discussion • Teacher c • Games and simulation 	<p>You tube lectures Online PPTs</p>	<ul style="list-style-type: none"> • Changing trends of saving and investment in India • Comparison of the trends of saving and investment in India with any other developed or developing country. • Study the impact of multiplier and acceleration by taking an 	<p>Will understand the concept of saving and investment Will know the effect of multiplier and acceleration in the economy.</p>

				hypothetical example.	
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References:

1. Economics: Paul A Samuelson and William D Nordhaus. McGRAW – HILL international Edition.
2. Macroeconomics: N. Gregory Makiw, Worth Publishers, New York.
3. Macro- Economic Theory: M L Zingan, Vrinda Publications (P) Limited.
4. Samashti Arthshstriy Vishleshan : Shridhar Deshpande, Vinayak Deshpande, Himalaya Publication House.
5. Theories of value: output and employment - John Eatwell, Thames Polytechnic, 1979
6. Businss Economics, Dr.J.P.Mishra, Sahitya Bhavan Publications, Agra.
7. Macroeconomics: A Global Text, Sampat Mukherjee, New Central Book Agency Private Limited (Latest Edition), New Delhi
 8. Macroeconomics: A Rough Guide, in Macroeconomics: A Reader, (Ed.) Brian Snowden and Howard Vane, Routledge
 9. Business Economics (Macro): Dr. Rasal, Bhadane, Fernandes, Idol Publication, Pune-2
 10. Macroeconomics: Theory and Policy, S. Chand & Company Limited. (Latest Edition)
 11. Ben Fine & Ourania Dimakou, Macroeconomics: A Critical Companion, Pluto Press (Latest Edition)
 12. Michel De Vroey, A History of Macroeconomics: From Keynes to Lucas and Beyond, Cambridge University Press (Latest Edition)
 13. Sampat Mukherjee, Analytical Macroeconomics: From Keynes to Mankiw, New Central Book Agency Private Limited
 14. Macroeconomics- K R Gupta, R.K.Mandal, Amita Gupta, Atlantic Publishers and distributor's pvt.ltd.
 15. Money, Inflation, and Business Cycles the Cantillon Effect and the Economy, Arkadiusz Sieroń. Abingdon, Routledge, 2019. NewYork
 16. Macroeconomics: N. Gregory Maki Worth Publishersw, New York
 17. Macro Economics: Rudiger Dornbusch, Stanley Fisher & Richard Startz Tata McGraw Hill Education Private Limited (Latest Edition), US
 18. The General Theory of Employment, Interest, and Money- John Maynard Keynes, General Press
 19. An Analysis of John Maynard Keynes's The General Theory of Employment, Interest and Money- John Collins, CRC Press, 2017.

Suggested Web References

Sr. No	Lectures	Films	Animation	PPTs	Articles
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1.	https://www.youtube.com/watch?v=byqiVAk0dk4	https://inomics.com/insight/10-movies-all-economists-will-love-1292886	https://www.youtube.com/watch?v=B2YYwIElg0c	https://www.slideshare.net/hassanmujtaba7547/frame-work-of-macro-economics-ppt	https://www.journals.elsevier.com/journal-of-macroeconomics/recent-articles
2.	https://www.economicnetwork.ac.uk/teaching/Video%20and%20Audio%20Lectures/Principles%20of%20Macroeconomics	http://www.studyingeconomics.ac.uk/the-little-bits-we-like/films/	https://www.youtube.co.watch=9q27h9o9gJQ	https://sites.google.com/site/davismacroclass/Home/powerpoint-presentations	https://www.britannica.com/topic/national-income
3.	http://web.econ.ku.dk/okocg/MATOEK/Mak%C3%98k2/Mak%C3%98k2-2015/Forel%C3%A6sninger/Pensum-M2-ii-2015-fil-2015.pdf	https://www.cambridge.org/core/books/entertainment-industry-economics/movie-macroeconomics/011C12934F13A076CD4B6D89E8351373	https://journals.sagepub.com/doi/pdf/10.1177/056943451105600106	https://www.slideshare.net/rarichanm/national-income-42518576	https://academic.oup.com/qje/article/73/3/407/1873398

CORE COURSE – IV

Subject: BUSINESS MANAGEMENT -I

Course Code: 234

Total Credits: 03

1. Objectives of the course
 - a. To provide basic knowledge and understanding about various concepts of Business Management.
 - b. To help the students to develop cognizance of the importance of management principles.
 - c. To provide an understanding about various functions of management.
 - d. To provide them tools and techniques to be used in the performance of the managerial job.

2. Depth of the program – fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose / Skills to be developed
1	Management :	<ul style="list-style-type: none">• Meaning definition of Management• Need for Management study• Process and levels of management• Functions of management• Contribution of F.W. Taylor, Henry Fayol, Peter Drucker, Mintzberg and Michel Porter in development of management thoughts	<ol style="list-style-type: none">1. Understanding how management works2. Developing thought process as a manager3. Understanding functions of Management4. Understand the role of Management Thinkers in development of modern management process
2	Understanding Management : Planning and Decision Making	<ul style="list-style-type: none">• Meaning, definition and nature of Planning• Forms and types of Planning• Steps in Planning• Limitations of Planning• Meaning and techniques of Forecasting• Meaning, Types and Steps in Decision Making	<ol style="list-style-type: none">1. How to plan various management activities, programmes and events2. Developing of decision making skills to evaluate various alternatives and situations3. Understanding the concept of forecasting
Unit No.	Unit Title	Contents	Skills to be developed

3.	Management at Work : The process of organizing and staffing	<ul style="list-style-type: none"> • Meaning, Process and Principles of Organizing • Concept of Authority and Responsibility • Delegation of Authority • Difficulties in Delegation of Authority • Need and importance of Staffing • Recruitment : Sources and Methods 	<ol style="list-style-type: none"> 1. Understanding the importance and process of organisation 2. Understanding authority and process of delegation of authority 3. Understanding process of recruitment
4.	Result orientation : Direction and Team Work	<ul style="list-style-type: none"> • Meaning, Elements, Principles, Techniques and Importance of Direction. • Concept of Team Work, Group Dynamics and principles regarding interpersonal communication and Group Behaviour 	<ol style="list-style-type: none"> 1. How to direct a group / team? 2. Team building skills 3. Winning confidence of group members 4. How to initiate healthy discussions to achieve consensus?

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	PowerPoint Presentations, YouTube Videos	Films on Process of Management and Films on Management Thinkers	Poster Presentation on Management Thinkers and their role in present business management	Students will get an idea about the basic managerial process
2	12	PowerPoint Presentations, YouTube Videos	Documentaries	Student group activities which involve Planning and Decision Making	Students will get an idea about how planning works in real life.
3	12	PowerPoint Presentations, YouTube Videos	Lectures on industry experts and documentaries on organizing and staffing	Poster Presentation	Students will understand the process of implementation of both the concepts.
4	12	PowerPoint Presentations, YouTube	documentaries	Student group activities which involve direction and team work.	Students will understand importance of proper direction and

		Videos			team work.
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References :-

1. Essentials of Management - Horold Koontz and Iteinz Weibrich - McGrawhills International
2. Management Theory & Practice - J.N.Chandan
3. Essential of Business Administration - K.Aswathapa Himalaya Publishing House
4. Principles & practice of management - Dr. L.M.Parasad, Sultan Chand & Sons -New Delhi
5. Business Organization & Management - Dr. Y.K. Bhushan
6. Management: Concept and Strategies By J. S. Chandan, Vikas Publishing
7. Principles of Management, By Tripathi, Reddy Tata McGraw Hill
8. Business organization and Management by Talloo by Tata McGraw Hill
9. Business Environment and Policy – A book on Strategic Management By Francis Cherunilam Himalaya Publishing House
10. Principles & practice of management - Dr. L.M.Parasad, Sultan Chand & Sons -New Delhi
11. Business Organization & Management - Dr. Y.K. Bhushan
12. Management: Concept and Strategies By J. S. Chandan, Vikas Publishing
13. Principles of Management, By Tripathi, Reddy Tata McGraw Hill
14. Business organization and Management by Talloo by Tata McGraw Hill
15. Business Environment and Policy – A book on Strategic Management By Francis Cherunilam Himalaya Publishing House

CORE COURSE – V

Subject: ELEMENTS OF COMPANY LAW

Course Code: 235

Total Credits: 03

Objectives of the Program

1. To develop general awareness of Elements of Company Law among the students.
2. To understand the Companies Act 2013 and its provisions.
3. To have a comprehensive understanding about the existing law on formation of new company in India.
4. To create awareness among the students about legal environment relating to the company law.
5. To acquaint the students on e-commerce, E governance and e-filing mechanism relating to Companies.
6. To enhance capacity of learners to seek the career opportunity in corporate sector.

Unit No	Unit Title	Contents	Skills
1.	The Companies Act, 2013: Introduction and Concept	Company and its Formation 1. Background and Features of company the Companies Act, 2013 2. Company: Meaning, Nature and Characteristics of Company. 3. Types of Companies: On the basis of mode of formation, Number of members, liability and Control, Public and Private Companies: Distinction, Advantages, Disadvantages, Privileges and their Conversion into each other. Other kinds of Companies: One Person Company, Charitable Companies, Dormant Company, Sick Company, Small Company, Listed Company, Foreign Company and its business in India etc.	Understand the concept of company and Equip the students with knowledge of nature and types of companies.

2.	Formation and Incorporation of a Company	Formation and Incorporation of a Company: Stages in the Formation and Incorporation. 1. Promotion: Meaning of the term ‘Promoter’ / Promoter Group - Legal Position of Promoters, Pre-incorporation contracts. 2. Registration/ Incorporation of a company : - Procedure, Documents to be filed with ROC. Certificate of Incorporation- Effects of Certificate of Registration. 3.Capital Subscription/Raising of Capital 4.Commencement of business	Acquaint the students with the procedure of formation of company.
3.	Principal Documents	Principal Documents: Documents relating to Incorporation and Raising of Capital: 1 Memorandum of Association: Meaning and importance- Form and contents- Alteration of memorandum. 2 Articles of Association: Meaning- Contents and form of Articles- Alteration of articles- Doctrine of constructive notice- Doctrine of Indoor Management. 3 Prospectus: Meaning, contents, Statutory requirements in relation to prospectus- Deemed Prospectus- Shelf prospectus - Statement in lieu of prospectus- Misstatement in a prospectus and Liabilities for Mis-statement.	To make students understand the role and importance of various documents like Memorandum
4.	Capital of the Company	Capital of the Company 1. Various Modes for Raising of Share Capital including private placement, public issue, rights issue, bonus shares, ESOS, Sweat Equity Shares, Buy-back of shares. 2. Allotment of Shares: Meaning- - Statutory provisions for allotment, improper and irregular allotment- Consequences of irregular allotment. 3. Calls On Shares: Meaning- Requisites of a valid call, Calls in advance, Share Certificates: Meaning, Provisions regarding issue of share certificates - Duplicate Share Certificate.	To give Comprehensive insight about the capital of Company and various aspects of shares.

		4. Share Capital: Meaning, Structure (Kinds) – Concept of Securities – Definition, Nature and Kinds of Shares.	
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[Note: Recent amendments in the Acts and relevant Landmark cases decided by courts are expected to be studied]

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	The Companies Act 2013 Document , PPT, Narration, , Survey Analysis Article review	You Tube clips about the Companies Act 2013.	Report Review	Acquaint with knowledge and maturity to understand Company law 2013
2	12	Project making, , jingles, slogan , Quiz Competition,	Use of You tube, Review of Movie on relevant topic.	New Emerging Issues in Principle documents of company	To Acquaint knowledge and application of formation and incorporation of Company
3	12	Case study, Poster making, Interview with Company secretary	Case Analysis, format of principal documents of the company ,	Recent provisions of law and salient feature of principal documents of company.	To understand the knowledge about the principal documents of the company.

4	12	Virtual Learning, Group Discussion, Assignments on share capital, Interview of Corporate lawyer	Film on capital raising procedure, Internet precautions	Project on share capital of the company	To inculcate skills and knowledge about the share capital of the company
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Methods of Evaluations

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	Continuous Evaluation,	Written Exam	Seminar on The Companies Act, 2013
Unit – II	Continuous Evaluation	Written Exam	Awareness program
Unit – III	Continuous Evaluation,	Written Exam	Visit to company secretary's office
Unit – IV	Continuous Evaluation,	Written Exam	Awareness program

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	The Companies Act with Rules	Taxmann	Tan Prints (India) Pvt. Ltd. Jhajjar	Chandigarh
2.	The Companies Act, 2013	Bharat	Bharat Law House Pvt. Ltd.	Delhi
3.	Company Law-A Comprehensive Text Book on Companies Act 2013	Dr. G.K. Kapoor & Dr. Sanjay Dhamija	Taxmann Publications Pvt. Ltd	Delhi
4	Company Law	Dr S R Meyani	Asia Law House	Mumbai
5	Company Kaydyachi Olakha	K Shriram	Aarti & Co.	Mumbai
6	Guide to Memorandum, Articles & Incorporation of Companies	Bhandari & Makheeja	Lexis Nexis	Mumbai
7	Elements of Company Law	Arun Gaikawad , Chandrakant Chaudhari & Devendra Bhawari	Bibha	Pune

8 .	Elements of Company Law	Prakash N. Chaudhary	Nirali Prakashan	Pune
9 .	E-Commerce : Legal Compliance	Pratima Narayan	Eastern Book Company	Mumbai

SPECIAL ELECTIVE COURSE – VI

Subject: Business Administration

Course Code: 236(A)

Total Credits: 04 (Theory 03 + Practical 01=04)

1. Objectives of the Course:

- a. To provide basic knowledge about various forms of business organizations
- b. To acquaint the students about business environment and its implications thereon.
- c. To make them aware about the recent trends in business.

2. Depth of the program – fundamental Knowledge

UNIT No.	Unit title	Contents	Purpose/skills to be developed
1	Introduction to Business Administration	Business-Definition, Characteristics, Scope Objectives of Business-Economic & Social Perspectives. Commerce-Meaning, Concept, Trade & Aids to trade- Meaning & Definition of the Terms-Administration, Management and Organisation, Functions of Administration	To understand the concept of Business To understand the various perspectives to business To know the various functions of Business Administration
2	Types of Business Organisations	Sole Proprietorship, Partnership Firm, Limited Liability Partnership, Joint Stock Company, Non-Profit Joint Stock Company under Section 25 of the Companies Act, NGO, One Person Company, MNC, MSME Unorganised (informal)v/s Organized sector(registered/incorporated) Entrepreneurship: Meaning, definition and importance, objectives, skills and qualities required of an entrepreneur,case study of a successful local entrepreneur.	To study the various forms of business organisations To understand the meaning and importance of organized and unorganized sector To introduce the concept of Entrepreneurship as a form of business
3	Business Environment	Meaning of Business Environment Constituents of Business Environment-	To understand the concept of Business Environment

		Economic, Social, Legal, Cultural, Educational, Political, Technological, Natural and international. Impact of New Policies on Business Administration	To study the various aspects of business environment To understand its impact on business
4	Business Promotion and development	Business unit- Promotion, Concept, Stages in business promotion, Business development: Concept, process. Business components to be focused for development like markets, customers and relationships.	To study the various stages in business promotion To understand how to develop a business To study the important factors to be emphasized for Business development

Teaching Methodology

Unit No.	No. of lectures	Innovative method to be used	Project	Expected Outcome
1.	12	PowerPoint Presentations, YouTube Videos	Assignments, poster presentations	Students will get an idea about the basic concepts and functions in administration of business
2.	14	PowerPoint Presentations, YouTube Videos	Assignments, group projects in promotion of a business, generating new ideas of business	Students will get an idea about how different forms of business organisations can be formed and operated.
3.	10	Lectures of industry experts entrepreneurs and documentaries.	Introducing Case studies to understand the impact of the environment on business	Students will understand the impact that various factors operating in external environment can have on business
4.	12	Videos and lectures by experts	Student group activities,	The development strategies of business can be introduced .

Recommended Books:

- i. Modern Business Organisation & Management-N.Mishra, Allied Publishers-Mumbai

- ii. Essentials of Business Administration- K. Ashwathappa-Himalaya Publication
- iii. Business Administration-S.C.Saxena-Sahitya Bhavan, Agra
- iv. The Administrative Process-Stephen Robbins
- v. Industrial Administration & Management- J.Batty
- vi. Basu, C. (2017). Business Organisation and Management. McGraw Hill Education.

SPECIAL ELECTIVE COURSE – VI

Subject: Banking and Finance-I (Indian Banking System - I) Course Code: 236(B)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

1. To provide the knowledge about Indian Banking System.
2. To create the awareness about the role of banking in economic development.
3. To provide the knowledge about working of Central Banking in India.
4. To know the functioning of private and public sector banking in India.

UnitNo.	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1	Indian Banking Structure : Evolution of 1.1 Banking in India Structure of 1.2 Banking in India 1.3. Role of Banking in Economic Development 1.4. Scheduled Banks and Non- scheduled Banks Challenges before Banking in India 1.5 Impact of COVID-19 on Banking Sector in India 1.6	10	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the structure of Indian Banking. Analyze the role of Banking in Economic Development
2	Central Banking : Definition of 'Central Banking' 2.1 Evolution of Reserve Bank of India 2.2 Functions of Reserve Bank of India 2.3 Present currency 2.4	10	Lecture, PPT, Group and Panel Discussion, Library Work,	Understanding about the Central Banking in India

	<p>system in India Understanding of concepts : Bank Rate, Cash Reserve Ratio(C.R.R.), Statutory Liquidity Ratio (S.L.R.), Repo Rate – Reverse Repo Rate</p>		Assignments	
3	<p>Private Banking : 3.1 Meaning and features of Private Banking 3.2 Classification of Private Banking : i) Indian Private Banks – Old and New ii) Foreign Banks 3.3 Role of Private Banking in Economic Development 3.4 Performance of Private Banks in India 3.5 Challenges before Private Sector Banks in India</p>	12	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments, Projects	<p>Understanding of role and performance of Private Banking in India Analyze the past and present</p> <p>challenges before Private Banks in India</p>
4	<p>Public Sector Banking: 4.1 Definition and Features of Public Sector Banks 4.2 Classification of Public Sector Banks 4.2.1 State Bank of India – Evolution , Functions and Performance 4.2.2 Nationalised Banks – Social control , Meaning of Nationalisation, Arguments for and against Nationalisation – Merger of the Banks 4.2.3 Regional Rural Banks –</p>	16	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments, Projects	<p>Understandingabo ut Public sector Banking in India Analyze the challenges before Public Sector Banks</p>

	Objectives , Functions , Capital, Problems before Regional Rural Banks 4.2.4 Lead Bank Scheme 4.3 Challenges before Public Sector Banks in India			
	Total	48		

References:

1. Deb Joyeeta (2019), 'Indian Banking System', Evince Publishing.
2. Desai Vasant (2007), 'Indian Banking-Nature and Problems', Himalaya Publishing House.
3. Gopinath M.N. (2017), 'Banking Principles and Operations', Snow White Publisher.
4. Joshi, Vasant and other (2002), Managing Indian Banks – The Challenges Ahead, Response Books, New Delhi.
5. Mallik, Chaudhury and Sarkar (2018), 'Indian Banking System- Growth, Challenges and Government Initiatives', Kalpaz Publications.
6. Nararajan and Parameswaran (2007), 'Indian Banking', S. Chand Company Ltd. New Delhi.
7. ShahiUjjwala (2013), 'Banking in India: Past, Present and Future', New Century Publications
8. Trivedi, Chaudhary and other (2015), 'Indian Banking System', RBD Publication, Jaipur.
9. Trivedi I.V. and JatanaRenu (2010), 'Indian Banking System', RBSA Publisher.
10. 'Report on Trend and Progress of Banking in India' 2017-18, 2018-19, 2019-20- Reserve Bank of India

SPECIAL ELECTIVE COURSE – VI

Subject: BUSINESS LAWS AND PRACTICE – I **Course Code: 236(C)**

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives of the course:

To develop an understanding of the significant provision of selective Business Law.

To gain the ability of students to address a basic business legal application-oriented issues.

Depth of the program:

Basic & Fundamental

Objectives of the Subject:

- To impart the students with the fundamental understanding of important business laws.
- To study & acquaint students an application & overview based knowledge of Business Law.
- To familiar the students with legal Business Environment of India.
- To develop & strengthen students through the legal practical knowledge and their implications on Indian Business organizations.

Unit No.	Unit Title	Contents	Purpose skills to be developments
1	Maharashtra agricultural produce marketing (development and regulations) Act 1963	Introduction, Meaning of Agricultural Produce, Agriculturist, Broker, Buyer, bye-laws, Commission Agent, Director, Coolee, Local Authority, Market Area, Market Committee, Processor, Secretary, Retail sales, State Marketing Board. Establishment of National Integrated Produce Market; Direct marketing, establishment of private market	Students will get the basic knowledge of the MAPM Act 1963. Awareness about Marketing of Agricultural Produce

		and farmer-consumer market and redressal of disputes; Contract Farming Agreement (Sec. 5), Marketing of Agricultural Produce (Sec 6 to 10)	
2	General Insurance	Introduction, Meaning & Characteristics of Insurance, Importance of Insurance, Basic Principles of General Insurance, Contract of Insurance, Type of Insurance, Basic Terms – Insured, Insurer, Premium, Policy subject matter of Insurance, Claim, Proposal. Insurance Interest. Double Insurance and Reinsurance, Meaning of Fire Insurance, Marine Insurance & Miscellaneous Insurance	It will help the students to gain insights of General Insurance
3	Information Technology Act,2000	Evolution of the IT Act, Digital Signature and Electronic Signature, Electronic Governance, Attribution, Acknowledgement and Despatch of Electronic Records, Secure Electronic Records And Secure Electronic Signature Introductions. (Sec 1 to 16)	To provide legal recognition to all transactions conducted through electronic data exchange, electronic communication or other means of e-commerce.
4	The Maharashtra Shops and Establishments (Regulation of Employment and Conditions of Service) Act, 2017	Meaning, Introduction, Registration of Establishments, Opening and Closing Hours, Hours of Work, Interval For Rest, Spread-Over, Wages For Overtime and Weekly Off, Leave With Pay and Payment of Wages, Welfare Provision(Sec 1 to 26)	Understanding the process and methods of Registration, understand the regulation of conditions of work and employment in shops, and various establishments

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Online Shows and AV Applications	Project	Expected Outcome
1	12	Cases of MAPM to be Studied. Group Discussion Article Reviews	E-Content on MAPM provided by UGC/University/M OOC etc. to be analyzed. Other open E-Content Internet Sources.	Project report shall be prepared on efficiency & effectiveness of MAPM.	Understanding the actual working of MAPM & its legal applications with benefits to the stakeholders.
2	12	Benefits of Insurance to be discussed in Group. Internet Sources. Discussion on Claim Settlement.	E-Content on General Insurance provided by UGC/University/M OOC etc. to be analyzed.	Project report can be prepared on benefits of General Insurance to the beneficiaries.	Understanding general insurance, the way to minimize various types of risk.
3	12	Internet Sources Cases on Information Technology.	Youtube E-Content Sources. E-Content on Cyber security/IT Act provided by UGC/University/M OOC etc. to be analyzed.	Project report can be prepared on Cyber Security Measures & Preventions.	Use of online resources carefully. Measures & presentation while using online platform. Awareness about cyber security etc.
4	12	Benefits of Shop Act to be discussed in Group. Internet Sources. Discussion on Procedure to obtain permission under shopact.	Youtube E-Content Sources. E-Content on Shop Act provided by UGC/University/M OOC etc. to be analyzed.	Project report can be prepared on Procedure & documents required to start small business under shop act.	Make students aware about shop act registration to small business owners. Benefits of shop Act to people etc.

References

Sr. No.	Title of the Book	Author/s	Publication
1	Labour Laws	Taxmann	Taxmann
2	Labour & Industrial Laws	S N Misra	Central Law Publication
3	General Insurance	Dr. L P Gupta	Dr. L P Gupta

4	Information Technology Act, 2000	Sachdeva Editorial Unit	Sachdeva Law Publishers
5	The Maharashtra Shops and Establishments Act, 2017	S.D.Puri	--
6	Labour and Industrial Laws	M.N. Mishra	Central Publications
7	Business & Commercial Laws	Sen & Mitra	--
8	Business Law for Management	Bulchandani K.R.	--
9	Information Technology Act, 2000	--	Government of India.

Practical for Semester – III

Topic	Mode of Practical
Marketing of Agricultural Produce	Overview & Presentation can be taken.
Insurance Documents and Policy Terms and Conditions	Group Discussion & Survey can be conducted.
Electronic Governance	Online data analysis with library sources.
Registration of Establishments	Applications to studied.

SPECIAL ELECTIVE COURSE – VI

Subject: Co-operation and Rural Development Special Paper-I

Course Code: 236(D)

Total Credits: 04 (Theory 03 + Practical 01=04)

1. Objectives of the Course:

- a. .To acquaint students with the Concept of Co-operation
- b. .To acquaint students with Co-operative legislation
- c. .To create awareness regarding the role of state government in development of Co-operative sector in Maharashtra
- d. : To acquaint students with the role of Social reformers in rural development
- e. : To understand the role of “Panchayat Raj” in rural development
- f. : To make the students aware about Globalization and its effects on rural development

Unit No.	Unit Title	Contents	Skills to be developed
1	Rural Development	1.1 Definition, Meaning, Scope and Objectives 1.2 Significance of Rural Development 1.3 Role of Co-operative Movement in Rural Development 1.4 Approaches of Rural Development – Individual, Group and Mass Approach	1. To understand the meaning of rural development and its significance 2. To understand the role co-operative movement played in rural development.
2	Thoughts and Work of Social Reformers in Rural Development	2.1 Mahatma Jotiba Phule 2.2 Chhatrapati Shahu Maharaj 2.3 Mahatma Gandhi 2.4 Vaikunthlal Mehta 2.5 Padmashree Vikhe Patil 2.6 Dr. Dhananjayrao Gadgil 2.7 Pandit Dindayal Upadhyay	1. To be acquainted with the thoughts of all the great thinkers
3.	Rural Development and Panchayat Raj System	3.1 Concept, Structure and Importance 3.2 Important provisions of Panchayat Raj Act 3.3 Effects of Panchayat Raj System on Rural Development 3.4 Limitations of Panchayat Raj	1. To know the importance of “Panchayat Raj. 2. To understand the structure of “Panchayat Raj.” 3. To know its limitations

4.	Rural Development – People’s Participation and Impact of Globalization	<p>4.1 Concept and Importance of People’s Participation</p> <p>4.2 Mahatma Gandhi National Rural Employment Guarantee Scheme</p> <p>4.3 Development of Model Villages – Ralegan siddhi -Hivre Bazar Bhagirath Gramvikas Pratishtan, Zarap Pani Foundation Naam Foundation</p> <p>4.4 Globalization – Concept, Merits and Demerits</p> <p>4.5 Impact of Globalization on Rural Development</p>	1. To know and realize the importance of people’s participation in rural development
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Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Lecture method & class room discussion Visit to nearby Gram Panchayat.	-----	Report writing on the visit made to Gram Panchayat	Enhanced understanding of the village development
2	12	Class room presentations by the students, Group discussion	AV available on the life of all the great thinkers on ‘You tube’	Writing brief report on the contributions made by all the great thinkers.	Enhanced understanding of the work done by great thinkers
3	12	Class room lecture	-----	-----	Better understanding about rural development and Panchayat raj
4	12	Visit to any of the ongoing projects mentioned in contents	Films available on internet	Writing a report on the project visited	Enhanced level of knowledge

References:

- 1) G.S.Kamat –Cases in Co-operative management
- 2) N.L.Ghorpade- Co-operation and Rural Development
- 3) K.K.Taimani- Co-operative Organization and Management
- 4) G.S.Kamat – New Dimensions of Co-operative Management
- 5) Vasant Desai – Fundamentals of Rural Development
- 6) Dr. Dhiraj Zalte &Others –Theory & Practice of Co-operation, Prashant Publication
- 7) V.M.Dandekar and Rath – Poverty in India
- 8) Dr. P.R.Dubhashi – Rural Development and Administration in India
- 9) V.Reddy – Rural Development in India
- 10) S.K. Gopal – Co-operative Farming in India
- 11) B. Mukharji – Community Development
- 12) I.C.A State and C-operative Movement
- 13) <https://www.bhagirathgram.org/>



SPECIAL ELECTIVE COURSE – VI

Subject: Cost and Works Accounting -I(BASICS OF COST ACCOUNTING)

Course Code: 236(E)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

- 1. To prepare learners to know and understand the basic concepts of cost.**
- 2. To understand the elements of cost.**
- 3. To enable students to prepare a cost sheet.**
- 4. To facilitate the learners to understand, develop and apply the techniques of inventory control.**

Unit No.	Unit Title	Contents	Skills to be developed
1	Basics of Cost Accounting	a) Concept of Cost, Costing, Cost Accounting and Cost Accountancy. b) Limitations of Financial Accounting. c) Origin of Costing. d) Objectives of Cost Accounting. e) Advantages & Limitations of Costing. f) Difference between Financial Accounting and Cost Accounting. g) Cost Units and Cost Centers. h) Role of a Cost accountant in an organisation	1. To understand the concept of cost, costing and cost accounting. 2. To trace the cost to cost centres and cost units. 3. To identify role of cost accountant in an organisation
2	Elements of Cost and Cost Sheet	a) Material, Labour and other Expenses. b) Classification of Costs. c) Preparation of Cost Sheet, Tender, Quotation and Estimates.	1. To Understand different elements of cost 2. To be able to prepare a cost sheet
3	Purchase Procedure	a) Need and Essentials of Material Control. b) Functions of the Purchase Department. c) Purchase Procedure. d) Purchase Documentation.	To understand the purchase procedure and its documentation

4	Inventory Control	<p>a) Methods of Inventory control</p> <p>a. Stock Levels.</p> <p>b. Economic Order Quantity (EOQ).</p> <p>c. ABC analysis</p> <p>d. Perpetual and Periodic Inventory Control</p> <p>e. Physical verification</p> <p>b) Inventory Turnover Ratio</p>	<p>. To understand the different methods of inventory control.</p> <p>. To calculate EOQ , stock levels and inventory ratio</p>
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Teaching Methodology

Unit No	Total Lectures	Innovative Methods to be used	Films Shows and AV Applications	Practical	Expected Outcome
1	16	PowerPoint Presentations, Group discussions	YouTube Lectures and relevant multimedia compact discs(CD)	Poster Presentation	To remember and understand basic concept of cost accounting. Development of an overall outlook of Cost Accounting
2.	16	PPT, Quiz		Visit small industries to develop an understanding of various cost inputs	Ability to prepare a cost sheet
3	10	Invite a purchase manager in the classroom to provide practical knowledge about Purchase procedures and their documentation.		PowerPoint Presentations	1)Ability to understand which procedures are used for purchasing the material 2)Understand the documentation for purchase procedures
4	06	Invite a storekeeper in the classroom to provide practical knowledge about		Visit small units and understand which	Understanding methods used for controlling the

		inventory control		methods are used to control the inventory	inventory
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Methods of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add-On Course
Unit I	Multiple Choice Questions, Written Test, Internal Examination, PowerPoint Presentations, Orals, Assignments, Tutorials etc.	SPPU	Two industrial visits and subsequently reports on the visits.
Unit II			
Unit III			
Unit IV			

References

Sr. No	Titles of the Book	Names of Authors	Names of Publisher	Place
01	Cost Accounting-Principles & Practices	Jawahar Lal & Seema Shrivastava	Tata Mcgraw Hill	New Delhi
02	Advanced Cost Accounting And Cost Systems	Ravi M Kishor:	Taxmann	New Delhi
03	Cost Accounting Theory And Problems	S. N. Maheshwari	Mittal Shree Mahavir Book Depot.	New Delhi
04	Advanced Cost Accounting	Jain and Narang	Kalyani Publication	New Delhi
05.	Horngren's Cost Accounting-A Managerial Emphasis	Srikant M Datar & Madhav V Rajan	Pearson	Noida Up
06	Cost Accounting-Principles & Practices	Dr. M.N. Arora	Vikas Publishing House,	New Delhi
07	Advanced Cost Accounting	Dr. D. M. Gujarathi	Idol Publication	Pune
08	Advanced Cost Accounting	Dr. Kishor. M. Jagtap	Tech-Max Publication	Pune
09	Cost Accounting Principles And Practice	Jain and Narang	Kalyani Publication	New Delhi
10	Principles and Practice of Cost Accounting	N.K Prasad	Booksyndicate Private Ltd	Kolkata
11	Cost Accounting: Methods and Problems	B.K.Bhar	Academic Publications	Kolkata

Web References

Sr. No	Lectures	Films	PPTs	Articles	Others
For	Guest Lectures by	YouTube	Relevant	Articles from the Professional	https://ic

all the units.	Field Personnel such as working executives from industries and of practising Cost and Management Accountants.	films showing the working of different industries .	powerpoint presentations are available on all these topics.	Journals such as The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial Analyst of India	mai.in www.globalcma.in eclm.unpune.ac.in
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Notes: The breakup of marks in the Examination will be as follows:

1. 50 % of the Total marks are assigned for Theory purpose whereas rest 50 % of the total marks are allotted for Numerical Problems.
2. Numerical Problems will be of Simple nature only.
3. **Areas Of Practical Problems:**
 - Preparation of Cost Sheet, Tender, Quotation and Estimates.
 - EOQ and Stock level.
 - Inventory Turnover Ratios.

SPECIAL ELECTIVE COURSE – VI

Subject: Business Statistics

Course Code: 236(F)

Total Credits: 04 (Theory 03 + Practical 01=04)

Preamble to the syllabus:

Tools and techniques learned in Statistics give a precise way of formulating and analyzing a problem and to make logical conclusions. Concepts and tools introduced in this course are useful to students for higher studies and career in any branch of Economics, Commerce and Management. Professionals working in these fields, wishing to upgrade their knowledge, will also benefit. The stress of the course will be on building the concepts and their applications.

In modern times, Statistics is viewed not as a mere device for collecting numerical data but as a means of developing some techniques for their handling and analysis and drawing valid inferences from them. Statistics provides tools for making decisions when conditions of uncertainty prevail. So it is very useful in various fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc.

Depth of the Course – Basic Knowledge of Elementary Statistics

Objective of the Course

1. To understand and Master the concepts, techniques & applications of Statistical Methods.
2. To develop the skills of solving real life problems using Statistical Methods.
3. To make students to understand the art of applying statistical techniques to solve some real life problems.
4. To gain knowledge of Statistical Computations.

Unit No.	Unit Title	Contents	Purpose/Skills to be developed
1	Theory of Attributes (up to order three only)	Introduction, Classification, Notation, dichotomy, types of classes, Order of a class, dot operator to find relation between class frequency (up to order three), Fundamental set of class frequencies, Consistency up to three attributes, Independence and Association of two attributes, Yule's Coefficient of association, example and problems.	. To understand the concept of attributes, independence of attributes and association of attributes . To apply the concept of attributes to real life problems.

2	Multiple Regression, Multiple and Partial Correlation	Introduction, Multiple Regression, Yule's Notation, Statement of equation of plane of regression of X_1 on X_2 and X_3 . Properties of residuals, Coefficients of multiple and partial correlation, Multiple correlation in terms total and partial correlation, Coefficient of regression, Standard Error of Estimate, Advantages and limitations of multiple Correlation Analysis, . example and problems	<ul style="list-style-type: none"> . To understand the multiple and partial correlation. . To understand the concept of multiple regression. . To apply the concept of multiple regression and multiple and partial correlation to real life problems.
3	Vital Statistics	Introduction, Methods of collecting vital Statistics, Mortality rates : CDR, ASDR, STDR (direct method and indirect method), Fertility rates: CBR, ASFR, TFR,GFR Population Growth rate: GRR and NRR, example and problems	<ul style="list-style-type: none"> . To understand the concept of vital statistics and different methods of collecting vital statistics. . To understand the different types of mortality, fertility and population growth rates. . Apply concepts of vital statistics to real life problems.
4	Life Tables	Introduction, Construction of life table, functions ($l_x, d_x, L_x, p_x, q_x, e_x, T_x$) and their interpretation, Expectation of life, example and problems.	<ul style="list-style-type: none"> . To understand the concept and construction of life tables. . To compute life expectancy and applications of life table in insurance.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	ICT	NA	NA	Students will be able to understand and apply concepts attributes to real world problems.
2	16	ICT	NA	NA	Students will be able calculate multiple regression, multiple correlation and partial correlation coefficients. Students will be able to fit real life data to regression plane and forecasting.
3	10	ICT	NA	NA	Students will be able to calculate different type of mortality, fertility and population growth rates for real world data and interpret it.
4	08	ICT	NA	NA	Students will be able to construct life tables.

SPECIAL ELECTIVE COURSE – VI

Subject: Business Entrepreneurship (Special Paper-I)

Course Code: 236(G)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives of the course

- To understand the concepts in Business Entrepreneurship and its aspects.
- To make students aware about the entrepreneur and entrepreneurship.
- To study the new age of entrepreneur and to know in details of entrepreneurship.
- To understand the creativity and innovation required or necessary in the entrepreneurship.
- To study the types of ethics and society responsibilities are followed in the conventional and corporate sector in the new edge followed by the rules and regulations.
- To familiarize the students with practical survey or through project work will be able to understand the concepts in the subject thoroughly.
- To create entrepreneurial encouragement through the study of successful entrepreneurs.

Unit No.	Unit Title	Contents	Skills to be developed
1	Entrepreneur and Entrepreneurship	Definition, Meaning- Functions of an Entrepreneur. Need and Importance of Entrepreneurship- Problem of Unemployment, Importance of Wealth Creation, Enterprise V/s Entrepreneurship – Self Employment V/s Entrepreneurship, Entrepreneurial Competencies, Qualities, Kakinada Experiment	To understand the concept Entrepreneur and Entrepreneurship. Students should be able to differentiate and understand the difference between Enterprise and Entrepreneurship. To equip the students with various aspects of entrepreneurship, their competencies like initiative, how to grab the opportunities etc. and qualities with examples.
2	New Age Entrepreneur	The Internet Entrepreneur: Definition, Advantages, How to Become a Successful Internet Entrepreneur (Example: Snap deal). Environmental Entrepreneurs	Students have to develop the ability to involve in positive thinking. Students should be able to understand the critical issues

		<p>(E2)- Concept, Importance (Example: Help V/s Green, Ecotemme Green Nerdes, Sustain Earth)</p> <p>Social Entrepreneurs- Meaning and Concept- goals of Social Entrepreneurs, Characteristics (Examples: DeAsra Foundation, Aaple Ghar).</p> <p>Artistic Entrepreneurs-Concept, Things Artists and Artistic Entrepreneurs Have in Common.</p> <p>Motivated Entrepreneurs- Concept and Meaning, ways for entrepreneurs to stay motivated.</p> <p>Failed Entrepreneurship-Meaning and Reasons for Failed Entrepreneurship.</p>	<p>affecting the economy and environment.</p> <p>The students should be able to modernize tactics to solving social or environmental problems.</p> <p>To develop students and involve and engages them in new forms of entrepreneurship in the rightest of the world. Students should be able to find the ways to stay motivated as an entrepreneur.</p>
3	Creativity and Innovation	<p>Creativity- Meaning, Creativity Process, Techniques and Tools of Creativity.</p> <p>Innovation- Meaning, Sources of Innovation- Peter Drucker's Principles of Innovation- Do's and Don'ts of Innovation.</p>	<p>Acquaint knowledge and skills of the entrepreneurial process, it shows that creative thinking of an entrepreneur.</p> <p>Understand the concept of innovation that how it refers to develop effective ideas for successful entrepreneurship in the global edge.</p>
4	Business Ethics and Social Responsibility of Business	<p>Business Ethics and Social Responsibility of Business.</p> <p>Business goals- Social Responsibility-Business Ethics- Social Responsibility Towards Their Stakeholders: Investors-Owners- Employees-Government and Society at Large. Leadership by Example. Code of Ethics- Ethical Structure- Social Audit. Brief Introduction to Corporate Governance.</p>	<p>Students should be able to understand the business ethics and social responsibility of business w.r.t. practices in entrepreneurship (e.g. corruption, harmful behaviour to the society).</p>

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Group discussion and case	Related Videos and PPTs	Distribute personal and group project on	Understanding the difference in Entrepreneur and

		studies		new business creation.	Entrepreneurship.
2	12	Collecting the required information on the new age entrepreneur	Related Videos and PPTs	Ask students to prepare a detailed report on new age entrepreneur.	Understanding the new age entrepreneur and will learn each.
3	12	Business planning models (Product Development, Market Research)	Biographical videos or CDs of entrepreneurs	Assign small business models, product or project(s) to students to understand them with the 360 degree of the business.	Students will be able to do the SWOT analysis of their business model.
4	12	Conducting survey and collecting information of practices followed by the nearby organizations w.r.t. business ethics and social responsibility.	Annual Reports of the companies. Videos, PPTs	Assign small projects in individual or in group.	Students will practically study the practices followed by the organizations.

References:-

1. Business Environment, Francis Cherunilam, Himalaya Publishing House, New Delhi.
2. Entrepreneurship Development, Khanna S.S, S. Chand, New Delhi.
3. Entrepreneurship Development, Gupta, Shrinivasan, S. Chand, New Delhi
4. Dynamics of Entrepreneurship, Desai Vasant, Himalaya Publishing House, New Delhi
5. Indian Economy,, Ruddar Datt, K.P.M. Sundharam, S. Chand, New Delhi
6. Udyog,Udyog Sanchalaya, Mumbai
7. Vyawasaya Udyojagata, Dr. S. L. Shiragave, Success Publication, Pune

SPECIAL ELECTIVE COURSE – VI

Subject: Marketing Management

Course Code: 236(H)

Total Credits: 04 (Theory 03 + Practical 01=04)

Preamble

As the commercial scenario has totally changed, the need for advanced concepts has increased. Education system also has to change with the rapidly transforming times. Education system is trying to familiarize the students of commerce with advanced concepts in the field so that they are aware of the changing picture.

Marketing Management is an important subject and has been structured to create awareness of the Marketing Management by giving proper insight to the basics of Marketing, so that the foundation of this subject is strengthened for further studies in Marketing.

From this point of view Savitribai Phule Pune University has introduced Choice Based Credit System of course structure. This system will develop the logical independent thinking for accepting the challenges of the changing Business world.

Objective of the Course

1. To introduce the concept of Marketing Management.
2. To give the students the basic knowledge of Marketing Management to be a successful modern marketer.
3. To inculcate knowledge of various aspects of marketing management through practical approach.
4. To interpret the issues in marketing and their solutions by using relevant theories of marketing management.

Depth of the Program - Fundamental Knowledge of Marketing Management

Objectives of the Program

- To create awareness and impart knowledge about the basics of Marketing Management which is the basic foundation of Marketing subject.
- To orient the students in Marketing Strategy and Consumer Behaviour.
- To help students understand how to craft Marketing Plan which help the organisation outline their marketing goals and objectives.
- To enable students to apply this knowledge in practicality by enhancing their skills in the field of Marketing.

Unit No.	Unit Title	Contents	Purpose Skills To Be Developed
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1	Elements of Marketing Management	1.1 Introduction 1.2 Meaning of Marketing Management 1.3 Nature & Scope of Marketing Management 1.4 Features of Marketing Management 1.5 Functions of Marketing Management 1.6 Components of Marketing Management	To give the students the basic knowledge of Marketing Management.
		1.7 Problems of Marketing Management 1.8 Marketing Management Philosophy 1.9 Marketing Characteristics in Indian Context 1.10 Marketing Management Process	
2	Marketing Strategy and Consumer Behaviour	2.1 Marketing Strategy 2.1.1 Introduction 2.1.2 Concept of Strategy 2.1.3 Meaning of Marketing Strategy 2.1.4 Significance of Marketing Strategy 2.1.5 Aim of Marketing Strategy 2.1.6 Marketing Strategy Formulation 2.1.7 Bases of Formulating Marketing Strategy 2.1.8 Types of Marketing Strategy 2.2 Consumer Behaviour 2.2.1 Introduction 2.2.2 Meaning of Consumer Behaviour 2.2.3 Definition of Consumer 2.2.4 Scope of Consumer Behaviour 2.2.5 Determinants of Consumer Behaviour 2.2.6 Concept of Motivation 2.2.7 Theories of Motivation 2.2.8 Multivariable Models of Consumer Behaviour 2.2.9 Buying Motives & Consumer Importance of Buying Motives 2.2.10 Monadic Models of Consumer	To develop the awareness amongst the students about how marketing strategy plays a vital role in making today's customers want to buy the products and services.

		Behaviour	
3	Marketing Planning	3.1 Introduction 3.2 Meaning of Marketing Planning 3.3 Definition of Marketing Planning 3.4 Nature of Marketing Planning 3.5 Scope of Marketing Planning 3.6 Elements of Marketing Planning 3.7 Importance of Marketing Planning 3.8 Types Marketing Planning 3.9 Principles behind Successful Planning 3.10 Steps in Marketing Planning Process 3.11 Relevance in Marketing Planning 3.12 Structure of Marketing Plan 3.13 Constraints to Effective Marketing Planning	To enable the students to plan and make the best possible utilization of all the human and physical resources so that pre-determined marketing objectives of the firm can be achieved.
4	Marketing Research	4.1 Introduction 4.2 Meaning of Marketing Research 4.3 Definition of Marketing Research 4.4 Scope of Marketing Research 4.5 Role of Marketing Research 4.6 Marketing Research Agencies 4.7 Marketing Information Vs. Marketing Research 4.8 Objectives of Marketing Research 4.9 Marketing Research Procedure 4.10 Problem Definition 4.11 Research Design 4.12 Data Collection 4.13 Sampling and Sampling Designs 4.14 Probability Sampling Techniques 4.15 Data Analysis 4.16 Method of Reporting Research Findings	To make the students able to explain value of Market Research and its impact in decision making.

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Power Point Presentation, Article Review, Survey Analysis	AV Application	Market Survey	Student will get acquainted with the basics of Marketing Management subject
2	07	Group Discussion, Quiz, Poster Making	Short Film about Buyer Behaviour, AV Application	Interviews of the Buyer	It will help students to know the preferences, likes and dislikes of the consumer which lead to the further modernization of the sales strategies by marketer
3	14	Power Point Presentation, Group Discussion, Survey Analysis	AV Application	Market Survey, Interviews of Seller	It will help them to implement this knowledge practical situations by enhancing their skills in the field of Marketing.
4	13	Power Point Presentation, Group Discussion, Field Visit	Short Film, AV Application	Market Survey, Interviews of Marketing Manager or Head	To enable the students to study the effect of external environment on decision- making of the firm.

Methods of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	Quiz, Group Discussion	Examination	Certificate Course in Marketing Management
Unit – II	Practical, Presentation	Examination	Short Course in Sales & Marketing
Unit - III	Presentation, Group Discussion	Examination	E-Learning Training Course
Unit – IV	Project, Presentation	Examination	Marketing Research & Consumer Behaviour

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Marketing Management	Philip Kotler	Pearson Publication	
2	Marketing Management	Rajan Saxena	McGraw Hill Education	
3	Principles of Marketing	Philip Kotler	Pearson Publication	
4	Marketing Planning & Strategy	Subhash Jain & George Haley	Cengage Learning India Pvt. Ltd	
5	Marketing Strategy	Anil Mishra & Amit Kumar Mishra	Excel Books	
6	Consumer Behaviour : Insight from Indian Market	Ramanuj Muzumdar	PHI Learning Pvt. ltd. (2009)	
7	Retail Management	Gibson Vedamani	Jayco Publication	
8	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication	
9	Marketing Research	S. L. Gupta	Excel Books India, 2004	
10	Marketing Research	Naresh K. Malhotra	Pearson Publication	

SPECIAL ELECTIVE COURSE – VI

Subject: Agricultural and Industrial Economics

Course Code: 236(I)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

1. To understand the basic concepts of Agricultural Economics.
2. To impart adequate knowledge and analytical skills in the field of agricultural economics issues, and enhance expertise in improving the performance.
3. To understand the basic concepts of Agricultural Economics.
4. To expose the students to the concept, significance and uses of Industrial Economics.

Depth of the program – Fundamental Knowledge.

Unit No.	Unit Title	Content	Purpose skills to be developed
1	Fundamentals of Agricultural Economics	1.1 Definition, Nature and Scope of Agricultural Economics 1.2 Importance of Agriculture in Indian Economy 1.3 Transition of Agricultural Sector 1.4 Theories of Agricultural Development (Schultz, Mellor)	<ul style="list-style-type: none">▪ To understand the Basic Concept of Agricultural Economics.▪ To make the students know about the Place of Agriculture sector in the Indian Economy.▪ To impart knowledge about Theories of agricultural development
2	Economics of Agricultural Production	2.1 Basic Concepts in Agricultural Production, 2.2 Agricultural Inputs/ Factors of Production 2.3 Price Behaviour in Agricultural Product, Causes of Price Fluctuation 2.4 Trends in Wholesale Price Index of Food Grains & Commercial Crops 2.5 Trade Cycle in Agriculture: Cobweb Theory 2.6 Large and Small Size of Firm-Advantages & Disadvantages	<ul style="list-style-type: none">▪ To understand the Basic Concept of Agricultural Production Economics.▪ To make the students know about various Price Concept of Agricultural Economics
3	Introduction of Industrial Economics	3.1 Definition, Meaning, Nature, Scope and Importance of Industrial Economics. 3.2 Scope and Significance of Industrial Economics 3.3 The Concept of Plant, Firm and Industry.	<ul style="list-style-type: none">▪ To understand the Basic Concept of Industrial Economics.▪ Ability to compare Plant, Firm and Industry▪ To make the students know about the concept of the

		3.4 Concepts of Private Sector, Large, Medium & Small Scale Industries	various sector in Industrial Economics.
4	Location of Industry	4.1 Factors Affecting the Location of Industries 4.2 Theories of the location of Industries-Weber and Florence. 4.3 Industrial Imbalance, Causes and Measures.	<ul style="list-style-type: none"> Assess the factors affecting on the location of Industries & students know about the Theories of Industrial Location

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project/ Practical	Expected Outcome
1	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> Evaluate the place of Agriculture Sector in the Indian Economy in Present Era. 	<p>After completing this topic , the student will be able to understand</p> <ul style="list-style-type: none"> The Definition, scope, Nature and Scope of Agricultural Economics. Place of the agriculture sector in Indian Economy. Different Theories of agricultural development
2	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> Sector one Agricultural produce and list out inputs and outputs of that produce. Analyse the wholesale price Index of Agriculture selected Agricultural Produce. 	<ul style="list-style-type: none"> Analyse Trade Cycle in Agriculture The Basic Concept of Agricultural Production Economics. Price Concept of Agricultural Economics
3	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning,	Relevant videos, Consortium for Educational Communication- SWF E-	<ul style="list-style-type: none"> Evaluate the roll of Public and Privet sector in Indian Economy. 	<ul style="list-style-type: none"> Understand the Basic Concept of Industrial Economics. Ability to compare Plant, Firm and Industry

		Case study, Jigsaw reading, Practical based learning	Content		<ul style="list-style-type: none"> ▪ To make the students know about the concept of various sector in Industrial Economics. ▪ The role and importance of industrial sector vis-à-vis public and private enterprises in the economic development of India.
4	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ Select one firm in your area and Analyse the factor affecting on localising of that firm 	<ul style="list-style-type: none"> ▪ To understand the factors affecting on the location of Industries ▪ Analyse Theories of Industrial Location

References:

1. Raju, V. T. Rao VS. (2017) Economic of Farm Production and Management, Oxford & Ibh, New Delhi.
2. Misra S.K. & V.K.Puri, (2017) Indian Economy, Himalaya Publication house Mumbai.
3. Kavimandan Vijay, (2009) KrushiArthshastra, Shri Mangesh Prakshan, Nagpur.
4. Gardner B.L.& Rausser G.C. (2001). Handbook of Agricultural Economics. Vol. I. Agricultural Production. Elsevier
5. Kavimandan Vijay, Krush iArthshastra.
6. Ramesh Singh, Indian Economy, Tata Mc-Graw Hill, Publication
7. Annual Reports, Department of Agriculture, Govt. of India,.
8. Barthwal R.R (2204) Industrial Economics Introductory Text Book, New Age International Limited, Kanpur

Suggested Web references:

<https://www.youtube.com/user/cecedusat>

<https://www.swayamprabha.gov.in/>

[http://14.139.13.96:8080/lectures.aspx?pno=Paper05\(O\)-UGC CEC E Contain on Agricultural Economics](http://14.139.13.96:8080/lectures.aspx?pno=Paper05(O)-UGC CEC E Contain on Agricultural Economics)

[http://14.139.13.96:8080/lectures.aspx?pno=Paper06\(O\) -UGC CEC E Contain on Industrial Economics](http://14.139.13.96:8080/lectures.aspx?pno=Paper06(O) -UGC CEC E Contain on Industrial Economics)

SPECIAL ELECTIVE COURSE – VI

Subject: Defense Budgeting, Finance and Management-I

Course Code: 236(J)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives

1. To acquaint various concepts in Defence Economics
2. To create awareness different forms of Defence Programming and Budgets
3. To make the students aware about the structure of India's Defence budget
4. To acquire knowledge of different challenges of India's Defence Management

Unit No.	Topic	No. of Lectures	Teaching Method	posed Skill to be Developed
I	Budgets : Introduction and Background 1.1 Introduction 1.2 Parliamentary Budgets 1.3 Union Budget : India 1.4 Form of the Central Budget	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	Students will be able to learn structure and trends in India's defense budget
II	Defense Budgets 2.1 Objectives of Defense Budget 2.2 Types of Budgets 2.3 Basic concepts of Planning, Programming and Budgeting System	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	Students will be able to learn importance of defense planning and performance budget
III	Structure of Indian Defense 3.1 Defense v/s Development : a debate over expenditure 3.2 Role of DPSU's and Private Sector in India's Defense 3.3 Role of Ministry of Defense : 3.4 Role of DRDO in Indian Defense	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	Students will be able to learn the role of public and private sector in India's defense production

IV	Defense Planning and Management in India 4.1 Defense Management : Meaning, Concept, Nature and Scope 4.2 Application of Management in the Armed Forces 4.3 Industrial Management and Military Management 4.4 Role of Leadership in Defense Management 4.5 Principles of Management	12	Lecture, PPT, Group Discussion, Panel Discussion, Library Work, Assignment, Field Visit	Students will be able to learn importance of leadership in defense management and industrial management.
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References:

1. John Downey (1987) , Management in the armed Forces, EBD Educational Pvt Ltd, Dehradun, India
2. Andre Beaufre(1974), Strategy for Tomorrow, Mac Donald Press, London
3. Defence Management, An Annual Journal of College of Defence Managemnet, Secundarbad
4. Mishra H. B. (2000), Defence Management in India, Author Press, New Delhi
5. Venkateshwaran A.L. (1967) , Defence Organization in India, Publication Division, Governemnt of India, New Delhi
6. Ron Mathews(1989), Defence Production in India, ABC, New Delhi
7. Raju G C Thomas(1978), The Defence of India: A Budgetary Perspective of Strategy and politics, MacMillan Publication, New Delhi
8. Sam-C-Sarekesian (1972), The Military Industrial Complex-A Reassessment, Sage publication
9. Maj. Gen Pratap Narain (Retd) (1998), Indian Arms Bazar, Shilpa Publication, New Delhi,
10. Annual reports of The Ministry of Defence, Government of India
11. Brig. Pramod Sasius (2000), Military Logistics-Third Dimensions, Manaspublication, New Delhi,
12. NISDA Security Conference 8-10th October 2006 “Conceptualizing Impediments to National Security” , PROGRAMME BUDGETTING FOR OPTIMISING DEFENCE ALLOCATIONS, Air Marshal (Retd.) Dr. S. Kulkarni

SPECIAL ELECTIVE COURSE – VI

Subject: Insurance Transport and Tourism - I-A(Insurance)

Course Code: 236(K)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives

1. To acquaint the students with basic concepts in insurance.
2. To develop a proper understanding to study various facets of insurance.
3. To make aware about the role and importance of insurance.
4. To understand the legislation for insurance business in India.

Unit No	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1	An Introduction to Life Insurance 1.1 Life Insurance Business: Components, Human Life Value Approach, Mutuality, Principle of Risk Pooling, Life Insurance Contract, Determinants of Risk Premium. 1.2 Life Insurance Plans: 1.2.1 Traditional- Term Plans, Whole Life Insurance, Endowment Assurance, Dividend Method of Profit Participation Purpose of plans, Riders in plan - Introduction, Forms and procedures. 1.2.2 Non Traditional - Unit Linked Insurance Plan (ULIP) 1.2.3 Difference - Traditional and Non Traditional Plan	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Visit to LIC Institutions	Understanding the concept and products of insurance
2	Policy Conditions of Life Insurance 2.1 Insurance Document: Proposal form, Policy form, Cover note, Certificate of Insurance, Endorsement, Co-insurance and Renewal receipt, Procedure of taking Life Insurance Policy. 2.2 Settlement: Settlement of Claim on Maturity of Policy, Death of Policy	10	Lecture, PPT, Group Discussion, Library Work, Assignments	Understanding The conditions and settlement structure

	holder,			
3	General Insurance: 3.1 Origin and growth of General Insurance 3.2 Principles of General Insurance 3.3 Types of General Insurance- Motor, Accident Insurance, Health, Crop, etc. 3.4 Laws relating to General Insurance Organization and Management of General Insurance in India 3.5 Study of Risk factors, Insurance claims 3.6 Effect of Globalization on Insurance Sector	12	Lecture, PPT, Group Discussion, Library Work, Assignments, tests.	Understanding growth of GIC and effect of globalization
4	Insurance Sector legislation and Regulatory Authority 4.1 Insurance Act: Insurance Act of 1938, L. I. C. Act of 1956 and G. I. C. Act of 1972 – objectives, features and provisions. 4.2 Fundamentals of Agency Law : Procedure of becoming an agent, Code of conduct, Unfair practices and cancellation of license 4.3 Role of IRDA : Insurance Regulatory and Development Authority - Constitution, Objectives, Duties and powers, Role of IRDA in appointing agents.	14	Lecture, PPT, Group Discussion, Library Work, Assignment, Visit to institutions, tests, Interview of agent	Understanding legislation and authority
	Total	48		

References:Book

s:

1. Ghorpade Nitin (2015), *Insurance*, Success Publication, Pune.
2. Gupta L.P. (2018), *Insurance Claims Solutions- A Guide to Life and General Insurance Claims*, DR L.P Gupta Publisher.
3. Gupta P.K. (2017), *Principles of Insurance*, Himalaya Publishing House.
4. Gupta R.K. (2017), *Fundamental of Insurance*, Himalaya Publishing House.
5. Haridas R. (2011), *Life Insurance in India*, New Century Publication New Delhi.
6. P. Periasamy (2011), *Principles and Practice of Insurance*, Himalaya Publishing House.
7. Mishra M.N. and Mishra S.B. (2007), *Insurance Principles and Practice*, S. Chand and Company Ltd.
8. Pratchbal Shakti and Dwivedi N.P. (2017), *Principles of Insurance*, Himalaya Publishing House.
9. Taxmann (2014), *Insurance Laws and Manuals, An authorised publication of IRDA*,

14th Edition, Taxmann Publication Private Limited.

10. Taxmann (2015), *Insurance products (including Pension Products)*, Indian Institute of Banking and Finance Taxman.

Reports and Other:

1. Annual Report- 2016-17, 2017-18, 2018-19, Insurance Regularity and Development Authority of India
2. Annual Report- 2016-17, 2017-18, 2018-19, Life Insurance Corporation of India
3. Annual Report- 2016-17, 2017-18, 2018-19, General Insurance Corporation of India
4. Annual Report (Integrated) 2016-17, 2017-18, 2018-19, SBI Life Insurance
5. Annual Report- 2017-18, ICICI Prudential Life Insurance
6. https://www.irdai.gov.in/ADMINCMS/cms/frmGeneral_NoYearList.aspx?DF=Creport&mid=12
7. http://www.policyholder.gov.in/IRDAI_Annual_Reports.aspx
8. <http://www.mospi.gov.in/104-insurance-statistics>
9. <https://www.ibef.org/download/insurance-feb-2019.pdf>
10. https://nipfp.org.in/media/medialibrary/2013/08/insurance_report_final.pdf

SPECIAL ELECTIVE COURSE – VI

Subject: Computer Programming and Application Course

Course Code: 236(L)

Total Credits: 04 (Theory 03 + Practical 01=04)

Web base application in commerce

Objectives:

- a. To make the students familiar with Internet environment.
- b. . To make the students familiar with the basics of Web base technology and its application tools.
- c. . To make the students familiar with basics of Internet, Website and related concepts.
- d. To make awareness among students about applications of Internet inCommerce.

Unit No.	Unit Title	Contents	Skills to be developed
1	Introduction to Internet	1.1 Introduction to internet	Learner able to aware with Internet, Web and App with Cyber Ethics
		1.2 Applications of internet (Web and App), Concept of WWW, Types of Website	
		1.2 Web browsers (internet Explorer, firebox,...,etc.)	
		Surfing and searching and Search engines (Google, msn, yahoo)	
		Internet Banking	
		1.6 Introduction to Social media Application (Facebook, whakapapa Instagram)	
		1.7 Use of Social media application in business (Digital marketing, Advertisement,,etc)	
		1.8 Cyber Ethics	

2	<p style="text-align: center;">Operating Web Based Applications</p>	<p>2.1 Operating Web-based Applications</p> <p>2.2 Online Reservation Systems</p> <p>2.2.1 Advantages of Online Reservation System</p> <p>2.2.2 Precautions while Performing Online Transactions</p> <p>2.2.3 Using Online Reservation Systems</p> <p>2.2.4 Case Study: Book Rail Ticket</p> <p>2.3 E-Governance</p> <p>2.3.1 Initiative</p> <p>2.3.2 E-Governance Sites</p> <p>2.4 Online Shopping and Bill Payments</p> <p>2.4.1 Benefits of Online Shopping</p> <p>2.4.2 How it works</p> <p>2.4.3 Bill Payments</p> <p>2.4.4 Case Study: Online Shopping using Online Shopping Website</p> <p>2.5 Online Courses, Tutorials and Tests</p> <p>2.5.1 Online Educational Sites (Goggle classroom, WebEx, Webinar, Zoom,....etc.)</p> <p>2.6 Project Management - Web Based Application Development</p> <p>2.6.1 Project Essentials and Tips</p>	<p>Learner able to aware with Web-based application with case studies</p>
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3.	Web Based Application Development (HTML	3.1 Introduction to HTML 3.2 HTML Document and Basic Structure 3.3 Working with HTML Text, Heading (Header & Footer), 3.4. Paragraph (Navigation Section), formatting (Article & Aside) 3.5 HTML color link image 3.6 HTML Lists, Tables and Frames 3.7 HTML Forms Block, Layout 3.8 Browser Portability 3.9 Working with Hyperlinks and Multimedia 3.10 Working with Forms and controls. 3.11 Introduction to CSS	Learner able to aware with Web-based application development technologies
4.	Introduction to Web Scripting	4.1 Difference in Client and Server Side Scripting 4.2 JavaScript, ASP.NET (using Visual Basic.NET) 4.3 Web Server Controls 4.4HTML Server Controls 4.5Validation Server Controls 4.6Components and Applications	Learner able to aware with Web-based application development scripting technologies

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	Use ICT or presentation on Internet	U-tube Tutorial on Internet		Familiar with Internet
2	14	Use ICT or presentation on	And ethical use of Internet		And ethical use of Internet
3	16	Web base application	U-tube Tutorial Web base application	One Power point presentation of Use of one Web application	Able to handle web application
4	08	Use ICT or presentation on Web base Technology	U-tube Tutorial Web base Technology		Familiar with Web base application Able to work on Web base application

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30	70
Unit – II	30	70
Unit – III	30	70
Unit – IV	30	70

Guidelines for Examination:

Term End Exam (30 Marks):

To be conducted by college as per rules provided by University of Pune. Semester Exam 70 Marks):

To be conducted by University of Pune at the end of the academic year.

Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Semester Examination).

References :-

1. HTML, Javascript, DHTML & PHP by Ivan Bayross- (BPB Publication)
2. HTML Black Book by Steven Holzner-(DreamTech Publication)
3. Web Technologies Black Book By Kogent Learning Solution
4. Thomas Powell. 8 January 2010. HTML & CSS: The Complete Reference, Fifth Edition. McGraw Hill Professional. ISBN 9780070701946
5. Kogent Learning Solutions Inc. Html 5 in Simple Steps. Published by Dreamtech Press, 2010. ISBN 10: 9350040867 / ISBN 13: 9789350040867 (Its EBook Free to Download)
6. Bryan Pfaffenberger. HTML, XHTML, and CSS. Fifth Edition. March 2011. Published by Wiley Publishing. Inc. ISBN: 978-1-118- 08130-3
7. Richard York.2005. Beginning CSS: Cascading Style Sheets for Web Design. Published by Wiley Publishing. ISBN:0-7645-7642-9
8. John Duckett.Beginning HTML, XHTML, CSS, and JavaScript. Published by Wiley (2010). ISBN: 9788126525515
9. DT Editorial Services. HTML 5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery. Dreamtech Press; 2 edition (13 October 2016). ASIN: B07BFTJQB1.

Savitribai Phule Pune University
Faculty of Commerce & Management
S Y B Com (Semester IV)
(Choice Based Credit System)
Revised Syllabus (2019 Pattern)

CORE COURSE – I

Subject: BUSINESS COMMUNICATION-II

Course Code: 241

Total Credits: 04 (Theory 03 + Practical 01=04)

1. Objectives of the Course:

- a. To understand the concept, process and importance of communication.
- b. To acquire and develop good communication skills requisite for business correspondence.
- c. To develop awareness regarding new trends in business communication.
- d. To provide knowledge of various media of communication.
- e. To develop business communication skills through the application and exercises.

Medium of Instruction: English

Unit No.	Unit Title	Contents	Skills to be developed
1	Report Writing and Internal Correspondence	Meaning and Significance; Structure of Reports; Negative, Persuasive and Special Reporting- 1. Informal Report – Proposals; 2. Formal Reports; 3. Project Report 4. Introduction and Essential elements of Report writing.(Reporting for a meeting) 5. Organization of Press Report. 6. Office Memo (Memorandums) 7. Office Orders 8. Office Circulars 9. Form Memos or Letters 10. Press Releases 11. Import Export Trade	i. To understand the Report Writing and Internal Correspondence. ii. To understand office Correspondence. iii. To study Import Export Trade Correspondence

		Correspondence	
2	Recent Trends in Business Communication	Internet: Email, Websites, Social Media Network (Twitter, Face book, LinkedIn, You tube, WhatsApp) , Google Doc, Google Form, Google Sheet, Google Slide, Google Class Room, Online Conference, Video conferencing, Meeting through Zoom App, Google meet App ,Cisco Webex meetings App.	To understand the Recent Trends in Business Communication
3	Types and Drafting of Business Letters	1) Enquiry Letters 2) Replies to Enquiry Letters 3) Order Letters 4) Credit and Status Enquiries 5) Sales Letters 6) Complaint Letters 7) Collection Letters 8) Circular Letters	i. To acquire the fundamental knowledge about types of Business Letters ii. To create ability among the students for Drafting of Business Letters
4	Writing Formal Mails and Blog writing.	4.1: Essential elements of mail, Format of mail. 4.2: Introduction and meaning of Blog, Writing a blog.	To understand the Writing Formal Mails and Blog writing.

Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources, case study	Relevant You Tub Videos ,Relevant slide show, online Video Short Film Show	Report writing of students meeting	Understanding of basic knowledge of Report Writing and Internal Correspondence and Import Export Correspondence
2	12	Pre reading, Class discussion, internet resources, Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion,	Relevant You Tub Videos , Short Film Show, A.V Application	Project Report on types of Social Media	Learning the Recent Trends in Business Communication

		Library /Home Assignment ,Internal Assignment, students Seminar/Workshop	, online Video		
3	16	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources ,case study	Relevant You Tub Videos, PPT , AV Application , Short Film Show , Online Videos	Writing of any one Business letter	To create ability among the students for Drafting of Business Letters
4	08	Guest Lectures of eminent Personalities , Group Discussion, Library visit ,Home Assignment, case study	Online Videos, Relevant slide show	Blog writing	To create ability among the students about Writing Formal Mails and Blog writing.
Total	48	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources	Relevant You Tub Videos ,Relevant slide show,	-	To create ability among the students about Writing and Internal Correspondence. Also understanding the knowledge of Recent Trends in Business Communication.

References:

Sr. No	Title of Book	Author/s	Publication	Place
1	Business Communication	K. K.Sinha	Galgotia Publishing Company	New Delhi.
2	Business Correspondence & Report Writing	R. C. Sharma & Krishan Mohan	Tata McGraw Hill Publishing Co. Ltd.	New Delhi.
3	Communication	C.S. Rayudu	Himalaya publication	Mumbai
4	Business Communication	Asha Kaul	Prentice Hall of India	New Delhi.
5	Business Communication	Vasishth Neeru& Rajput Namita	Kitab Mahal	Allahabad
6	Soft Skills	Dr. Alex	S.Chand Publication	Delhi

7	Essentials of Business Communication	Rajendra Pal & Korlahalli	Sultan Chand & Sons	New Delhi.
8	Managerial Communication	P. D. Chaturvedi & Mukesh Chaturvedi	Pearson	Delhi

Guidelines for completion of Practical's:

- 1) At least three Practical's should be completed during each semester by students in consultation with subject teacher.
- 2) Practical should be based on visit as well as library assignments, Project based, Activity based.
- 3) A subject teacher has special privileges to make the allotment of practical topics.
- 4) Students should discuss with the subject teacher at the time of selection of practical topics.
- 5) If a student fails to complete minimum number of practical's, then the student shall not be eligible for appearing at the practical examination.

CORE COURSE – II

Subject: CORPORATE ACCOUNTING-II

Course Code: 242

Total Credits: 03

Preamble

In the modern economic environment the corporate sector is one of the major contributors towards GDP of any country and is also one of the largest and fastest growing sectors for providing employment opportunities. In the last decade the corporate sector has seen a massive growth in economic terms i.e. the volume of turnover, income and expenses etc. and also in terms of expansion of business across the globe. Accounting plays a vital role in this growth and to ensure safeguard of the interest of the stake holders and the society at large. It is therefore important to educate the students of commerce in the accounting practices adopted by the corporate organizations.

Objectives of the course

1. To acquaint the student with knowledge of corporate policies of investment for expansion and growth through purchase of stake in or absorption of smaller units.
2. To develop the knowledge among the student about consolidation of financial statement with the process of holding.
3. To update the students with knowledge of the process of liquidation of a company
4. To introduce the students with the recent trends in the field of accountancy

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1.	Holding Company Accounts	Calculation of Capital Profit, Revenue profit, Cost of Control. Preparation of consolidated Balance sheet of Holding Company with one subsidiary only. Adjustment of intercompany transactions, unrealized profit of stock.	<ul style="list-style-type: none">• Conceptual Understanding of Holding Company Accounts• Practical Application skills• Analytical skills
2.	Absorption of Companies	Introduction , Meaning - Vendor and Purchasing Companies- Purchase Consideration, Accounting entries in the books of vendor Company and Journal entries and Preparation of Balance Sheet after Absorption in the books of	<ul style="list-style-type: none">• Conceptual understanding on the concept of Absorption of companies• Practical application skills in the process of

		Purchasing Company	accounting for Absorption
3.	Accounting for Liquidation of Companies	Meaning of Liquidation- Modes of winding up – (a) Preparation of Liquidator final statement of Account (b) Preparation of Statement of Affairs and Deficiency Account.	<ul style="list-style-type: none"> • Conceptual understanding on Liquidation of Companies • Practical application skills
4.	Forensic Accounting	Introduction , Meaning , Objectives , Types of Forensic Accounting , Nature and key principles of forensic accounting Ethical principles and responsibilities	<ul style="list-style-type: none"> • Conceptual skills • Acquisition of knowledge about forensic accounting and its implication.

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Case Study	-----	-----	Developing understanding on accounting procedure for Holding companies
2	14	Case Study	You Tube and other online platforms for videos	Case study analysis	Conceptual understanding ,Practical application skills in the process of accounting for Absorption
3	12	Case Study , Simulative approach for mock liquidation of an Indian Company based on financial statements	Online Videos for cases	Individual assignment Preparation of Charts , PPT for the format of Statement of Affairs and Deficiency Account.	Practical understanding on Process of Liquidation on companies

4	08	Case Study	Online Videos on recent cases of Forensic Accounting	Case study Analysis	Updation of Knowledge on recent advances in the field of Accountancy
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References :

List of Books Recommended :-

1. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd.)
2. Advanced Accountancy: By S.P. Jain & K.N. Narang (Kalyani Publishers)
3. Advanced Accountancy: By R.L.Gupta & M. Radhaswamy (Sultan Chand & Sons)
4. Company Accounts: By S.P. Jain & K.L. Narang
5. Advanced Accounts: By Paul Sr.
6. Corporate Accounting: By Dr. S. N. Maheshwari & S.K. Maheshwari
7. Corporate Accounting: By Mukharji & Hanif

CORE COURSE – III

Subject: BUSINESS ECONOMICS (MACRO)-II Course Code: 243

Total Credits: 03

Preamble –

An approach to Macro Economics is to examine the economy as a whole. This paper aims to provide knowledge about macroeconomics that includes macro-economic variables and theories. It also aims to make students familiar about the various concepts of macroeconomics like functions of money, trade cycle and macroeconomic policies and also about the concepts used in public finance.

Scope of the programme –

Basic Knowledge of Macro Economics

Objectives –

- To familiarize the students to the basic theories and concepts of Macro Economics and their application.
- To understand the theories of money.
- To understand the phases of trade cycle and policy measures to elongate the trade cycle.
- To understand various concepts related to public finance.
- To understand credit creation of banks and money measures of RBI.

Unit	Name and Content of the Chapter	Purpose & Skills to be Developed
Unit 1	Money:	Purpose: To understand the concept of money. To make the students know about Demand, Supply and Value of Money. Skills: Interpretation, comparative analysis, critical thinking, writing skills
	1.1 Meaning and Functions of Money.	
	1.2 Demand for Money: 1.2.1 Classical Approach. 1.2.2 Keynesian Approach.	
	1.3 Supply of Money: 1.3.1 Credit Creation of Commercial Banks 1.3.2 Money Measure of RBI (M1, M2, M3, M4). 1.3.3 Credit Control Methods.	
	1.4 Value of Money: 1.4.1. Quantity Theory of Money. 1.4.2 Cash Balance Approach : Marshall, Pigou, Robertson and Keynes	
Unit	Inflation:	Purpose:

2	2.1 Meaning and Definition	To understand the concept Inflation. To understand the stagflation and Phillips curve. Skills: Understanding, writing skills, critical thinking
	2.2 Causes of inflation	
	2.3 Consequences of Inflation	
	2.4 Demand Pull and Cost Push Inflation	
	2.5 Stagflation: Meaning and Causes	
Unit 3	Trade cycle:	Purpose: To understand the concept and phases of trade cycle. To understand the policy measures Skills: Understanding, writing skills, critical thinking
	3.1 Meaning and Definition of Trade Cycle	
	3.2 Characteristics of Trade Cycle	
	3.3 Phases of Trade Cycle	
	3.4 Control of Trade Cycle: Monetary Measures and Fiscal Measures	
Unit 4	Public Finance:	Purpose: To understand Public Finance. To understand the Procedure of Budget. Skills: Understanding, Critical thinking and writing skills.
	4.1 Meaning and Definitions.	
	4.2 Scope of Public Finance.	
	4.3 Importance of Public Finance.	
	4.4 Meaning and Types of Tax.	
	4.5 Public Expenditure: Meaning and Causes of Increasing Public Expenditure.	
	4.6 Public Debt: Meaning and Importance.	
	4.7 Budget: Meaning and Types.	

Teaching methodology:

Unit No	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	<ul style="list-style-type: none"> Open discussion Casestudies Problem solvingbased learning 	<ul style="list-style-type: none"> You tube lectures Films 	<ul style="list-style-type: none"> Implication of liquidity trap. Credit control methods used by India. 	<ul style="list-style-type: none"> Students will understand concept and theories of money. Will be able to critically evaluate supply of money in the economies.

2	10	<ul style="list-style-type: none"> • Digital lectures • Jigsaw reading • Project based learning 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Inflation trends in developed and developing countries • Trends of agricultural prices in India 	<ul style="list-style-type: none"> • Will understand the causes and consequences of inflation • Will understand the concept of stagflation
3	10	<ul style="list-style-type: none"> • Game oriented classes • Pair learning • Group discussion • Games and simulation 	<ul style="list-style-type: none"> • Films • You tube lectures 	<ul style="list-style-type: none"> • Anti-cyclical policy measures used by various countries • Effect of US recession on the world economy • Implication of these measures 	<ul style="list-style-type: none"> • Will understand phases of trade cycle • Will understand the types of policies • Able to interpret effect of anti-cyclical policies on the economy
4	14	<ul style="list-style-type: none"> • Group discussion • Teacher driven 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Trend of developed and non-developed expenditure in Indian economy • Types of taxes in India • Study of Indian budget 	<ul style="list-style-type: none"> • Will understand public revenue and public expenditure concept • Will be able to analyze, interpret and criticize public policies with theoretical base

References:

1. Economics: Paul A Samuelson and William D Nordhaus. McGRAW – HILL international Edition.
2. Macroeconomics: N. Gregory Makiw, Worth Publishers, New York.
3. Macro- Economic Theory: M L Zingan, Vrinda Publications (P) Limited.
4. Samashti Arthshstriy Vishleshan : Shridhar Deshpande, Vinayak Deshpande, Himalaya Publication House.
5. Theories of value: Output and Employment - John Eatwell, Thames Polytechnic, 1979

6. Business Economics, Dr.J.P.Mishra, Sahitya Bhavan Publications, Agra.
7. Macroeconomics: A Global Text, Sampat Mukherjee, New Central Book Agency Private Limited (Latest Edition), New Delhi
8. Macroeconomics: A Rough Guide, in Macroeconomics: A Reader, (Ed.) Brian Snowdon and Howard Vane, Routledge
9. Paisa, Mahagaie Aani Rajasva: Dr. Rasal, Shelar and Bhadane, Idol Publications, Pune.
10. Macroeconomics: Theory and Policy, S. Chand & Company Limited. (Latest Edition)
11. Ben Fine & Ourania Dimakou, Macroeconomics: A Critical Companion, Pluto Press (Latest Edition)
12. Michel De Vroey, A History of Macroeconomics: From Keynes to Lucas and Beyond, Cambridge University Press (Latest Edition)
13. Sampat Mukherjee, Analytical Macroeconomics: From Keynes to Mankiw, New Central Book Agency Private Limited
14. Macroeconomics- K R Gupta, R.K.Mandal, Amita Gupta, Atlantic Publishers and distributor's pvt.ltd.
15. Money, Inflation, and Business Cycles The Cantillon Effect and the Economy, Arkadiusz Sieroń. Abingdon, Routledge, 2019. New York
16. Macroeconomics: N. Gregory Maki Worth Publishersw, New York
17. Macro Economics: Rudiger Dornbusch, Stanley Fisher & Richard Startz Tata McGraw Hill Education Private Limited (Latest Edition),US
18. The General Theory of Employment, Interest, and Money- John Maynard Keynes, General Press
19. An Analysis of John Maynard Keynes's The General Theory of Employment, Interest and Money- John Collins, CRC Press,2017

Suggested Web

References:

Sr. No.	Lectures	Films	Animation	PPTs	Articles
1.	https://www.economicsnetwork.ac.uk/teaching/Video%20and%20Audio%20Lectures/Public-sector%20Economics%20and%20Public%20Choice%20Theory	http://www.studyinternational.com/the-little-bits-we-like/films/	https://ed.ted.com/lessons?category=macroeconomics	https://www.slideshare.net/NayanVaghela/trade-cycle-chapter-4	https://theconversation.com/global-topics/inflation-645

2.	https://www.youtube.com/watch?v=Ac_i3GEhMF54	https://economic.stackexchange.com/questions/9781/what-are-some-exceptional-movies-documentaries-on-macroeconomics	https://www.ufs.ac.za/econ/unlisted-pages/microeconomics-animations	https://www.slideshare.net/NayanVaghela/public-finance-chapter-7	https://journals.sagepub.com/toc/pfr/current
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CORE COURSE – IV

Subject: BUSINESS MANAGEMENT-II

Course Code: 244

Total Credits: 03

Unit No.	Unit Title	Contents	Skills to be developed
1.	Improving peoples' performance : Motivating the staff	<ul style="list-style-type: none">• Meaning, Importance and Theories of motivation• Maslow's Need Hierarchy Theory• Herzberg's Two Factor Theory• Douglas MC Gregor's Theory of X and Y• Ouchi's Theory Z• McClelland's Theory	<ol style="list-style-type: none">1. Skills regarding how to motivate staff and other members of the team.2. Skills regarding retaining motivational level3. Understanding needs and expectations of group members and meeting them effectively.
2.	Organizing from front-Leadership Skills	<ul style="list-style-type: none">• Meaning, Importance, Qualities and Functions of a leader• Leadership styles for effective management• Contribution of Mahatma Gandhi, Dr. Babasaheb Ambedkar and Pt. Jawaharlal Nehru in leadership.	<ol style="list-style-type: none">1. How to lead group2. Understanding followers and their views on various organizational matters.3. Conflict Management
3.	Achieving success at work : Coordination and Control	<ul style="list-style-type: none">• Meaning and need of coordination and control• Techniques and difficulties in establishing coordination and control• Steps in the process of control and it's techniques	<ol style="list-style-type: none">1. How to coordinate group efforts2. Minimizing resource waste3. Skills to establish coordination between departments.
4.	Emerging trends in Business management	<ul style="list-style-type: none">• Corporate Social Responsibility,• Corporate Governance And Corporate Citizenship,• Disaster Management And• Management of Change	<ol style="list-style-type: none">1. How to introduce change2. Significance of Disaster Management3. Importance and implementation of CSR4. Importance of Corporate Citizenship

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be Used	Film shows and AV Applications	Project	Expected Outcome
1	12	PowerPoint Presentations, YouTube Videos	Films how to motivate staff and various theories of motivation available on various digital platforms.	Poster Presentation on motivation theories.	Students will get an idea about the basic motivational tools used in the field of management.
2	12	PowerPoint Presentations, YouTube Videos	Documentaries and movies on leadership. Videos of great leaders in the field of trade and commerce available on various digital platforms.	Student group activities which involve leadership skills and qualities.	Students will get an idea about how leadership influences organizational success.
3	12	PowerPoint Presentations, YouTube Videos	Documentaries and movies on coordination and control available on various digital platforms.	Poster Presentation on coordination and control	Students will understand the significance of coordination and control in modern business management.
4	12	PowerPoint Presentations, YouTube Videos	documentaries and movies emerging trends in management available on various	Projects on various emerging trends in management	Students will come across various emerging trends in management.

References :-

- Management Theory & Practice - J.N.Chandan
- Essential of Business Administration - K.Aswhatha Himalaya Publishing House
- Principles & practice of management - Dr. L.M.Parasad, Sultan Chand & Sons - New Delhi
- Business Organization & Management - Dr. Y.K. Bhushan

- Management: Concept and Strategies By J. S. Chandan, Vikas Publishing
- Principles of Management, By Tripathi, Reddy Tata McGraw Hill
- Business organization and Management by Talloo by Tata McGraw Hill Business Environment and Policy – A book on Strategic Management By Francis Cherunilam Himalaya Publishing House
- Essentials of Management - Horold Koontz and Itenz Weibrich - McGrawhills International
- Management Theory & Practice - J.N.Chandan
- Essential of Business Administration - K.Aswathapa Himalaya Publishing House
- Principles & practice of management - Dr. L.M.Parasad, Sultan Chand & Sons - New Delhi
- Business Organization & Management - Dr. Y.K. Bhushan
- Management: Concept and Strategies By J. S. Chandan, Vikas Publishing
- Principles of Management, By Tripathi, Reddy Tata McGraw Hill
- Business organization and Management by Talloo by Tata McGraw Hill
- Business Environment and Policy – A book on Strategic Management By Francis Cherunilam Himalaya Publishing House

CORE COURSE – V

Subject: ELEMENTS OF COMPANY LAW-II Course Code: 245

Total Credits: 03

Depth of the program – Fundamental Knowledge

Objectives of the Program

1. To develop general awareness among the students about management of company
2. To have a comprehensive understanding about Key managerial Personnel of company and their role in Company administration.
3. To acquaint the students about E Governance and E Filing under the Companies Act, 2013.
4. To equip the students about the various meetings of Companies and their importance.
5. To make students capable of becoming good human resource of the corporate sector.

Unit No	Unit Title	Contents	Purpose Skills to be developed
1	Management of Company	Management of Company: 1. Board of Directors: Definition, Powers, Restrictions, Prohibition on Board. 2. Director: Meaning and Legal position of Directors,. Types of Directors, Related Party Transactions(Sec.188) 3. Appointment of Directors, Qualifications and Disqualifications, Powers, Duties, Liabilities of Directors, Loans to Directors, Remuneration of Directors	To Equip the students with procedure and practices

2	Key Managerial Personnel (KMP)	Key Managerial Personnel (KMP) (U/S 203) 1. Meaning, Definition and Appointments of Managing Director, Whole Time Director, Manager, CS 2. Company Secretary (CS)- Term of office/ Tenure of appointment, Role of Company secretary 3. Distinction between Managing Director, Manager and Whole Time Director - Role (Powers, Functions of above KMP) 4. Corporate Social Responsibility (CSR) [U/S 135] – Concept who is Accountable, CSR Committee, Activities under CSR,	To have Comprehensive understanding about the Key Managerial Persons and CSR
3.	Company Meetings	Company Meetings: 1. Board Meeting – Meaning and Kinds 2. Conduct of Meetings - Formalities of valid meeting [Provisions regarding agenda, notice, quorum, proxies, voting, resolutions (procedure and kinds) minutes, filing of resolutions, Virtual Meeting] 3. Meeting of Share Holders General Body Meetings, Types of Meetings A. Annual General Meeting (AGM), (Ss.96 to 99) B. Extraordinary General Meeting (EOGM).(Sec.100) 4. Provisions regarding convening, constitution, conducting of General Meetings contained in Ss.101 to 114	To acquaint students about
4.	E Governance and Winding up Company	E Governance and Winding up of a Company 1. E Governance –meaning, Importance of E Governance 2. E Filing – Basic concept of MCA, E Filing 3. Winding –up: Meaning of winding-up, Dissolution of company, Conceptual understanding of winding-up by the Tribunal, 4. Compulsory winding-up, Members’ voluntary winding-up, Creditors’ voluntary winding-up	To be able to appreciate the emerging E Governance and E- filing under the Companies Act, 2013. Learn the winding up of company.

[Note: Recent amendments in the Acts and relevant Landmark cases decided by courts are expected to be studied]

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome

1	12	Document , PPT, Narration, , Survey Analysis, Article review	You Tube about Company Management	Report, Review on management of company	To Acquaint knowledge and maturity to understand Company management.
2	12	Project making, , jingles, slogan , Quiz Competition, , Interview with Company secretary	Use of You tube, Review of Movie	Article review on new Emerging issues in CSR of company	To Acquaint with knowledge and role of key managerial person of the Companies and Rules about CSR.
3	12	Street play, Case study, Poster making, Mock AGM.	Case Analysis, valid meetings	Recent Laws and salient features of meetings of company.	To get training in to various types of meeting and procedure.
4	12	Group Discussion, Assignments on e-governance and e-filing, Interview of lawyer	Film on E-governance procedure and case study of winding up	Project on winding – up of company and E-governance	To enhance skills and knowledge about the E- governance of the company and winding-up of the company

Methods of Evaluations

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	Continuous Evaluation,	Written Exam	Seminar on legal aspects on starting Business

Unit – II	Continuous Evaluation	Written Exam	Awareness program
Unit – III	Continuous Evaluation,	Written Exam	Visit to IPR Websites
Unit – IV	Continuous Evaluation,	Written Exam	Awareness program

1	12	PowerPoint Presentations, YouTube Videos	Films how to motivate staff and various theories of motivation available on various digital platforms.	Poster Presentation on motivation theories.	Students will get an idea about the basic motivational tools used in the field of management.
2	12	PowerPoint Presentations, YouTube Videos	Documentaries and movies on leadership. Videos of great leaders in the field of trade and commerce available on various digital platforms.	Student group activities which involve leadership skills and qualities.	Students will get an idea about how leadership influences organizational success.
3	12	PowerPoint Presentations, YouTube Videos	Documentaries and movies on coordination and control available on various digital platforms.	Poster Presentation on coordination and control	Students will understand the significance of coordination and control in modern business management.
4	12	PowerPoint Presentations, YouTube Videos	documentaries and movies emerging trends in management available on various	Projects on various emerging trends in management	Students will come across various emerging trends in management.

References :-

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	The Companies Act with Rules	Taxmann	Tan Prints (India) Pvt. Ltd. Jhajjar	Chandigarh
2.	The Companies Act, 2013	Bharat	Bharat Law House Pvt. Ltd.	Delhi
3.	Company Law-A Comprehensive Text Book on Companies Act 2013	Dr. G.K. Kapoor & Dr. Sanjay Dhamija	Taxmann Publications Pvt. Ltd	Delhi
4.	Company Law	Dr S R Meyani	Asia Law House	Mumbai
5.	Company Kaydyachi Olakha	K Shriram	Aarti & Co.	Mumbai
6.	Guide to Memorandum, Articles & Incorporation of Companies	Bhandari	Lexis Nexis	Mumbai
7.	Elements of Company Law	Arun Gaikwad Devendra Bhawari	Bibha	Pune
8.	Elements of Company Law	Prakash N. Chaudhary	Nirali Prakashan	Pune
9.	E-Commerce : Legal Compliance	Pratima Narayan	Eastern Book Company	Mumbai

SPECIAL ELECTIVE COURSE – VI

Subject: BUSINESS ADMINISTRATION-II

Course Code: 246(A)

Total Credits: 04 (Theory 03 + Practical 01=04)

Unit No.	Unit Title	Contents	Purpose/Skills to be developed
1	Legal Aspects (Recent Trends)	Compliance of legal requirements in promoting business unit, Licensing, Registration, Filing returns and other documents	To develop a better understanding of the legal compliances in business
2	Productivity	Meaning, Importance & measurements of productivity, Factors affecting productivity, Role of National Productivity Council- Product Quality Control	To understand the term productivity and its importance in business administration
3	Business liasoning	Interface between business and government, society ,and natural environment; etc Business strategy -- meaning and importance and steps in developing strategies.	To develop an understanding of the various forms of liasoning required in business administration
4	Business Alliances (growth strategies)	Mergers & Acquisition, Franchising, Outsourcing-concept and characteristics, Public Private Partnership, Business Engineering	Getting acquainted with the growth strategies of business

Teaching Methodology

Unit No.	No. of lectures	Innovative method to be used	Project	Expected Outcome
1.	12	PowerPoint Presentations, YouTube Videos	Assignments, poster presentations	Students will get an idea about the legal environment of business

2.	12	PowerPoint Presentations, YouTube Videos	Assignments, group presentations	Provide first - hand account of how productivity can be improved
3.	12	Lectures of industry experts entrepreneurs and documentaries.	Interviews /interaction with Business leaders to get a deeper insight on the environment and its impact on business	Help students understand the importance of various stake holders of business and the efficient way of establishing a rapport with them for business development
4.	12	Videos and lectures by experts	Interactions by experts with the students on various cases . Assignments/ presentations by student teams based on such interaction.	Greater insight on mergers , acquisitions and other strategies.

Recommended Books:

- i. Modern Business Organisation & Management-N.Mishra, Allied Publishers- Mumbai
- ii. Essentials of Business Administration- K. Ashwathappa-Himalaya Publication
- iii. Business Administration-S.C.Saxena-Sahitya Bhavan, Agra
- iv. The Administrative Process-Stephen Robbins
- v. Industrial Administration & Management- J.Batty
- vi Basu, C. (2017). Business Organisation and Management. McGraw Hill Education.

SPECIAL ELECTIVE COURSE – VI

Subject: **BANKING** & FINANCE-II Course Code: 246(B)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

1. To provide the knowledge of Cooperative Banking in India
2. To analyze the functioning of Development Banking
3. To create the awareness about Banking Sector Reforms
4. To understand the role of various committees on Banking Sector Reforms.

UnitNo.	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1.	Co-operative Banking in India: Meaning, significance and 1.1 principles of Cooperation 1.2 Evolution of Cooperative Baking in India. 1.3 Structure of Co-operative Banking in India Role of Co-operative Banking in Economic 1.4 Development 1.5 Challenges before Co-operative Baking in India	12	Lecture, PPT, the Group and Panel Discussion, Library Work, Assignment	Understanding Co-operative Banking Structure in India
2.	Development Banking in India: 2.1 Meaning and Features of Development Banking 2.2 Functions of Development Banks in India Role of Development Banks in Economic 2.3 Development Challenges before the Development Banking in 2.4 India	12	Lecture,PPT, the Group and Panel Discussion, Library Work, Visit to Banks	Understanding Functions and analyze the Role of Development Banking in India
3.	Selective Important Concepts of Banking 3.1 Central Banking , 3.2 Commercial Banking 3.3 Branch Banking , 3.4 Unit Banking	10	Lecture, PPT, the Group Discussion,	Understanding various concepts of Banking

3.5 Wholesale Banking, 3.6 Retail banking 3.7 Social Banking , 3.8 Islamic Banking 3.9 Merchant Banking, 3.10 Digital Banking		Library Work, Projects	
4. Banking Sector Reforms Historical approach, Meaning and Goals of 4.1 Banking Sector Reforms in India 4.2 Banking Reform Measures i) Cash Reserve Ratio (C.R.R.) and Statutory Liquidity Ratio (S.L.R.) ii) Prudential Norms (NPA) iii) Capital Adequacy Norms iv) Credit Deposit Ratio (C.D.Ratio) Framework of Basel Committees on Banking 4.3 Supervision i) Basel – I ii) Basel – II iii) Basel – III iv) Basel – IV M. Narsimhan Committee 4.4 Recommendations of – I (1991) 4.5 Recommendations of M. Narsimhan Committee- II (1998)	14	Lecture, PPT, Group and Panel Discussion, Library Work, Assignment, Projects	Understanding the Goals and Measures of Banking Reforms in India Analyze the role of various committees on Banking Sector Reforms
Total	48		

References:

1. Debaprosanna Nandy (2010), 'Banking Sector Reforms in India and Performance Evaluation of Commercial Banks, Universal Publishers
2. Deb Joyeeta (2019), 'Indian Banking System', Evince Publishing.
3. Desai Vasant (2007), 'Indian Banking-Nature and Problems', Himalaya Publishing House.
4. Gopinath M.N. (2017), 'Banking Principles and Operations', Snow White Publisher.

5. Joshi, Vasant and other (2002), Managing Indian Banks – The Challenges Ahead, Response Books, New Delhi.
6. Mallik, Chaudhury and Sarkar (2018), 'Indian Banking System- Growth, Challenges and
7. Nararajan and Parameswaran (2007), 'Indian Banking', S. Chand Company Ltd. New Delhi.
8. ShahiUjjwala (2013), 'Banking in India: Past, Present and Future', New Century Publications
9. Singh Sultan (2008), 'Banking Sector Reforms in India', Kanishka Publishing House
10. Thirunarayanan R., 'Co-operative Banking in India', Mittal Publication
11. Trivedi, Chaudhary and other (2015), 'Indian Banking System', RBD Publication, Jaipur.
12. Trivedi I.V. and Jatana Renu (2010), 'Indian Banking System', RBSA Publisher.
13. 'Report on Trend and Progress of Banking in India' 2017-18, 2018-19, 2019-20- Reserve Bank of India

SPECIAL ELECTIVE COURSE – VI

Subject: BUSINESS LAW & PRACTICE-II Course Code: 246(C)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives of the course:

To develop an understanding of the significant provision of Industrial and Labour Laws.

To gain the ability of students to address a basic business legal application- oriented issues.

Depth of the program:

Basic & Fundamental

Objectives of the Subject:

- To impart the students with the fundamental understanding of important Industrial and Labour laws.
- To study & acquaint students an application & overview based knowledge of Industrial and Labour Laws.
- To familiar the students with legal Business Environment of India.
- To develop & strengthen students through the legal practical knowledge and their implications on Indian Business organizations.
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Unit. No.	Unit Title	Contents	Purpose skills to be developments
1	Maharashtra Cooperative Societies Act,1960	Definition and Features of a Co-operative Society. Types of Co-operative Societies. Restriction on the society - Registration, Cancellation of Registration and De- registration of a Society. Bye Laws and Amendments of bye-laws.	Understanding the order and laws for development of co-operative societies in the state of Maharashtra.

2	Life Insurance	Meaning, Definition of Life Insurance, Features of Life Insurance, Importance of life Insurance. Basic Principles of Life Insurance. Advantages of Life Insurance, Type of Life Insurance Policy, Procedure of Life Insurance Policy. Settlement of Claims of Life Insurance of Policy, Nomination of Policy. LIC Object, Constitution & Functions, Challenges before LIC, Social Responsibility of LIC.	It will help the students to gain insights of Life Insurance
3	Competition Act 2002	Introductions, definitions, scope, objectives, Prohibition of Certain Agreements, Abuse of Dominant Position and Regulation of Combinations, Competition Commission of India, Duties, Powers And Functions of Commission. (Sec 1 to 39)	To create more awareness about prevented practices that adversely affect competition, and to maintain competition in markets and protect the interests of consumers.
4	Industrial Disputes Act, 1947	Introductions, definitions, scope, objectives, Industrial Disputes, Strikes, Lock-out, lay-off, Standing orders, Rules, Causes of Industrial Disputes. Consequences of Industrial Disputes. Works committee.	Understanding the concepts of dispute, Disputes that relate to the terms and conditions of employment or non-employment or employment of a person.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	<ul style="list-style-type: none"> ➤ Cases to be discussed in Group. ➤ Internet Sources. 	<ul style="list-style-type: none"> ➤ You tube videos on Success stories of cooperative movement in India. ➤ E-Content on Cooperative societies provided by UGC/University/MOOC / You tube etc. to be studied. 	Project report should be prepared on Various successful cooperative ventures in .India & Outside the India	Understanding the legal requirements of Cooperative Business Model in India. Understanding the cooperative law & its applications.
2	12	<ul style="list-style-type: none"> ➤ Benefits of Insurance to be discussed in Group. ➤ Internet Sources. ➤ Discussion on Claim Settlement. 	<ul style="list-style-type: none"> ➤ E-Content on Life Insurance provided by UGC/University/MOOC etc. to be studied & analyzed. 	Project report can be prepared on benefits of Life insurance to the people.	Legal framework of Life insurance. Insights & benefits to be understood to minimize life risk.
3	12	<ul style="list-style-type: none"> ➤ Internet Sources. ➤ Presentation can be taken. ➤ Applications of this law to be understood. 	<ul style="list-style-type: none"> ➤ E-Content on Competition Act 2002 provided by UGC/University/MOOC/ You Tube etc. to be Watched & analyzed. 	Project report can be prepared on Applications of Competition Act 2002.	Understanding the fair & healthy business competition in India.

4	12	<ul style="list-style-type: none"> ➤ Observation or Survey about Industrial disputes can be conducted and discussed in detail. ➤ PPT Method can be used. 	<ul style="list-style-type: none"> ➤ Various cases on Industrial Disputes can be studied. ➤ E-Content on Industrial Disputes act 1947 provided by UGC/University/MOOC/ You Tube etc. to be Studied & analyzed. 	Project report can be prepared on various dispute cases happened in India & solved under Industrial Disputes Act 1947.	Application & benefits of Industrial Disputes Act 1947. Insights & benefits of the same to the business organizations in India.
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References

Sr. No.	Title of the Book	Author/s	Publication
1	Labour Laws	Taxmann	Taxmann
2	Labour & Industrial Laws	S N Misra	Central Law Publication
3	Maharashtra Cooperative Societies Act, 1960	Current Publications	Current Publications
4	Competition Act 2002	Agarwal V. K.	Bharat Law House Pvt Ltd
5	Industrial Disputes Act, 1947	Lawmann's	Kamal Publishers
6	Labour and Industrial Laws	M.N. Mishra	Central Publications

Practical for Semester – IV

Topic	Mode of Practical
Types of Cooperative Society	Case Study Method.
Settlement of Claims of Life Insurance of Policy	Real life examples, Applications with library sources.
Competition Commission of India	Library Assignment.
Strikes, Lock-out, lay-off, Standing orders, Rules, Causes of Industrial Disputes	Review of Research Papers/Articles, News Paper Articles etc.

SPECIAL ELECTIVE COURSE – VI

Subject: CO-OPERATION AND RURAL DEVELOPMENT -II

Course Code: 246(D)

Total Credits: 04 (Theory 03 + Practical 01=04)

Unit No.	Unit Title	Contents	Skills to be developed
1	Co-operative Laws in India	1.1 History of Co-operative Legislation 1.2 Co-operative Societies Act 1904, Objectives and Features 1.3 Co-operative Societies Act 1912 ,Objectives and Features 1.4 Bombay Provisional Co-operative Societies Act 1925, Main Provisions, 1.5 Benefits of Co-operative Legislations	1. To understand progress of co-operative legislation 2. To be acquainted with various co-operative enactments 3. 3. To know the benefits of co-operative legislations
2	Multi-state Co-operative Societies Act	2.1 Need and objectives 2.2 Procedure for Registration of Societies 2.3 Documents required for registration 2.4 Central Registrar – Appointment, Functions, Duties	1. To know the process of registration. 2. To know the various documents essential for registration of societies 3. To understand the rights and functions of Registrar.
3	Maharashtra State Co-operative societies Act, 1960	3.1 Need and objectives of the Act 3.2 Registration of Co-operative Societies 3.3 Privileges of Co-operative Societies 3.4 Membership of Co-operative Societies 3.5 Provisions Regarding Management of Co-operative Societies 3.6 Registrar Appointment, Functions, Duties and Jurisdiction 3.7 Provisions Regarding Audit of Co-operative Societies 3.8 Amendments made in Maharashtra Co-operative Societies, Act in 2013	1. To understand provisions of co-operative societies Act-1960. 2. To know and understand provisions of amendment act 2013. 3. To know the provisions pertaining the audit of co-operative societies.

4	Co-operative Entities – Functions, Problems and Progress	4.1 Present Situation of Agricultural Credit Co-operatives- Primary District and State Co-operative Banks 4.2 Co-operative Sugar Factories 4.3 Contemporary conditions of Non Agricultural Credit Co-operatives 4.4 Dairy Co-operatives 4.5 Co-operative Housing Societies 4.6 Consumer Co-operative Societies 4.7 Urban Co-operative Banks	1. To create understanding about agricultural credit banks. 2. To know the problems of co-operative societies. 3. To know the functions of various co-operative societies.
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Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Theory lectures, group discussion.	----	-----	Concept of co-operation & how co-operative societies act progressed.
2	12	Theory lecture, class room discussion	----	-----	Student should become aware about registration, its benefits & importance.
3	12	Theory lecture, Visit to co-operative registrar's office	AV available on 'You tube'	Collection of Memorandum of Association, Article of Association, Form 'A' & Form 'B'.	Understanding pertaining to registration process, documents & audit of co-operative societies
4	12	Theory lecture, visit to co-operative credit Bank	-----	Preparing Detailed report of the visit.	Understanding about functioning of credit co-operative banks/ Societies

References:

- 1) G.S.Kamat –Cases in Co-operative management
- 2) N.L.Ghorpade- Co-operation and Rural Development
- 3) K.K.Taimani- Co-operative Organization and Management
- 4) G.S.Kamat – New Dimensions of Co-operative Management
- 5) Vasant Desai – Fundamentals of Rural Development

- 6) Dr. Dhiraj Zalte & Others – Theory & Practice of Co-operation, Prashant Publication
- 7) V.M.Dandekar and Rath – Poverty in India
- 8) Dr. P.R.Dubhashi – Rural Development and Administration in India
- 9) V.Reddy – Rural Development in India
- 10) S.K. Gopal – Co-operative Farming in India
- 11) B. Mukharji – Community Development
- 12) I.C.A State and C-operative Movement
- 13) <https://www.bhagirathgram.org/>

SPECIAL ELECTIVE COURSE – VI

Subject: COST & WORKS ACCOUNTING-II

Course Code: 246(E)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

1. To know the documents that are used in stores and how to calculate the issuing price of material.
2. To provide knowledge to students on classification and codification.
3. To equip students with knowledge regarding the ascertainment of labour cost.
4. To understand the concept of payroll.
5. To know the concepts of labour turnover and merit rating.
6. To understand recent trends in cost accounting.

Unit No.	Unit Title	Contents	Skills to be developed
1	Material Accounting	Store Location and Layout. Classification and Codification of Material. Stores and Material Records. Bin Card & Store Ledger etc. Issue of Material and Pricing Methods for Issue of Material: FIFO. LIFO. Simple Average Methods. Weighted Average Methods. Use of computer in store Accounting.	1. To understand different pricing methods used for issuing the material. 2. To gain knowledge about the documents used in store departments.
2	Labour cost and Payroll	Meaning and definition of wages. Difference Between Wages and Salary Records and methods - time keeping and time booking. Methods of Wage Payment Time rate system. Piece rate system. Taylor's differential piece rate system. Incentive Plan. Halsey Plan. Rowan Plan. Group Bonus scheme. Performance based incentive plan. Payroll meaning and components	To Understand the difference between salary and wages. To know the methods of time keeping and time booking. To enable the student to calculate wages and incentives. To understand meaning and components of payroll
3	Other Aspects of Labour	a. Labour Turnover. b. Job Analysis & Job Evaluation. c. Merit Rating.	To understand the labour turnover, job analysis and evaluation
4	Direct Cost and	Direct Cost Concept and its accounting	To understand the concept of

Introduction to JIT, CAM and ERP.	treatment Introduction to- Just In Time(JIT) CAM(Computer Aided Manufacturing) Enterprise Resource Planning (ERP)	direct cost and recent trends in cost and management accounting
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Teaching Methodology

Unit No.	Total Lectures	Innovative Methods to be used	Films Shows and AV Applications	Project	Expected Outcome
1	16	Invite a storekeeper in the classroom to provide practical knowledge about which records are to be maintained in the store department and pricing methods for issue of material	Youtube Lectures and relevant multimedia compact discs(CD)	Visit small industries for understanding which records are to be maintained in store department	Understanding various methods used in the pricing of the issue of materials
2.	16	Powerpoint presentation and guest lecture	You Tube clippings of methods of remuneration, time keeping and time booking and their methods	1)Calculation of wage payment and incentives. 2)Preparation of a specimen of pay slip.	Enabling to calculate wage payment and incentives.
3	10	Powerpoint presentation and group discussion.	You Tube clippings of Labour turnover, Job Analysis & Job Evaluation Merit Rating.	Analysis and evaluation of jobs in any organisation.	Understanding the process of job analysis, job evaluation and merit rating.
4	6	Guest lecture, powerpoint presentation and group discussion.	You Tube clippings of Labour turnover, Job Analysis & Job Evaluation Merit Rating.	Read articles on the recent trends in cost accounting from Journals, e-journals and web resources.	Insight into recent processes used for cost reduction.

Methods of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add-On Course
Unit I	Multiple Choice Questions, Written Test, Internal Examination, Powerpoint Presentations, Orals, Assignments, Tutorials etc.	SPPU	Two industrial visits and subsequently reports on these visits.
Unit II			
Unit III			
Unit IV			

References

Sr. No	Titles of the Book	Names of Author	Name of Publisher	Place
01	Cost Accounting-Principles & Practises	Jawahar Lal & Seema Shrivastava	Tata Mcgraw Hill	New Delhi
02	Advanced Cost Accounting And Cost Systems	Ravi M Kishor:	Taxmann	New Delhi
03	Cost Accounting Theory And Problems	S. N. Maheshwari	Mittal Shree Mahavir Book Depot.	New Delhi
04	Advanced Cost Accounting	Jain and Narang	Kalyani Publication	New Delhi
05.	Horngren's Cost Accounting-A Managerial Emphasis	Srikant M Datar & Madhav V Rajan	Pearson	Noida Up
06	Cost Accounting-Principles & Practises	Dr. M.N. Arora	Vikas Publishing House,	New Delhi
07	Advanced Cost Accounting	Dr. D. M. Gujarathi	Idol Publication	Pune
08	Advanced Cost Accounting	Dr. Kishor. M. Jagtap	Tech-Max Publication	Pune
09	Cost Accounting Principles And Practice	Jain and Narang	Kalyani Publication	New Delhi
10	Principles and Practice of Cost Accounting	N.K Prasad	Booksyndicate Private Ltd	Kolkata
11	Cost Accounting: Methods and Problems	B.K.Bhar	Academic Publications	Kolkata

Web References

Sr. No	Lectures	Films	PPTs	Articles	Others
For all the units.	Guest Lectures by Field Personnel such as working executives from industries and of practising Cost and Management Accountants.	YouTube films showing the working of different industries.	Relevant powerpoint presentations are available on all these topics.	Articles from the Professional Journals such as The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial Analyst of India	https://icmai.in www.globalcma.in eclm.unipune.ac.in

Notes: The breakup of marks in the Examination will be as follows:

- 50 % of the marks are assigned for Theory whereas rest 50 % of the total marks are allotted for Numerical Problems.
- The Numerical Problems will be of simple nature only.
- Areas of numerical problems:
 - Pricing Methods Of Issue Of Material.
 - Methods Of Wage Payment and Incentive Plan.
 - Measurement Of Labour Turnover.

SPECIAL ELECTIVE COURSE – VI

Subject: BUSINESS STATISTICS

Course Code: 246(F)

Total Credits: 04 (Theory 03 + Practical 01=04)

Preamble to the syllabus:

Tools and techniques learned in Statistics give a precise way of formulating and analyzing a problem and to make logical conclusions. Concepts and tools introduced in this course are useful to students for higher studies and career in any branch of Economics, Commerce and Management. Professionals working in these fields, wishing to upgrade their knowledge, will also benefit. The stress of the course will be on building the concepts and their applications.

In modern times, Statistics is viewed not as a mere device for collecting numerical data but as a means of developing some techniques for their handling and analysis and drawing valid inferences from them. Statistics provides tools for making decisions when conditions of uncertainty prevail. So it is very useful in various fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc.

Depth of the Course – Basic Knowledge of Elementary Statistics

Objective of the Course

1. To understand and Master the concepts, techniques & applications of Statistical Methods Operations Research.
2. To develop the skills of solving real life problems using Statistical Methods and Operations Research.
3. To make students to understand the art of applying statistical techniques to solve some real life problems.
4. To gain knowledge of Statistical Computations

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	Time Series	Introduction, Definition, Components of Time Series, : The Trend, Seasonal variation, Cyclical variation, Irregular variation, Additive Model, Multiplicative Model, Methods of estimating Trends, Moving averages (with periods 3,4,5), Fitting of trend line and second degree curve, Exponential smoothing, Example and problems.	<ol style="list-style-type: none">1. To understand the concept time series and its components.2. To understand the interpretation of time series.3. To understand the various data fitting methods for time series.
2	Simplex Method	Definition of Linear programming problem, Canonical and standard form duality relation between primal and dual, example and problems on simplex	<ol style="list-style-type: none">1. To understand the simplex method algorithm.2. To understand and

		method, meaning of unbounded solution, basic feasible solution, alternate solution, degenerate solution	analyze simplex tables.
3	Transportation Problem	Transportation Problem of minimization type objective function, Introduction, balanced and unbalanced TP, Initial Basic Feasible Solution (IBFS) using NWCR, MMM, VAM, Optimal solution using MODI method. Example and problems.	1. To understand the concept of transportation problems. 2. To understand the methods to obtain IBFS and optimal solution of TP.
4	Assignment Problem	Introduction, concept minimization and maximization, Hungarian method example and problems	1. To understand the concept of assignment problem. 2. To understand the method to obtain optimal solution of AP.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	ICT	NA	NA	Students will be able to apply time series techniques to problems from finance and economics.
2	13	ICT	NA	NA	Students will be able to apply simplex algorithm and analysis the solution of LPP.
3	14	ICT	NA	NA	Students will be able to solve transportation problems and obtain optimal solutions. Students will be able to apply TP techniques to real world problems.
4	07	ICT	NA	NA	Students will be able to solve assignment problems. Students will be able to apply AP techniques to real world problems.

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30%	70%
Unit – II	30%	70%
Unit – III	30%	70%
Unit – IV	30%	70%
Total		

Notes: -

1. Internal evaluation is continuous assessment.
2. Internal evaluation shall have following components: -
 - a. At least one test of 20 marks involving objective questions of following type: - multiple choice, true or false, state definitions/concepts, one line answer etc.
 - b. At least one assignment of 05 marks.
 - c. If time and resources permit then there can be power point presentation of group or individual (this component is not compulsory).
 - d. Final score will be average score of all components.

Text Books:

1. Unit I – Time Series - Bhowal M. K. and Pronob Barua, Statistics Vol. 1, Asian Books Pvt. Ltd., New Delhi and Cheng-Few Lee, John C. Lee and Alice C. Lee, Statistics for Business and Financial Economics, Springer, New York
2. Unit II – Simplex Method - Hamdy A. Taha, Operations Research: An Introduction, Pearson, New Delhi
3. Unit III – Transportation Problems - Hamdy A. Taha, Operations Research: An Introduction, Pearson, New Delhi
4. Unit IV – Assignment Problems - Hamdy A. Taha, Operations Research: An Introduction, Pearson, New Delhi

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1.	Business Mathematics and Statistics	N.G. Das & Dr. J.K. Das	McFraw Hill	New Delhi
2.	Fundamentals of Business Mathematics	M. K. Bhowal	Asian Books Pvt. Ltd	New Delhi
3.	Operations Research	P. K. Gupta & D. S. Hira	S. Chand Publishing	New Delhi
4.	Mathematics for Economics and Finance: Methods and Modeling	Martin Anthony and Norman Biggs	Cambridge University Press	Cambridge
5.	Fundamentals of Mathematical Statistics	Gupta S. C. and Kapoor V. K.:	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
6.	Statistical Methods	Gupta S. P.:	Sultan Chand and Sons	23, Daryaganj, New Delhi 110002
7.	Applied Statistics	Mukhopadhyaya Parimal	New Central Book Agency Pvt. Ltd.	Calcutta.
8.	Fundamentals of Statistics	Goon A. M., Gupta, M. K. and Dasgupta, B.	World Press	Calcutta.
9.	Fundamentals of	Gupta S. C. and Kapoor V. K.:	Sultan Chand and Sons	23, Daryaganj, New Delhi

	Applied Statistics			110002
10.	Statistics for Business and Financial Economics	Cheng-Few Lee, John C. Lee and Alice C. Lee	Springer	New York
11.	<i>Operations Research</i>	<i>Kanti Swarup, P. K. Gupta, Man Mohan</i>	Sultan Chand & Sons,	New Delhi

Suggested references

Web reference for Semester I & II

1. www.freestatistics.tk(National Statistical Agencies)
2. www.psychstat.smsu.edu/sbk00.htm(Onlinebook)
3. www.bmj.bmjournals.com/collections/statsbk/index.shtml
4. www.statweb.calpoly.edu/bchance/stat-stuff.html
5. www.amstat.org/publications/jse/jse-data-archive.html(International journal on teaching and learning of statistics)
6. www.amstat.org/publications/chance(Chancemagazine)
7. www.statsci.org/datasets.html(Datasets)
8. www.math.uah.edu/stat(Virtual laboratories in Statistics)
9. www.amstat.org/publications/stats(STATS : the magazine for students of Statistics)
10. www.stat.ucla.edu/cases(Case studies in Statistics).
11. www.statsoft.com
12. www.statistics.com
13. www.indiastat.com
14. www.unstat.un.org
15. www.stat.stanford.edu
16. www.statpages.net
17. www.wto.org
18. www.censusindia.gov.in
19. www.mospi.nic.in
20. www.statisticsofindia.in
21. <https://swayam.gov.in/>

SPECIAL ELECTIVE COURSE – VI

Subject: BUSINESS ENTREPRENEURSHIP (SPECIAL PAPER-I)

Course Code: 246(G)

Total Credits: 04 (Theory 03 + Practical 01=04)

Unit No.	Unit Title	Contents	Skills to be developed
1	Group Entrepreneurship	Concept- Meaning and Significance- Individual Entrepreneurship V/s Group Entrepreneurship. Advantages and Disadvantages of Group Entrepreneurship. Self Help Group- Definition, Meaning and Evolution- Nature- Scope of SHG, Administration Functions and Operation of SHG's , Do's and Don'ts with suitable illustration of Self Help Group	<ol style="list-style-type: none">1. To understand the concept Individual Entrepreneurship and Group Entrepreneurship along with their significance.2. Students should be able to understand its advantages and disadvantages.3. To make aware of the concept Self Help Group with its functions to enhance the knowledge in entrepreneurship.4. To equip the students with various aspects of entrepreneurship, their competencies like initiative, how to grab the opportunities etc. and qualities with examples.
2	Various Entrepreneurial Opportunities	Role of Service Sector in National Economy- Types of Service Ventures, Service-Industry Management, Success Factors in Service Ventures- Opportunities to Service Industry in Rural and Urban Areas, Distinction Between Service Industry and Manufacturing Industries.	<ol style="list-style-type: none">1. Students should know to service sector and its role in National Economy also have to detail knowledge of benefits of industries in rural and urban areas.2. Students should be able to differentiate in service industry and manufacturing conventional industry.3. Information on role of each industry will help the students to develop their interest in entrepreneurship.

3.	Study of Entrepreneurs or Enterprises	1. Mr. Radhakishan Damani (D Mart) 2. Mr. Ritesh Agarwal (OYO Hotels) 3. Mr. Sanjeev Bhikchandani (Naukri.com) 4. Mumbaiche Dabewale 5. Mr. Ratan Tata.	1. To study the real life well known examples of entrepreneurs and enterprises in India, to motivate the students to enhance their competencies and create interest in, to become an enterprisers or to be an entrepreneurs.
4.	Challenges in Entrepreneurship Development	Challenges- Social, Cultural, Educational, Political, Economical, International Situation, Cross Cultural Aspects. Measures and Challenges of Globalization and Entrepreneurship Development in India. Effect of Corona Virus on Entrepreneurship.	1. Students should be able to understand the challenges in entrepreneurship development and how these environmental factors affect the business so the students should be known how to overcome on these factors or challenges.

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Collecting information through available literature.	Related Videos and PPTs	Asked students to prepare detailed report.	Understanding the basics difference in Individual Entrepreneur and Group Entrepreneurship and details in SHG.
2	12	Small research on field market survey.	Related Videos and PPTs	Assign small projects (Product Specific) to students in individual or group research to find the requirement of the society. (Product	Students will identify the opportunities of entrepreneurship in the present market, in terms of production, trading or by providing services

				Specific)	to the society.
3	12	Collecting detail information of entrepreneurs and enterprise through available literature, news, reports, etc.	Biographical videos or CDs of entrepreneurs and enterprises	Prepare a small project on at least one entrepreneur to study its 360 degree.	Students will be able to study and investigate the entrepreneur or enterprise on micro level.
4	12	Conducting survey and collecting information of the challenges (internal and external) in the entrepreneurship development.	Interviews of entrepreneurs videos, PPTs	Assign small projects in individual or in group.	Students will practically study the Challenges in entrepreneurship development.

References:-

- 1..Business Environment, Francis Cherunilam, Himalaya Publishing House, New Delhi.
- 2..Entrepreneurship Development, Khanna S.S, S. Chand, New Delhi.
- 3.Entrepreneurship Development, Gupta, Shrinivasan, S. Chand, New Delhi
- 4..Dynamics of Entrepreneurship, Desai Vasant, Himalaya Publishing House, New Delhi
- 5..Indian Economy,, Ruddar Datt, K.P.M. Sundharam, S. Chand, New Delhi
- 6 .Udyog,Udyog Sanchalaya, Mumbai
- 7.Vyawasaya Udyojagata, Dr. S. L. Shiragave, Success Publication, Pune

SPECIAL ELECTIVE COURSE – VI

Subject: -MARKETING MANAGEMENT -II Course Code: 246(H)

Total Credits: 04 (Theory 03 + Practical 01=04)

1. Preamble

As the commercial scenario has totally changed, the need for advanced concepts has increased. Education system also has to change with the rapidly transforming times. Education system is trying to familiarize the students of commerce with advanced concepts in the field so that they are aware of the changing picture.

Marketing Management is an important subject and has been structured to create awareness of the Marketing Management by giving proper insight to the basics of Marketing, so that the foundation of this subject is strengthened for further studies in Marketing.

From this point of view Savitribai Phule Pune University has introduced Choice Based Credit System of course structure. This system will develop the logical independent thinking for accepting the challenges of the changing Business world.

2. Objective of the Course

1. To create awareness and impart knowledge about the basics of Marketing Management which is the basic foundation of Marketing subject.
2. To orient the students in recent trends in marketing management.
3. To understand the concept of Green Marketing.
4. To enable students to apply this knowledge in practical by enhancing their skills in the field of Marketing.

Unit No.	Unit Title	Contents	Purpose Skills To Be Developed
1	Green Marketing	1.1 Introduction 1.2 Meaning of Green Marketing 1.3 Definition of Green Marketing 1.4 Objectives of Green Marketing 1.5 Importance of Green Marketing 1.6 Strategies of Green Marketing 1.7 Role of Marketing Manager in Green Marketing	To understand the core principles required to create competitive advantage in the marketplace by implementing innovative green

		<p>1.8 Marketing mix of green marketing</p> <p>1.9 Principles of success of green products</p> <p>1.10 Case studies</p>	marketing strategies.
2	E-Marketing	<p>2.1 Introduction</p> <p>2.2 Meaning of E-Marketing</p> <p>2.3 Definition of E-Marketing</p> <p>2.4 Utility of E-Marketing</p> <p>2.5 Advantages of E-Marketing</p> <p>2.6 Limitations of E-Marketing</p> <p>2.7 Challenges before E-Marketing</p> <p>2.8 Online and Offline Marketing</p> <p>2.9 Present status of E-Marketing in India</p> <p>2.10 Scope for E-Marketing in Indian scenario Online Marketing Strategies</p>	To understand Professionals working in E-Marketing to design and implement Internet marketing plans.
3	Digital Marketing	<p>3.1 Introduction</p> <p>3.2 Meaning of Digital Marketing</p> <p>3.3 Definition of Digital Marketing</p> <p>3.4 Difference between Traditional Marketing & Digital Marketing</p> <p>3.5 Digital Marketing Channels</p> <p>3.5.1 Search Engine Optimisation (SEO) Off-page Optimisation On-Page Optimization</p> <p>3.5.2 Social Media Marketing Facebook Marketing Twitter Marketing Google Marketing Video Promotion YouTube Marketing Pinterest Marketing Instagram Marketing</p> <p>3.5.3 Online Paid</p>	To understand how and why to use digital marketing for multiple goals within a larger

		<p>advertisement Google AdWords Facebook Ads Twitter Ads</p> <p>3.5.4 Email Marketing 3.5.5 Mobile App Marketing 3.5.6 Web Analytics 3.5.7 Content Marketing 3.5.8 Affiliate Marketing</p>	
4	Introduction to International Marketing	<p>4.1 Introduction 4.2 Meaning of International Marketing 4.3 Definition of International Marketing 4.4 Scope of International Marketing 4.5 Objectives of International Marketing 4.6 Facets of International Marketing 4.7 Benefits of International Marketing 4.8 Limitation of International Marketing 4.9 Forces influencing International Marketing 4.10 Forces restraining International Marketing</p>	To expand student's knowledge of significant strategic marketing techniques which will give them great advantage to develop their career in marketing.

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Power Point Presentation, Article Review, Survey Analysis	AV Application	Market Survey	Students will understand how Green Marketing is necessary for marketers to use resources efficiently, so that organizational objectives are achieved without waste of resources.

2	07	Group Discussion, Quiz, Poster Making	Short Film about Buyer Behaviour, AV Application	Interviews of the Buyer	It will help the student to apply the various techniques and methods of E- Marketing practically.
3	14	Power Point Presentation, Group Discussion, Survey Analysis	AV Application	Market Survey, Interviews of Seller	It will help them to implement the knowledge of Digital Marketing in practical by enhancing their skills in the field of Marketing.
4	13	Power Point Presentation, Group Discussion, Field Visit	Short Film, AV Application	Market Survey, Interviews of Marketing Manager or Head	It will help them to gain a solid understanding of the theoretical and conceptual knowledge of International marketing.

Methods of Evaluation

	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit - I	Quiz, Group Discussion	Examination	Environmental Marketing
Unit - II	Practical, Presentation	Examination	Advanced Digital Marketing
Unit - III	Presentation, Group Discussion	Examination	E-Learning Training Course
Unit - IV	Project, Presentation	Examination	Workshop on International Marketing

References

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Marketing Management	Philip Kotler	Pearson Publication	
2	Marketing Management	Rajan Saxena	McGraw Hill Education	
3	Principles of Marketing	Philip Kotler	Pearson Publication	
4	Sales & Distribution Management	Tapan K Panda	Oxford Publication	

5	Advertising Management	Rajiv Batra	Pearson Publication	
6	Retail Management	Swapna Pradhan	McGraw Hill Publication	
7	Retail Management	Gibson Vedamani	Jayco Publication	
8	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication	
9	Supply Chain Management	Sunil Chopra, Peter Meindl & D. V. Karla	Pearson Publication	

SPECIAL ELECTIVE COURSE – VI

Subject: AGRICULTURAL AND INDUSTRIAL ECONOMICS -II

Course Code: 246(I)

Total Credits: 04 (Theory 03 + Practical 01=04)

Unit No.	Unit Title	Content	Purpose skills to be developed
1	Economics of Farm Management	3.1 Farm Management, Meaning, Scope, Objectives 3.2 Management of Farm input and Output, Types of Farming 3.3 Economies and Diseconomies of Scale 3.4 Recent Changes in Farm Management- (Farmer Collectives/ Producer Organisation)	<ul style="list-style-type: none">▪ To understand the Concept of Farm Management▪ Ability to compare Plant, Firm and Industry To make the students know about the concept of various sector in Industrial Economics.
2	Risk and Uncertainty in Agriculture	2.1 Nature of Risk and Uncertainty in Agriculture 2.2 Types of Risk and Uncertainty (Climatic Variability & Change, Production Risks, Technological) 2.3 Risk and Uncertainty Management Strategies in Agricultural 2.4 Risk Management Through Agricultural Insurance Price	<ul style="list-style-type: none">▪ To get acquainted with Nature and Type of uncertainty in agricultural▪ To Equip the students with a measure to control risk and uncertainty in Agriculture
3	Industrial Finance	3.1 Meaning, Scope, Importance of Industrial Finance 3.2 Sources of Industrial Finance: Shares, Debentures, Bonds, Deposits, Loan Role of IDBI, SIDBI, ICICI, State Finance Corporations 3.3 Foreign Capital: Need for Foreign Capital, Foreign Direct Investment, Foreign Institutional Investment, GDR, ADR, External Commercial Borrowings.	<ul style="list-style-type: none">▪ To get acquainted with meaning scope and Importance on Industrial Finance.▪ To gain knowledge of various industrial financing institution
4	Industrial Productivity & Efficiency	4.1 Productivity - Norms and Measurement 4.2 Factors Affecting Productivity and Capacity Utilization 4.3 Importance of Productivity in the Competitive Environment. 4.4 Measures Required for Improving	<ul style="list-style-type: none">▪ To understand the Concept productivity▪ To make the students know about the Factors affecting Productivity and Measures required for Improving Productivity and efficiency

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project/Practical	Expected Outcome
1	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E- Content	<ul style="list-style-type: none"> Visit farmer Producer Company and analyse the opportunities and threats of FPO. 	<p>After completing this topic , the student will be able to understand</p> <ul style="list-style-type: none"> Assess and evaluate the New methods of Collective Farming Identify and choose the newer methods
2	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E- Content	<ul style="list-style-type: none"> List of out the Indian Government measure to Control risk and uncertainty in Agriculture. 	<ul style="list-style-type: none"> Evaluate the effects of Risk and uncertainty in agricultural Different measures to overcome risk and uncertainty in the Agricultural Sector
3	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E- Content	<ul style="list-style-type: none"> Information of various Industrial Financial Institution 	<ul style="list-style-type: none"> Analyse the importance and roll of Industrial Financial Institution
4	12	Lecture, PPT/ Group Discussion, Library, Problem solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E- Content	<ul style="list-style-type: none"> Analyse the factor affecting on Industrial Productivity and Efficiency 	<ul style="list-style-type: none"> Describe the Industrial Productivity and Efficiency. Analyse the factor affecting industrial Productivity and Efficiency

References:

1. Raju, V. T, RaoVS. (2017) Economic of Farm Production and Management, Oxford & Ibh, New Delhi.
2. Misra S.K. &V.K.Puri, (2017) Indian Economy, Himalaya Publication house Mumbai.
3. Kavimandan Vijay, (2009) Krushi Arthshastra, Shri Mangesh Prakshan, Nagpur.
4. Barthwal R.R. (1985), Industrial Economics, Wiley Eastern Ltd., New Delhi.
5. Barthwal R.R.(2004) Industrial Economics Introductory Text Book, New Age International Limited, Kanpur.
6. W. Stewart Howe, Industrial Economics An Applied Approach, Springar Link, Switzerland.
7. Singh, A and A.N. Sandhu (1988), Industrial Economics, Himalaya Publishing House, Bombay.
- 8.Jain S.C. Industrial Economics, (Edition: First, 2019), Publisher: Kailash Pustak Sadan, 30 Shah Building, Hamidia Road, Bhopal (M.P.)

Suggested Web references:

<https://www.youtube.com/user/cecedusat>

<https://www.swyamprabha.gov.in/>

[http://14.139.13.96:8080/lectures.aspx?pno=Paper05\(O\)](http://14.139.13.96:8080/lectures.aspx?pno=Paper05(O))
Economics

-UGC CEC E Contain on Agricultural

[http://14.139.13.96:8080/lectures.aspx?pno=Paper06\(O\)](http://14.139.13.96:8080/lectures.aspx?pno=Paper06(O))
Economics

-UGC CEC E Contain on Industrial

SPECIAL ELECTIVE COURSE – VI

Subject: DEFENSE BUDGETING, FINANCE AND MANAGEMENT-II

Course Code: 246(J)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

1. To understand the relationship between economy and defence expenditure
2. To create awareness about recent trends in India's Defence Expenditure
3. To understand the importance of War Finance and defence management
4. To create awareness about different challenges to India's defence management.

Unit No.	Topic	No. of Lectures	Teaching Method	Proposed Skill to be Developed
I	Defence Expenditure 1.1 Salient features of Indian Economy 1.2 Analysis of India's Defence Spending from 1947 to till date. 1.3 Determinants of Defence Expenditure 1.4 Recent Trends in India's Defence Expenditure	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	The learners will be able to analyse the methodology of defence spending in India.
II	War Potential 2.1 Concept of War Potential 2.2 Industrial Power 2.3 Elements of War Potential 2.4 Cost of War 2.5 Importance of DRDO in War	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	The learners will be able to understand the role of Industrial Power and their relationship to national security.
III	War Finance 3.1 Sources of Finance (Domestic and Foreign) 3.2 Peace Time Economy (Merits and Demerits) 3.3 War Time Economy (Merits and Demerits) 3.4 Rationing 3.5 Inflation	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	The learners will be able to know the importance and methodology of War Finance

VI	Rationale of Arms Production in the Third World Countries 4.1 Third World Countries : Meaning & Concept 4.2 Relevance of the Arms Production to the Third World Countries 4.3 Military Industrialization	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Field Visit	The learners will be able to understand the rationale of armament production in third world countries
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Reference:

1. Laxmi Y, Trends in Defence Expenditure, New Delhi, ADS 1988
2. Ron Mathew, Defence Production in India, New Delhi, ABC-1989
3. Alok Ghosh, Indian Economy; Its Nature & Problem, New Book Hall-Kolkata-1994
4. S. K. Mishra & V.K. Puri , Indian Economy, Himalaya Publishing House-1998, New Delhi.
5. K.Subramanyam. Perspectives in Defence Planning, Abhinav Publishing Company, New Delhi-1972
6. Raju G. C.Thomas, The Defence of India –A budgetary perspective of strategy and politics, The Macmillan Company of India, New Delhi
7. A. N. Agarwal Economic Mobilization of National Defence ,Asia Publishing House, London 1968 V. N. Shrinivas, Budgeting for Indian Defence, New Delhi, K W Publishers, 2008
8. Amiya Kumar Ghosh, Defence Budgeting & Planning in India: The Way Forward, New Delhi, 2006
9. Alain C. Einthoven & K. Wayne Smith, How much is Enough ?, Shaping the Defence Budget 1961-1969s ,New Delhi, RAND Corporation
10. H.C. Bhatia, Public Finance (Ed), Vikas Publishing House, New Delhi -2006
11. S. P. Ganguly, Fundamentals of Government Budgetary in India, 3rd Ed ,New Delhi, Concept Publishing Co.-2007
12. Jaswant Sing, Defending India, Chennai, MacMillan India Ltd, 1999
13. H. B. Mishra, Defence Programmes of India, Delhi, Author press, 2000
14. Laxmi Y, Trends in Defence Expenditure, New Delhi, ADS 1988
15. Ron Mathew, Defence Production in India, New Delhi, ABC-1989
16. Alok Ghosh, Indian Economy; Its Nature & Problem, New Book Hall-Kolkata-1994
17. S. K. Mishra & V.K. Puri , Indian Economy, Himalaya Publishing House-1998, New Delhi.
18. K.Subramanyam. Perspectives in Defence Planning, Abhinav Publishing Company, New Delhi-1972
19. Raju G. C.Thomas, The Defence of India –A budgetary perspective of strategy and politics, The Macmillan Company of India, New Delhi
20. A. N. Agarwal Economic Mobilization of National Defence ,Asia Publishing House, London 1968 V. N. Shrinivas, Budgeting for Indian Defence, New Delhi, K W Publishers, 2008

21. Amiya Kumar Ghosh, Defence Budgeting & Planning in India: The Way Forward, New Delhi, 2006
22. Alain C. Einthoven & K. Wayne Smith, How much is Enough ?, Shaping the Defence Budget 1961-1969s ,New Delhi, RAND Corporation
23. Jaswant Sing, Defending India, Chennai, MacMillan India Ltd, 1999
24. V. N. Shrinivas, Budgeting for Indian Defence, New Delhi, K W Publishers, 2008
25. H.C. Bhatia, Public Finance (Ed), Vikas Publishing House, New Delhi -2006
26. S. P. Ganguly, Fundamentals of Government Budgetary in India, 3rd Ed ,New Delhi, Concept Publishing Co.-2007
27. K. Subramanyam , Perspective in Defence Planning, New Delhi, Abhinav Publishing , 1972
28. Jaswant Sing, Defending India, Chennai, MacMillan India Ltd, 1999
29. H. B. Mishra, Defence Programmes of India, Delhi, Author press, 2000

SPECIAL ELECTIVE COURSE – VI

Subject: INSURANCE, TRANSPORT AND TOURISM - II (TOURISM)

Course Code: 246(K)

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives:

1. To acquaint students with the concepts of tourism.
2. To create awareness about different forms of tourism.
3. To make the students aware of career opportunities in the field of tourism.
4. To aware the students about the growth, scope and challenges of tourism in India.

Unit No.	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1.	Introduction 1.1 Concept of Tourism 1.2 Types of Tourism 1.3 Factors affecting Demand for Tourism 1.4 Nature of Tourism 1.5 Significance of Tourism 1.6 Inter-regional and Intra-regional Tourism 1.7 Role of Government in Tourism Development	12	Lecture, PPT, Group Discussion, Library Work, Assignment	Understanding the concept of tourism
2.	Forms of Tourism 2.1 Agritourism 2.3 Health Tourism 2.4 Heritage Tourism 2.5 Eco Tourism 2.6 Cultural Tourism 2.7 Religious Tourism 2.8 Educational Tourism 2.9 Business Tourism 2.10 Sports Tourism 2.11 Family Tourism 2.12 Sea Tourism	12	Lecture, PPT, Group Discussion, Library Work, Study Visit to Tourism centre	Understanding the forms of tourism
3.	Impact of Tourism 3.1 Globalization and Tourism 3.2 The Economic Impact of Tourism 3.3 The Socio-cultural Impact of Tourism 3.4 Environmental Impact of Tourism 3.5 Career Opportunities in Tourism	10	Lecture, PPT, Group Discussion, Library Work,	Understanding the impacts of tourism

4.	Tourism in India 4.1 Growth of Tourism in India 4.1.1 Contribution to Gross Domestic Product 4.1.2 Employment Generation 4.1.3 Foreign Tourist Arrivals (FTAs) 4.1.4 Share of India in International Tourist Arrivals (ITAs) in World 4.1.5. Foreign Exchange Earnings (FEEs) from Tourism in India 4.2 Tourism Infrastructure Development in India 4.3 Scope of Tourism in India 4.4 Challenges before Indian Tourism Sector 4.5 Measures adopted by Government for Development of Tourism in India	14	Lecture, PPT, Group Discussion, Panel Discussion, Library Work, Assignment	Understanding the Tourism growth and career opportunities in tourism sector in India
	Total	48		

References:

Books:

1. Arora S. (2007), *Adventure Tourism and Sports Issues and Perspectives*, Cyber Tech Publications, New Delhi.
2. A Satish Babu (2008), *Tourism Development in India*, APH Publishing, New Delhi.
3. Badan B. S. and Bhatt H. (2007), *Eco-Tourism*, Common Wealth Publishers, New Delhi
4. Batra G.S. and Agarwal R.C. (2002), *Tourism Promotion and Development*, Deep & Deep Publications Pvt. Ltd. Delhi
5. Jaypalan N. (2001), *An Introduction to Tourism*, Atlantaic Publishers and Distributers, New Delhi.
6. Leonard J. Lickorish & Carson L. Jenkins (2011), *An Introduction- Tourism*, Routledge, New York.
7. Nickerson N. (1996), *Foundations of Tourism*, Prentice Hall, New Delhi.
8. Peter Mason (2003), *Tourism Impacts, Planning and Management*, Butterworth-Heinemann, Burlington.
9. Selvam M. (1989), *Tourism Industry in India*, Himalaya Publishing House, Mumbai.
10. Shelly L. (1991), *Tourism Development in India*, Arihant Publishers, Jaipur.

Reports and Other:

1. Annual Report 2017-18, 2018-19 and 2019-20, Ministry of Tourism Government of India.
2. Government of India, Economic Survey 2019-20.
3. India Tourism Statistics at a Glance, 2019, Ministry of Tourism, Government of India.
4. Working Paper, Services Sector: Challenges, Issues and Policy Suggestions with special focus on (IT-BPM, Tourism, Shipping, Real Estate Services and Project Exports), December 2017 Government of India, Ministry of Finance, Department of Economic Affairs, Economic Division.
5. <https://destinationreporterindia.com>
6. <http://tourism.gov.in>

SPECIAL ELECTIVE COURSE – VI

Subject: - COMPUTER PROGRAMMING AND APPLICATION II

Course Code: 246(L)

Total Credits: 04 (Theory 03 + Practical 01=04)

Relational Database Management System (Semester – IV)

1. Objectives of the course: To aware principles of databases, database management operations, fundamental concepts of RDBMS.

Unit No.	Unit Title	Contents	Skills to be developed
1	Introduction to Database management Systems	1.1 Introduction Information, Data and file 1.2 Need and Importance of Database management System 1.3 Definition of DBMS and Types (DDBMS, RDBMS) 1.4 Keys(Super key, Candidate, Primary, Foreign Key) 1.5 Working with tables (create and Manage table) 1.6 Introduction to DML, TCL, DDL, DCL 1.7 Introduction to RDBMS 1.8 Advantages and Disadvantages of RDBMS	1. Learner able to aware with Information, Data and file 2. Learner able to aware with Data base Management System ,its Type and need 3. Learner able to aware and able to working with table by specifying Key 4. Learner able to aware with Relational database management systems with advantages and Disadvantages

2	Introduction to SQL (Structure Query Language)	2.1 Introduction to SQL 2.2 SQL Language Elements 2.3 Classification of SQL commands 2.4 Applying Constraints 2.5 Aggregate Functions 2.6 Group by Having Clause 2.7 Creating Other Database Objects (Views, Indexes, Sequences, Synonyms)	1. Learner able to aware with Structure Query Language and its Functionality. 2. Learner able to aware and able working with view ,Index Sequence and Synonyms of Table or data
3	Introduction to (Sub queries, SET Operators, Date time Functions)	3.1 Enhancements to GROUP BY function (ROLLUP and CUBE Operator) 3.2 SET OPERATORS (INTERSECT, UNION, UNION ALL, MINUS Operator) 3.3 DATETIME FUNCTIONS (Parsing Date and Time) 3.4 JOINS (Inner Join, Equi-Join, Non Equi, Self- join, Outer Joins)	Learner able to aware and able to handle to (Sub queries, SET Operators, Date time Functions)
4	Advanced Sub-queries Security Privileges, and Introduction Database connectivity	4.1 Advanced Sub queries 4.1.1. Introduction 4.1.2 Multiple Column Sub queries (Coding Sub queries in the FROM clause) 4.1.3 Scalar Sub queries 4.1.4 Correlated Sub query 4.1.5 WITH clause (Functions of the WITH clause) 4.1.5 Hierarchical Queries 4.2 Controlling User Access 4.2.1. System privileges 4.2.3 User Privileges (GRANT/REVOKE PRIVILEGES) 4.3 Introduction to Data base connection (Open Database Connectivity, ADO, ADO.NET , ODBC, JDBC)	1. Learner able to aware and able to handle to (Sub queries with multiple Columnar, Correlated contains and with clause for prepare report form multiple Table. 2. Learner able to aware and able to handle to user access control

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Use ICT or presentation on DBMS /RDBMS	U-tube Tutorial on DBMS /RDBMS		Familiar with DBMS /RDBMS
2	12	Use ICT or presentation on SQL	U-tube Tutorial SQL	One case study on SQL Queries	Familiar with SQL
3	12	Use ICT or presentation on SQL Queries	U-tube Tutorial SQL Queries		Familiar with SQL Queries
4	12	Use ICT or presentation SQL Privileges and	U-tube SQL Privileges and	Prepare mini project (Paper work) on online	

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30	70
Unit – II	30	70
Unit – III	30	70
Unit – IV	30	70

Guidelines for Examination:

[5].Term End Exam (30 Marks):

[6].To be conducted by college as per rules provided by University of Pune. Semester Exam 70 Marks):

[7].To be conducted by University of Pune at the end of the academic year.

[8].Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Semester Examination).

References:-

1. Fundamentals of Database Systems (4th Ed) By: Elmasri and Navathe
2. Database System Concepts (4th Ed) By: Korth, Sudarshan, Silberschatz Practical PostgreSQL O'REILLY
3. Beginning Databases with PostgreSQL, From Novice to Professional, 2nd edition By Richard Stones , Neil Matthew, Apress
4. SQL: THE COMPLETE REFERENCE 3rd Edition Author: James Groff, Paul
5. Weinberg, Andy Opper Tata Mc-graw Hill Publishing Co.ltd.-New Delhi ISBN : 9781259003882
6. SQL, PL/SQL: The Programming Language Of Oracle (With CD-ROM) 4th RevisedEdition Author: Ivan Bayross BPB PUBLICATIONS ISBN-13 9788176569644
7. Oracle Database 11G: The Complete Refere 1st Edition Author: KEVIN LONEY Tata Mcgraw Hill Education Private Limited ISBN-13 9780070140790
8. MySQL, The Complete Reference By Vikram Vaswani, ISBN 0-07-222477-0, Tata McGraw Hill The Complete Reference in Microsoft Access 2007, Andersen, ISBN13:9780070222854
9. Learning MySQL by O'reilly, Seyed M.M Tahaghogi, Hugh E. Williams, Oreilly Media

Revised Syllabi for Three - Year Integrated B.Com. Degree course (From June 2013)

1) INTRODUCTION

The revised syllabi for B.Com Degree Course will be introduced in the following order.

- | | | |
|-------------|--------------------|-----------|
| i) | First Year B.Com. | 2013-2014 |
| ii) | Second Year B.Com. | 2014-2015 |
| iii) | Third Year B.Com. | 2015-2016 |

The B.Com. Degree Course (Revised Structure) will consist of three Years. The first year annual examination will be held at the end of the first year. The Second Year annual examination will be held at the end of the second year. The Third annual examination shall be held at the end of the third year.

2) ELIGIBILITY

1. No Candidates shall be admitted to enter the First Year of the B.Com. Degree Course (Revised Structure) unless he/she has passed the Higher Secondary School Certificate Examination of the Maharashtra State Board of Higher Secondary Education Board or equivalent or University with English as a passing subject.
2. No candidate shall be admitted to the annual examination of the First year B.Com. (Revised Structure) unless he/ she has satisfactorily kept two terms for the course at the college at the college affiliated to this University.
3. No candidate shall be admitted to the annual examination of the Second Year unless he/she has kept two terms satisfactorily for the course at the college affiliated to this University.
4. No candidate shall be admitted to the Third year of the B.Com. Degree Course (Revised Structure) unless he/she has passed in all the papers at the First Year B.Com. Examination and has passed in all the papers at the first Year B.Com. Examination and has satisfactorily kept terms for the second year and also two terms for the third year of B.Com. satisfactorily in a college affiliated to this University.

3) A.T.K.T. Rules :

As far as A.T.K.T. is concerned, a student who fails in two theories and one practical head of passing at F.Y.B.Com may be admitted to S.Y.B.Com. likewise a student who fails in the two theory and one practical head of passing at S.Y.B.Com may be admitted to T.Y.B.Com. But a student passing S.Y.B.Com but fails in any subject at F.Y.B.Com cannot be admitted to T.Y.B.Com.

4) (A) Revised Structure of B.Com. Course.

F.Y.B.Com. w.e.f. 2013-14	
Sr. No.	Compulsory / Main Subjects
101	Compulsory English
102	Financial Accounting
103	Business Economics (Micro)
104 (A)	Business Mathematics and Statistics
	or
104 (B)	Computer Concepts and Applications
105	Optional Group (Any one of the following) a) Organizational Skill Development. b) Banking & Finance c) Commercial Geography d) Defense Organization and Management in India e) Co-Operation. f) Managerial Economics
106	Optional Group (Any one of the following) a) Essentials of E-Commerce b) Insurance & Transport c) Marketing & Salesmanship d) Consumer Protection & Business Ethics. e) Business Environment & Entrepreneurship f) Foundation Course in Commerce
107	(Any one of the language from the following groups) Modern Indian Languages (M.I.L.) -: Compulsory English / Marathi / Hindi / Gujarathi / Sindhi / Urdu / Persian. Modern European Languages (M.E.L.) -: French / German. Ancient Indian Languages (A.I.L.) -: Sanskrit. Arabic.

S.Y.B.Com. w.e.f. 2014-15	
Sr. No.	Compulsory / Main Subjects
201	Business Communication.
202	Corporate Accounting.
203	Business Economics (Macro)
204	Business Management
205	Elements of Company Law
206	Special Subject – Paper I (Any one of the following) a) Business Administration b) Banking & Finance.

	<ul style="list-style-type: none"> c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.
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T.Y. B.Com. w.e.f. 2015-16	
Sr. No.	Compulsory / Main Subjects
301	Business Regulatory Framework (Mercantile Law)
302	Advanced Accounting.
303 (A)	Indian & Global Economic Development
	Or
303 (B)	International Economics
304	Auditing & Taxation
305	<p>Special Subject – Paper II (Same special subject offered at S.Y. B.Com.)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking & Finance. c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.
306	<p>Special Subject – Paper III (Same special subject offered at S.Y. B.Com.)</p> <ul style="list-style-type: none"> a) Business Administration b) Banking & Finance. c) Business Laws & Practices. d) Co-operation & Rural Development. e) Cost & Works Accounting. f) Business Statistics. g) Business Entrepreneurship. h) Marketing Management. i) Agricultural & Industrial Economics. j) Defense Budgeting, Finance & Management. k) Insurance, Transport & Tourism. l) Computer Programming and Applications.

B) Subjects Carrying Practical's

There will be practical examination for the F.Y.B.Com. for the subject Financial Accounting. There will be practical and practical examinations for the special subjects at S.Y.B.Com. and T.Y.B.Com. levels. There will be Practical for the S.Y.B.Com level Compulsory subject Business Communication & for T.Y.B.Com Auditing & Taxation.

(C) A Student must offer the same Special Subject at T.Y.B.Com. which he has offered at S.Y.B.Com.

(D) In an exceptional cases, a student may change the subject chosen by him at second year during the first term of the third year provided he keeps the additional terms of the new subject at S.Y.B.Com.

4. EXTERNAL CANDIDATES

- 1) The student who has registered his name as the external student will appear at the annual examination.
- 2) The result of external student will be declared on the basis of Annual Examination of 80 marks for practical subjects by converting the same out of 100.
- 3) No foreign student shall be allowed to register as an External Student.

5. MEDIUM OF INSTRUCTION.

Medium of instruction for B.Com. degree course shall be either Marathi or English except languages.

The Medium of instructions for Business Communication (S.Y.B.Com) shall be English only.

6. WORKLOAD

The present norms of workload of lectures, tutorials and practicals per subject in respect of B.Com. Course shall continue.

7. UNIVERSITY TERMS

The dates for the commencement and conclusion of the first and the second terms shall be as determined by the University Authorities. The terms can be kept only by duly admitted students. The present relevant ordinances pertaining to grant of terms will be applicable.

8. VERIFICATION AND REVALUATION

The candidate may apply for verification and revaluation or result through Principal of the College which will be done by the University as per ordinance framed in that behalf.

9. EQUIVALENCE AND TRANSITORY PROVISION

The University will conduct examination of old course for next three academic years from the date of implementation of new course.

The candidate of old course will be given three chances to clear his subjects as per the old course and thereafter he will have to appear for the subjects under new course as per the equivalence given to old course.

10. RESTRUCTURING OF COURSES

This new revised structure shall be made applicable to the colleges implementing 'Restructured Programme' at the undergraduate level from June, 2004. The existing pattern of 'C', 'D', and 'E' Components shall be continued.

The Colleges under the Restructured Programme which has revised their structure in the light of the "2008 Pattern" shall be introduced with effect from academic year 2010-11.

11. SETTING OF QUESTION PAPERS

1. A candidate shall have the option of answering the question in any of the subjects either in Marathi or English except in languages.
2. The question papers shall be framed so as to ensure that no part of the syllabus is left out of study by a student.
3. The question paper shall be balanced in respect of various topics outlined in the syllabus.
4. The question papers shall have combination of long and short answer type question. As far as possible short answer type questions should not exceed 15 to 20 percent.
5. There shall be no overall option in the question paper, instead, there shall be internal options (such as either/ or and three short answers out of five etc.).
6. In case of question paper under the Special Subject (Paper No. III) one question carrying 10 marks will be set on current knowledge in relating subject in the academic year.

T.Y. B.Com.
Compulsory Paper
Subject Name :- Business Regulatory Framework (Mercantile Law)
Course Code :- 301.

Objectives:-

1. To acquaint students with the basic concepts, terms & provisions of Mercantile and Business Laws.
2. To develop the awareness among the students regarding these laws affecting business, trade and commerce.

Term I

Unit No.	Topic	Lectures
1	Law of Contract - General Principles. (Indian Contract Act, 1872) <ul style="list-style-type: none"> • Definition, Concept and kinds of contract • Offer and Acceptance. • Capacity of parties. • Consideration. • Consent and free consent. • Legality of object and consideration. • Void Agreements. • Discharge of contract. • Breach of contract and remedies (Including damages, meaning, kinds and rules for ascertaining damages) 	20
2	Law of Partnerships: 2.1. Indian Partnership Act 1932: Partnership; Definition and Characteristics, Types of Partners, Rights, Duties and Liabilities of Partners, Dissolution of Partnership. 2.2. Limited Liability Partnership Act 2008: Limited Liability Partnership (LLP); Concept, Nature and Advantages, Difference between LLP and Partnership Firm, Difference between LLP and company, Partners and designated partners, Incorporation of LLP, Partners and their relations, Liability of LLP and Partners (Section 27). Financial Disclosure by LLP, Contributions (Section 32), Assignments and Transfer of Partnership Rights (Section 42) Conversation to LLP (Section 55), Winding-up and dissolution (Section 63 & 64)	04 05
3	Sale of Goods.(Sale of Goods Act,1930) Contract of sale-Concept and Essentials. Sale and agreement to sale. Goods-Concept and kinds. Conditions and warranties. (Definition, Distinction, implied conditions and warranties)Transfer by non-owners. Rights of Unpaid Seller and Remedial Measures.	14
4	E-Contracts (E-Transactions/E-Commerce.): <ul style="list-style-type: none"> • Significance of E-Transactions /E-Commerce. <ul style="list-style-type: none"> ▪ Nature. 	05

	<ul style="list-style-type: none"> ▪ Formation. ▪ Legality. ▪ Recognition. <p>(Chapter 4.Sec.11-13 of I T Act,2000 relating to attribution, acknowledgement, dispatch of E-Records)</p> <ul style="list-style-type: none"> • Digital Signatures –Meaning & functions, Digital Signature certificates [Sections 35-39] • Legal issues involved in E-Contracts. 	
Term II		
5	The Consumer Protection Act, 1986 <ul style="list-style-type: none"> • Salient features of the C.P. Act. • Definitions-Consumer, Complainant, Services, Defect & Deficiency, Complainant, unfair trade practice, restrictive trade practice. • Consumer Protection Councils. • Procedure to file complaint & Procedure to deal with complaint & Reliefs available to consumer.(Sec.12 to14) • Consumer Disputes Redressal Agencies. (Composition, Jurisdiction, Powers and Functions.) 	12
6	Intellectual Property Rights : (IPRs) <ul style="list-style-type: none"> • WIPO: Brief summary of objectives, organs, programmes& activities of WIPO.TRIPS: As an agreement to protect IPR-Objectives & categories of IPR covered by TRIPS. • Definition and conceptual understanding of following IPRs under the relevant Indian current statutes. • Patent: Definition & concept, Rights & obligation of Patentee, its term. • Copyright: Characteristics & subject matter of copyright, Author & his Rights, term. • Trademark: Characteristics, functions, illustrations, various marks, term, internet domain name- Rights of trademark holder. • Design: Importance, characteristics, Rights of design holder. • Geographical Indications, Confidential Information & Trade Secrets, Traditional knowledge—Meaning & scope of these IPRs. 	16
7	Negotiable Instruments Act, 1881: <ul style="list-style-type: none"> • Concept of Negotiable Instruments: Characteristics, Meaning Important relevant definitions under the Act • Definitions, Essentials of promissory note, bill of exchange and cheque. Distinction between these instruments. Crossing of cheques – It’s meaning and types. • Holder and holder in due course, Privileges of holder in due course. • Negotiation, endorsement, kinds of endorsement. • Liabilities of parties to negotiable instruments. • Dishonour of N. I., kinds, law relating to notice of dishonour. Dishonour of cheques. 	14
8	Arbitration & Conciliation: <ul style="list-style-type: none"> • Concept of Arbitration & Conciliation. • Definition & Essentials of Arbitration Agreement. 	06

	<ul style="list-style-type: none"> • Power and Duties of Arbitration. Conciliation proceeding. (Provisions of Arbitration & Conciliation Act,1996 in nutshell to be covered.) 	
	Total	48

Recommended Books:

- 1) Business and Corporate Law :- Dr. Kaur Harpreet, Lexis Nexis (2013)
- 2) Laws for Business, Sulphery M.M.&Basheer, PHI Learning Pvt. Ltd., Delhi. (2013)
- 3) Business Laws :- Kuchhal M.C.&KuchhalVivek, Vikas Publishing House (2013)
- 4) Business and Commercial Laws:-Sen And Mitra
- 5) An Introduction to Mercantile Laws :-N.D.Kapoor
- 6) Business Laws :- N.M.Wechlekar
- 7) Company Law :-Avtar Singh
- 8) Business Law for Management :-Bulchandani K.R
- 9) Negotiable Instruments Act :-Khergamwala
- 10) Intellectual Property Law:-P.Narayan.
- 11) Cyber Laws :- Krishna Kumar
- 12) Consumer Protection Act In India :-Niraj Kumar
- 13) Consumer Grievance Redressal under CPA :-Deepa Sharma.
- 14) Business Law – Dilip Shinde, Kiran Nerkar, Shantnu Jog, Anant Deshmukh
(Sai Jyoti Publication)

T.Y. B.Com.
Compulsory Paper
Subject Name :- Advanced Accounting.
Course Code :- 302

Objectives:-

- ❖ To impart the knowledge of various accounting concepts
- ❖ To instill the knowledge about accounting procedures, methods and techniques.
- ❖ To acquaint them with practical approach to accounts writing by using software package.

TERM - I

Unit No.	Topic and Contents	No. of Lectures
1.	Accounting Standards & Financial Reporting (Introduction to IFRS-Fair Value Accounting):- Brief Review of Indian Accounting Standard :- AS- 3, AS-7, AS-12, AS-15 AS-17 to AS-25 simple practical examples of application nature.	12
2.	Final Accounts of Banking Companies :- * Introduction of Banking Company - Legal Provisions - Non Performing Assets (NPA) - Reserve Fund - Acceptance, Endorsements & Other Obligations - Bills for Collection - Rebate on Bills Discounted - Provision for Bad and Doubtful Debts - Preparation of Final Accounts in vertical form as per Banking Regulation Act 1949. * Introduction to Core Banking System.	12
3.	Insurance Claim Accounts :- A. Claim for Loss of Stock - Introduction - Procedure for Calculation - Average Clause - Treatment of abnormal items of goods - Under & Overvaluation of Stock. B. Claim for Loss of Profit - Introduction - Indemnity under policy - Some important terms - Procedure for ascertaining claims. C. Claim for Loss of Fixed Assets - Introduction - Some important terms - Procedure for ascertaining claims.	12
4.	Final Accounts of Co-operative Societies :- a. Credit Co-operative Societies :- b. Consumer Co-operative Societies :- Meaning - Allocation of Profit as per Maharashtra State Co-operative Societies Act. Preparation of Final Accounts of Credit Co-operative Societies and Consumer Co-operative Societies.	12
TOTAL		48
TERM - II		
5.	Computerized accounting practices:- A. VAT & VAT Report B. Service Tax C. Central Value Added Tax D. Income Tax - Tax Deducted at Source (TDS) Including entries with the help of Accounting Software. (Demonstration and Hands Experience.)	12
6.	Branch Accounts :- Stock and Debtors System :- Introduction - Types of Branches - Goods supplied at Cost & Invoice Price.	12

7.	Single Entry System :- Conversion of Single Entry into Double Entry :- Introduction - Preparation of Cash Book - Total Debtor Account - Total Creditor Account - Final Accounts.	12
8.	Analysis of Financial Statements :- Ratio Analysis :- Meaning - Objectives - Nature of Ratio analysis - Problems on Ratio Analysis restricted to the following Ratio only - *Gross Profit Ratio *Net Profit Ratio * Operating Ratio * Stock Turnover Ratio * Debtor Turnover Ratio * Current Ratio * Liquid Ratio * Debt to Equity Ratio.	12
TOTAL		48

Allocation of Marks :-

Theory :-	30%
Problems :-	70%
Total :-	100%

Recommended Books:-

1. 1. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd. New Delhi)
2. 2. Advanced Accountancy: By S.P. Jain & K.N. Narang (Kalyani Publishers, New Delhi)
3. 3. Advanced Accountancy: By R.L.Gupta & M. Radhaswamy (Sultan Chand & Sons, New Delhi)
4. Advanced Accounting: By Dr. K.N. Jagtap, Dr. S. Zagade.
5. Student Guide to Accounting Standards : D.S. Rawat (Taxmann, New Delhi)
6. Accounting Standards : Sanjeev Singhal.
7. Principal of Management Accounting : Dr. S.N. Maheshwari.
8. Advanced Management Accounting : Ravi Kishor.

Journals:-

1. The Chartered Accountant: Journal of the Institute of Chartered Accountants of India.
2. The Accounting World : ICAI Hyderabad

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T.Y. B.Com.
Compulsory Paper
Subject Name :- Indian & Global Economic Development
Course Code :- 303 (A)

Objectives:

- 1) To expose students to a new approach to the study of the Indian Economy.
- 2) To help the students in analyzing the present status of the Indian Economy.
- 3) To enable students to understand the process of integration of the Indian Economy with other economics of the world.
- 4) To acquaint students with the emerging issues in policies of India's foreign trade.

Unit No.	Topic		Lectures
1	Introduction		12
	1.1	Basic Characteristics of the Indian Economy as an emerging economy.	
	1.2	Comparison of the Indian Economy with developed economies with respect to	
	1.2.1	National Income	
	1.2.2	Per-Capita Income	
	1.2.3	Agriculture	
	1.2.4	Industry	
	1.2.5	Service Sector	
2	Agricultural Development in India Since Independence		12
	2.1	Place of Agriculture in Indian Economy	
	2.2	Constraints in Agricultural Development	
	2.3	Rural Indebtedness – Causes and measures	
	2.4	Agricultural Marketing – Problems and measures	
	2.5	Price Policy – Minimum Support Price (M.S.P.)	
3	Industrial Development in India Since 1991		12
	3.1	Role of Industrialization in Economic development	
	3.2	Role of Small, Medium and Large Scale Enterprises (SMEs) – Problems & Prospects	
	3.3	New Industrial Policy 1991	
	3.4	Evaluation of Industrial Policy 1991	
4	Infrastructure in India Since 1991		12
	4.1	Role of Basic infrastructure in economic development of India.	
	4.2	Private v/s Public investment in infrastructure development	
	4.3	Role of Private Sector in infrastructural development	
	4.4	Role of Public Sector in infrastructural development	
TERM - II			
5	Human Resource Development		12
	5.1	Role of Human Resource in Economic Development	
	5.2	Concept of Human Development Index (HDI)	

Unit No.	Topic		Lectures
	5.3	Concept of Human Poverty Index	
	5.4	Concept of Gender – related development index	
	5.5	Gender Employment measures	
6	Global Economic Development and Foreign Capital		12
	6.1	Meaning and Challenges of Liberalization, Privatization & Globalization.	
	6.2	Meaning and Role of Foreign Capital	
	6.3	Need for Foreign Capital	
	6.4	Forms of foreign capital	
	6.5	Advantages & Disadvantages of Foreign Capital	
7	Foreign Trade and Balance of Payment		12
	7.1	Importance of Foreign Trade in Economic Development.	
	7.2	Concept of Balance of Trade and Balance of Payment	
	7.3	India's Balance of Payment Position since 1991	
	7.4	Convertibility of Indian Rupee – Current & Capital Account	
	7.5	Current Export – Import Policy (EXIM Policy)	
8	Regional & International Economic co-operation Importance, Objectives, Structure and functions of -		12
	8.1	South Asian Association for Regional co-operation (SAARC)	
	8.2	International Monetary Fund (IMF)	
	8.3	World Bank or International Bank for Reconstruction and Development (IBRD)	
	8.4	World Trade Organization (WTO)	
	8.5	BRICS – Introduction & Functions	

Recommended Books :

- 1) Indian Economy – S.K.Misra and V.K.Puri, Himalaya Publishing House, Delhi.
- 2) International Business Environment – Black and Sundaram, Prentice Hall India.
- 3) The Global Business Environment – Tayebmonis H. Sage Publication, New Delhi.
- 4) International Business – Competing in the Global Market place – Charles Hill, Arun kumar Jain, Tata McGraw Hill.
- 5) International Economics – M.L.Jhingana Vrinda Publications, Delhi.
- 6) Indian Economy – Ruddar Datta and K.P.M. Sundaram S. Chand and Co. New Delhi.
- 7) Indian Economy – Problems of Development and Planning A.N.Agarwal, New Age International Publishers.

Economic Survey – Government of India

UNDP, Human Development Report.

World Bank, World Development Report

Magazines / Journals

Reports, Web sites

T.Y. B.Com.
Compulsory Paper
Subject Name -: International Economics
Course Code -: 303 (B)

Objectives :

- 1) To study the theories of International Trade.
- 2) To highlight the trends and challenges faced by nations in a challenging global environment.

TERM-I

Unit No.	Topic	Lectures	
1	Introduction	12	
	1.1		Meaning and Scope of International Economics.
	1.2		Importance of International Trade
	1.3		Domestic Trade Vs International Trade
	1.4		Role of International Trade in Economic Growth
2	Theories of International Trade	12	
	2.1		Theory of absolute cost advantage
	2.2		Theory of comparative cost advantage
	2.3		Theory of factor endowment (Heckscher-ohlin Theory, Leontief Paradox)
	2.4		Intra Industrial Trade
3	Terms of Trade	12	
	3.1		Concept of Terms of Trade A) Gross Barter Terms of Trade B) Net Barter Terms of Trade C) Income Terms of Trade and Trade Policy D) Single Factorial Terms of Trade E) Double Factorial Terms of Trade
	3.2		Factors affecting on Terms of Trade
	3.3		Free Trade Policy – Meaning, Arguments for and against
	3.4		Protection Policy – Meaning, Arguments for and against
4	Regional and International Economic Co-operation	12	
	4.1		Regional Co-operation – European Union (E.U)
	4.2		South Asian Association for Regional co-operation (SAARC)
	4.3		Concept of Trade Blocks and Economic Integration
	4.3.1		South American Preferential Trading Arrangement (SAPTA)
	4.3.2		North Atlantic free Trade Agreement (NAFTA)
	4.4		BRICS – Introduction & Functions
TERM - II			
5	Balance of Payment	12	
	5.1		Concept of Balance of Trade and Balance of Payments
	5.2		Balance of Payment on current Account and Capital Account
	5.3		Measures to correct disequilibrium of Balance of Payment
	5.4		Causes of disequilibrium of Balance of Payment

Unit No.	Topic		Lectures
	5.5	Convertibility of Rupee on Current and Capital Account.	
6	Foreign Exchange Rate		12
	6.1	Meaning of Foreign exchange rate	
	6.2	Fixed v/s flexible exchange rate	
	6.3	Theories of Exchange Rate	
	6.3.1	Purchasing Power Parity Theory	
	6.3.2	Balance of Payments Theory	
7	Foreign Exchange Market		12
	7.1	Structure of foreign exchange market	
	7.2	Management of Foreign Exchange -inflow and outflow of foreign capital.	
	7.3	Euro Dollar Market – Nature and Scope	
	7.4	Advantages & Disadvantages of Foreign Exchange Market.	
8	Factor Mobility and Foreign Trade Policy		12
	8.1	Foreign Capital – Meaning of Foreign Direct Investment and Foreign Institutional Investments	
	8.2	Role of Multi National Corporations (MNC's)	
	8.3	Motives and effects of International Labour Migration	
	8.4	India's Foreign Trade Policy since 1991 Features, Trends and Evaluation.	

Recommended Books :

- 1) Dr.D.M.Mithani – International Economics (Himalaya Publishing house ltd)
- 2) Z.M.Jhingan : International Economics (Vrinda Publication)
- 3) Dr.Mrs.Nirmal Bhalerao & S.S.M.Desai – International Economics (Himalaya Publishing house ltd)
- 4) Deminic Salvatove – International Economics
- 5) Francis Cherulliom - International Economics (Prentice hall)
- 6) L.M.Bhole – Financial Institutions Markets (Tata McGraw Hill)
- 7) H.R.Macharaju – International Financial Markets and India (Wheeler Publication)
- 8) RBI Report on Currency Finance

Magazines / Journals , Reports, Websites

T.Y. B.Com.
Compulsory Paper
Subject Name :- Auditing & Taxation
Course Code :- 304

Objectives :- The Study of Various Components of this course will enable the students:

1. To acquaint themselves about the concept and principles of Auditing, Audit process, Assurance Standards, Tax Audit, and Audit of computerized Systems.
2. To get knowledge about preparation of Audit report.
3. To understand the basic concepts and to acquire knowledge about Computation of Income, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.

Term I Section
Section- I Auditing

Unit No.	Topic	Lectures
1.	Introduction to Principles of Auditing and Audit Process. Definition, Nature-objects-Advantages of Auditing-Types of errors and frauds Various Classes of Audit. Audit programme, Audit Note Book, Working Papers, Internal Control-Internal Check-Internal Audit	12
2.	Checking, Vouching and Audit Report Test checking-Vouching of Cash Book-Verification and Valuation of Assets and Liabilities. Qualified and Clean Audit Report-Audit Certificate-Difference between Audit Report and Audit Certificate. Auditing and Assurance Standards. (AAS- 1,2,3,4,5,28,29)	12
3.	Company Auditor Qualification, Disqualifications, Appointment, Removal, Rights, Duties and liabilities.	08
4.	Tax Audit Definition of Accountant-Scope of Auditor's Role under Income Tax Act Compulsory Tax Audit- Certification for Claiming exemptions- Selective Tax Audit Tax Consultancy and Representation- Proforma of Computerized Systems.	08
5.	Audit of Computerized Systems Auditing in an EDP environment-planning an audit in a computer Environment - problems encountered in an EDP environment-General EDP Control - EDP Application Control- System Development- Data transfer- Audit practice in relation to computerized systems-Computer Assisted Audit Techniques (Factors and Preparation of CAAT)	08
	Total	48

Term II
Section - II Income Tax

Unit No.	Topic	Lectures
1.	Important Concepts and Definitions under Income Tax Act-1961. Income, Person, Assessee, Assessment year, Pervious year, Agricultural Income, Exempted Income, Residential Status of an Assessee, PAN, TAN	08

2.	<p>Computation of Taxable Income under the different Heads of Income</p> <p>a. Income from Salary – Meaning of salary, Salient features of salary Allowances and tax Liability- Perquisites and their Valuation- Deductions from salary. (Theory and Problems)</p> <p>b. Income from House Property Basis of Chargeability Annual Value Self occupied and let out property Deductions allowed (Theory and Problems)</p> <p>c. Profits and Gains of Business and Professions Definitions, Deductions expressly allowed and disallowed (Theory And Problems)</p> <p>d. Capital Gains Chargeability-definitions-Cost of Improvement, Short term and long term Capital gains (Theory only)</p> <p>e. Income from other sources- Chargeability - deductions - Amounts not deductible.(Theory only)</p>	08 04 08 04
3.	<p>Computation of Total Taxable Income of an Individual Gross total Income-deductions u/s-80C, 80ccc to 80 U – Income Tax calculation- (Rates applicable for respective Assessment year) Education cess</p>	08
4.	<p>Miscellaneous Tax deducted at source-Return of Income-Advance payment of Tax-methods of payment of tax-Forms of Return-Refund of Tax. (Theory)</p>	04
5.	<p>Income Tax Authorities Structure, Functions and powers of various Income Tax Authorities. (Administrative and Judicial), Central Board of Direct Taxes.</p>	04
	Total	48

List of Practical

Sr. No.	Topic	Particulars	Mode of Practical
1.	Audit & Auditing process	Study of Meaning, Definition, Nature, objectives , Auditing process	Library Assignment/ Guest lecture
2.	Audit Report	Meaning , Qualified & Clean Audit Report, Forms of Audit Report	Library Assignment/ Guest lecture
3.	Tax Audit	Scope Auditor`s Role under Tax Audit	Library Assignment/ Guest lecture
4.	Audit of Computerized System	Auditing in an EDP Environment, Audit Practice in relation to computerized system	Visit to Tax Consultant
5.	Income from Salary	Meaning of salary, Allowance & Tax liability, perquisites & valuation	Visit to Assessee
6.	Income from	Basis of chargeability, Important points	Visit to let out

	House Property	regarding Income from house property, Determination of gross annual value of self occupied property,	Property owner/ Guest lecture
7.	Profits & Gains of Business & Profession	Meaning of business & profession, procedure for computing taxable profit of business and profession	Visit to Business Firm
8.	Deduction Under Sec.80 C to 80 U	Deduction Under Sec.80 C to 80 U	Visit to Tax Consultant/ Guest lecture
9.	Income Tax Returns –Form 16, ITR – I,II, III,IV	Filling and collecting the Form No. 16, Filling and collecting ITRs	Visit to Tax Consultant/ Guest lecture

Recommended Books

1. Practical Auditing -: Spicer and Peglar
2. Auditing Principles -: Jagadish Prasad
3. A Handbook of Practical Auditing -: B.N. Tondon
4. Auditing assurance standards- -: The Institute of Chartered Accountants of India
5. Indian Income Tax -: Dr.Vinod Singhania
6. Income Tax- -: Ahuja and Gupta
7. Income Tax Act -: R.N.Lakhotia
8. Indian Income Tax Act -: H.C.Malhotra
9. Income Tax -: Manoharem
10. Student guide to Income Tax -: Dr.Vinod Singhania

T.Y. B.Com.

Business Administration Special Paper II

Subject Name :- Business Administration

Course Code :- 305 – a.

Objective :-

To acquaint the students with basic concepts & functions of HRD and nature of Marketing functions of a business enterprise.

Term I :- Human Resource Development.

Unit No.	Content	Lectures
1.	Human Resource function 1.1 Meaning, Objectives of Human Resource Function, Difference between H.R.M. and H.R.D. 1.2 Organization, Scope and functions of Human Resource Department in Modern Business. 1.3 Human Resource Planning – Nature and Scope, Job analysis - Job description - Job specification. 1.4 Emerging Concept of H.R.D. – Quality Circles –Kaizen - Voluntary Retirement Schemes.	14
2.	Recruitment and Training 2.1 Methods or sources of Recruitment of manpower, Role of Recruitment Agencies- Selection Process. 2.2 Types of Interviews- Interview Techniques. 2.3 Objectives and importance of Training and Development. 2.4 Types and Methods of Training Programmes.	10
3.	Employee Career and Succession planning 3.1 Aims and objectives of career planning. 3.2 Career Planning Process – Career Planning Structure. 3.3 Succession Planning - Meaning Need and importance. 3.4 Types of Career Opportunities A) Public Sector :- State and Local Government level - Personnel officer, Purchasing officer, secretary, Director of Administration Accountant etc. B) Private sector :-Marketing and Sales, Production and Material Management, Financial sector, Management as a profession, Insurance Industry, Accounting and Management Information System.	12
4.	Performance Appraisal Management. 4.1 Concept and Importance. 4.2 Performance Appraisal Process. 4.3 Methods and Techniques. 4.4 Merits and limitations of performance appraisal.	12
	Total	48

Term II :- Marketing Functions.

Unit No.	Content	Lectures
1.	Introduction 1.1 Meaning and scope of Marketing. 1.2 Objectives of Marketing.	10

	1.3 Classification of marketing. 1.4 Functions of Marketing.	
2.	Marketing Mix 2.1 Meaning and Importance of Product, Product mix, product life cycle. New product development- Types of new product, Branding, Packaging, Labeling. 2.2 Price – Meaning, Factors affecting Pricing Decisions, Methods of Pricing. 2.3 Place – Functions of distribution channels, Types of distribution channels, Impact of technology on Distribution. 2.4 Promotion – Meaning of sales promotion, Importance, Methods and New techniques of sales promotion.	13
3.	Advertising 3.1 Advertising- Meaning, Scope, Importance, Role of advertising in modern business, Criticism on Advertising practices. 3.2 Advertising media – Different medias of advertising, Selection of advertising media. 3.3 Ethics in advertising- Ethics and appeals in Advertising, Advertising Standards Council of India. 3.4 Future of advertising – Advertising in depression and crisis, Employment opportunities in advertising field.	13
4.	Modern Marketing Trends 4.1 Global marketing – Meaning, Scope, Importance, International marketing Challenges and Problems. 4.2 Marketing Research- Meaning, Scope and Methods of Marketing research. 4.3 Retailing- Meaning, New Trends in Marketing, Direct Marketing, Malls, Franchising. 4.4 Recent Trends in Marketing- i) E-Marketing ii) Telemarketing iii) Internet Marketing iv) M-Marketing.	12
	Total	48

Recommended Books	
1.	Personnel and Human Resource Management – A M Sharm(Himalaya Publishing House)
2.	Personnel Management and Industrial Relations- R S Davar (Vikas Publishing House)
3.	Human Resource Development and Management- Biswanath Ghosh (Vikas Publishing House)
4.	Personnel Management – C.B. Mamaria, S V Gankar (Himalaya Publishing House)
5.	Human Resource Management – AShwathappa
6.	Basics of Marketing- Cannon
7.	Marketing Management, Philips, Kotler
8.	Marketing – Gandhi
9.	Principles of Marketing – Sherlekar S.A.
10.	International Marketing- P. Saravanavel (Himalaya Publishing House)
11.	Modern Marketing Management- R.S. Davar

T.Y. B.Com.
Banking & Finance Special Paper II
Subject Name :- Financial Markets and Institutions in India.
Course Code :- 305 – b.

Objectives :

1. To acquaint the students with Financial Markets and its various segments.
2. To give the students and understanding of the operations and developments in financial markets in India.
3. To enable them to gain an insight into the functioning and role of financial institutions in the Indian Economy.

Term - I

Unit No.	Topic	Lectures
1	Indian Financial System : A) Financial Institutions - Regulatory, Intermediary and Non-Intermediaries. B) Financial Markets - Money and Capital Markets. C) Financial Instruments D) Indicators of Financial Development E) Role of Financial System in Economic Development	12
2	Indian Money Market 2.1 Meaning and Scope of Indian Money Market 2.2 Structure and Characteristics of Money Market 2.3 Functions of Indian Money Market 2.4 Institutions in the Money Market 2.5 Deficiencies of Indian Money Market. 2.6 Reforms in Indian Money Market after 1991	12
3	Indian Capital Market 3.1 Meaning and Scope of Indian Capital Market. 3.2 Characteristics of Capital Market. 3.3 Participants of Capital Market BSE - Bombay Stock Exchange NSE -National Stock Exchange OTCEI - Over the Counter Exchange of India. 3.4 Primary and Secondary Markets : its working 3.5 Reforms in Indian Capital Market after 1991.	12
4	Foreign Exchange Market 1. Meaning, Segments, Participants. 2. Spot, Forward Market 3. Basics of Exchange Rate Determination 4. Rate Quotations 5. Methods of Foreign Exchange 6. Exchange Risk Management	12
		48

TERM - II

5	NBFIs (Non-Banking Financial Institutions 5.1 Meaning and Types of NBFIs	
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	5.2 Distinction between Bank And NBFIs 5.3 Functions of Following : 1. Lease Financing 2. Mutual Funds 3. Factoring 4. Housing Finance 5. Venture Capital 6. Merchant Bank	12
6	Development Financial Institutions (DFIs) Working and Progress of : 1. IFCI - Industrial Finance Corporation of India 2. SIDBI - Small Industries Development Bank of India 3. SFCs - State Finance Corporations. 4. NSSIDC - National Small Scale Industrial Development Corporation 5. Mudra Bank 6. Bharatiya Mahila Bank	12
7	Investment Institutions in India Organization, Working & Functions of 7.1 UTI - Unit Trust of India. 7.2 Life Insurance Companies - Public & Private. 7.3 Non Life Insurance Companies - Public & Private. 7.4 Post office Savings Schemes 7.5 Provident Funds 7.6 Pension Funds	12
8	Regulatory Institutions In Market : Organization Functions & Working of 8.1 SEBI - Security Exchange Board of India 8.2 IRDA - Insurance Regulatory & Development Authority. 7.3 PFRDA - Provident Fund Regulatory Development Authority.	12
		48
Recommended Books		
1. Financial Institution and Market : L. M. Bhole 2. Financial market and institutions of India : Dr. MukundMahajan, NiraliPrakashan 3. Indian Banking System : Dr. B. R. Sangale, Success Publication, Pune. 4. Business Finance and Financial Services : Dr. MukundKohok 5. Indian Financial System : Dr. M. Y. Khan 6. Investment and Securities Markets in India : V. A. Avadhani 7. Economic Reforms and Capital Markets in India : Anand Mittal 8. BharatiyaVittaBajar : Dr. Shinde S. G., Success Publication, Pune. Financial Market and Institutions in India :Dr. Sunil Shete, Succes Publication.		

T.Y. B.Com.

Business Laws & Practices Special Paper II

Subject Name -: Business Laws & Practices.

Course Code -: 305 – c.

Objectives –

- 1) To impart the students with the knowledge and understanding of important business Laws including labour laws.
- 2) To acquaint the students with certain provisions of Company law and its governance.

Term I

Unit No.	Topic	Lectures
1	The Factories Act, 1948 (Sections 1-20) Objects and Definitions, Approval, Licensing and Registration of Factories, The Inspecting Staff, Provisions Regarding Worker's Health, Provisions Regarding Safety and Welfare of Workers.	12
2	The Payment of Wages Act, 1936 (Sections 1 to 12,12a, 12b,13,13a &20) Introduction, Definitions, Rules for Payment of Wages, Deductions from Wages, Administration of Payment of Wages Act.	08
3	The Trade Union Act, 1926 (Sections 1 to 27) Object and Definitions, Registration of Trade Union, Privileges of a Registered Trade Union, Change of Name, Amalgamation, Dissolution.	10
4.	The Payment of Bonus Act, 1965 (Sections 1to3,8 to 12,20 to 25 and29) Introduction - Application of the Act, Definitions, Minimum and Maximum Bonus, Eligibility for Bonus, Available Surplus, Time Limit for Payment of Bonus.	08
5.	The Employees Provident funds and Miscellaneous Provisions Act, 1952 Object and scope of the Act, Applicability and Constitutional validity of the Act., Definitions, Employees' Provident Fund Scheme, Employees' pension scheme and Employees Deposit Linked Insurance scheme Authorities - Under the Act, and their workings, penalties, offences and protection.	10
Term II		48
6.	Historical Development of Company Law in India : Development of various concepts and trends in company law – Social responsibilities of companies – Development of company law administration.	10
7.	Prevention of Oppression and Mismanagement. Meaning of oppression, who can apply to court, Rule of Majority, protection of minority interest, remedies and rights of minority shareholders, Prevention of oppression and mismanagement, powers of the court	12
8	Inspection and Investigations: Inspection and investigation suo-moto - Investigation by Government -	10

	Rights and duties of Inspector - Report by an Inspector.	
9	Compromise and Arrangement: Schemes for Compromise and Arrangement - Persons entitled to apply for sanction of court - Powers of court - Conditions for sanction of compromise - Effect of sanction	10
10.	Rules of Corporate Governance : History, Concept of corporate Governance – Cadbury Committee Report – Principles of Morality and business ethics –Code of conduct for professionals.	06
		48

Recommended Books :-

1. Mercantile Law – P.L. Malik
2. Industrial Law – P.L. Malik
3. Labour and Industrial Law – M.N. Mishra (Central Publication Allahabad)
4. Company Law – Avtar singh (Eastern Book Comp. Lucknow)
5. Secretarial Practice – M.C. Kuchhal
6. Company Law - A.K.Mujumdar (Taxmann Publication Pvt.Ltd.)
7. Corporate Law – Dilip Shinde, Kiran Nerkar, Abhishek Sahu
(Sai Jyoti Publication)

T.Y. B.Com.
Co-operation and Rural Development Special Paper II
Subject Name -: Co-operation and Rural Development.
Course Code -: 305 – d.

Objectives:-

1. To acquaint students with the Co-operative Management.
2. To study the Co-operative Organization and Management.

Term I

Sr. No.	Topics	Lectures
Unit 1	Introduction to Co-operative Management 1.1 Meaning, Nature and Scope of Co-operative Management. 1.2 Objectives of Co-operative Management. 1.3 Principles of Co-operative Management. 1.4 Functions of Co-operative Management	10
Unit 2	Management and it's Role 2.1 Evaluation of Co-operative Management 2.2 Levels of Management. 2.3 Board of Directors and Executives Duties, Responsibilities and Role in Co-operative Management. 2.4 Professionalisation of Management- Need and Significance.	10
Unit 3	Human Resource Management in Co-operative 3.1 Human Relationship in Co-operative. 3.2 Co-operative Philosophy and H.R.D. 3.3 Recruitment 3.4 Training and Managerial Development 3.5 Appraisal and Evaluation	10
Unit 4	Decision Making in Co-operative Management 4.1 Decision Making – Meaning and Importance's. 4.2 Decision Making Process – Steps Involved 4.3 Measures to overcome the defects in Co-operative Management. 4.4 Trends in Co-operative Management in Global Scenario.	10
Unit 5	Co-operative Administration 5.1 Organizational structure of Co-operative Department in Maharashtra. 5.2 Powers, Functions and Responsibilities of Registrar. 5.3 Problems of Co-operative Administration in Maharashtra.	08
	Total	48

Term II

Sr. No.	Topics	Lectures
Unit 6	Financial Management of Co-operatives 6.1 Meaning, Nature and Importance of Financial Management. 6.2 Sources of Finance to Co-operative. 6.3 Distinction between Corporate Finance and Co-operative Finance. 6.4 Significance of financial Management in Co-operatives.	10
Unit 7	Financial Planning 7.1 Meaning and Characteristic	10

	7.2 Estimation of Financial Requirement. 7.3 Capital and Funds of Co-operatives and their raising. 7.4 Budget and Accounting of Co-operatives.	
Unit 8	Financial Control 8.1 Meaning and Need 8.2 Proper utilization of Funds and Capital. 8.3 Investment Policy- Profitability and Security. 8.4 Operating Expenditure and Cost Control	08
Unit 9	Co-operative Audit 9.1 Meaning, Definition and Nature of Co-operative Audit 9.2 Objectives and Significance of Co-operative Audit. 9.3 Provisions of co-operative law related to Audit. 9.4 Types of Audit – Statutory Audit, Re-Audit, Test Audit and Internal Audit.	10
Unit 10	Co-operative Auditor 10.1 Powers and Duties of Auditor 10.2 Audit Report and Rectification. 10.3 Importance of Audit Report.	08
	Total	48

Recommended Books :

- 1) G.S.Kamat –New Dimensions of Co-operative management-Himalaya Publication House, Mumbai
- 2) Dr.Nakkiran S.A.- Co-operative Management principals and techniques Himalaya Publication House, Mumbai
- 3) Ram Krishna Y.- Management of Co-operatives Jaico Publishing Home, New Delhi.
- 4) Goel B.B- Co-operative Management and Administration, Deep and Deep Publication, New Delhi.
- 5) Kulandaiswamy V. Principles and Practice of Co-operative Management - Rainbow Publications, Coimbatore.
- 6) Taimani K.K. – Managing the Co-operative Enterprise, Minerva Associates, Calcutta.
- 7) G.S.Kamat – Cases in Co-operative Management.
- 8) Jagdish Killol- The Maharashtra Co-operative Societies Rules 1961-Amended up to 2014.

T.Y. B.Com.
Cost and Works Accounting Special Paper II
Subject Name :- Cost and Works Accounting.
Course Code :- 305 – e.

Objectives :-

1. To provide Knowledge about the concepts and principles application of Overheads
2. To provide also understanding various methods of costing and their applications.

Level of Knowledge :- Basic Knowledge.

Term I

Unit No.	Topic	No. of Lectures
1.	Overheads:	6
	1.1. Meaning and definition of overheads. 1.2. Classification of overheads	
2.	Accounting of Overheads (Part-I)	14
	2.1 Collection and Allocation of overheads. 2.2 Apportionment and Re-apportionment of overheads	
3.	Accounting of Overheads (Part-II)	20
	3.1 Absorption - Meaning, Methods of Overhead Absorption 3.4 Under and Over Absorption of overheads- Meaning, Reasons and Accounting treatment	
4.	Activity Based Costing	8
	4.1 Definitions-Stages in Activity Based Costing	
	4.2 Purpose and Benefits of Activity Based Costing	
	4.3 Cost Drivers 4.4 Problems on Activity Based Costing [Simple Problems only]	
Total		48

Term II

Unit No.	Topic	Lecture
5.	Methods of Costing:	08
	5.1 Introduction to Methods of Costing. 5.2 Job Costing- Meaning, Features, Advantages and Limitations	
6.	Contract Costing:	16
	6.1 Meaning and Features of Contract Costing	
	6.2 Work Certified and Uncertified, Escalation clause, Cost Plus contract, work-in- progress 6.3 Profit on incomplete contract	
7.	Process Costing	14
	7.1 Meaning and features of process costing	
	7.2 Preparation of process accounts including normal and abnormal loss/gain 7.3 Joint Products and By Products [Theory Only]	
8.	Service Costing:	10

	8.1 Meaning, Features and Applications. 8.2 Cost Unit-Simple and composite 8.3 Cost Sheet for Motor transport service 8.4 Cost Statement for Hospital and Hotel Organization	
	Total	48

Note -: Allocation of Marks -:

- a) 50 % for Theory.
- b) 50% for Practical Problems.

Areas of Practical Problems

- Accounting & Control of Overhead. [Part I]5
Primary Distribution of Overheads, Repeated & Simultaneous equation methods only.
- Accounting & Control of Overhead. [Part II]
Problems on Machine Hour Rate Only.
- Contract Costing - Preparation of Contract Account & Contractive Account [without B/s]Simple Problem without Escalation clause
- Process Costing Simple Problems on Process Costing [Where there is no work in process].
- Service Costing - Cost Sheet for Motor Transport and Hotel and hospital industry Service.

Books Journals and Websites Recommended for Cost and Works Accounting Paper I, II and III	
1.	Prof. Subhash jagtap -: Practice in Advanced costing and Management Accounting. Nirali Prakashan, Pune
2.	Ravi Kishor -: Advanced Cost Accounting and Cost Systems Taxman's Allied Service Pvt. Ltd., New Delhi.
3.	S.P. Lyengar -: Cost Accounting Principles and Practice, Sultan Chand & Sons Accounting, Taxman's, New Delhi.
4.	Ravi Kishor -: Students Guide to Cost Accounting Taxman's, New Delhi.
5.	M.N. Arora -: Cost Accounting Principles and Practice Vikas Publishing House Pvt. Ltd., New Delhi
6.	S.N. Maheshwari and S.N. Mittal -: Cost Accounting, Theory and Problems, Mahavir book Depot, New Delhi.
7.	B.L. Lall and G.L. Sharma -: Theory and Techniques of Cost Accounting. Himalaya Publishing House, New Delhi.
8.	V.K. Saxena and Vashista -: Cost Accounting – Text book. Sultan Chand and Sons, New Delhi
9.	V.K. Saxena and Vashista -: Cost Audit and Management Audit. Sultan Chand and Sons, New Delhi
10.	Jain and Narang -: Cost Accounting Principles and Practice. Kalyani Publishers
11.	N.K. Prasad -: Principles and Practice of Cost Accounting Book Syndicate Pvt. Ltd., Calcutta.
12.	N.K. Prasad -: Advanced Cost Accounting Syndicae Pvt Ltd., Calcutta.
13.	R.K. Motwani -: Practical Costing. Pointer Publisher, Jaipur
14.	R.S.N. Pillai and V. Bhagavati -: Cost Accounting.

15. Hornefgrain and Datar -: Cost Accounting and Managerial Emphasis.
16. Dr.J.P.Bhosale -: Management Accounting, Vision Publication
17. Prof.Jagtap, Nare & Pagar -: Cost & Works Accounting, Paper-II
18. Journal -: Cost Accounting Standards issued by ICWAI, Kolkata
19. Journal -: Management Accountant Issued by ICWA of India, Calcutta.
20. Website -: - www.icwai.org& www.aicmas.com.

T.Y. B.Com.
Business Statistics Special Paper II
Subject Name :- Business Statistics.
Course Code :- 305 – f.

Objectives:

1. To distinguish between random and non-random experiments.
2. To find probabilities of events.
3. To apply standard distribution to different situations.
4. To test the hypotheses.

Sr. No.	Topic	No. of Lectures
Term 1		
Unit 1	Introduction to Probability: Definitions of : Permutation, Combination, Sample Space, Event, different types of events, Probability of an event, Conditional Probability, Independence of two events, Partition of sample space. Bayes Theorem (statement only). Examples and problems.	12
Unit 2	Uni-variate Discrete Probability Distribution: Definitions of : random variable, discrete random variable, probability distribution of discrete random variable, Probability mass function (p.m.f.), Cumulative distribution function, mean , variance and standard deviation. Properties of distribution function. Examples and problems.	12
Unit 3	Some Standard Discrete Probability Distributions : 1. Bernoulli: p.m.f., mean and variance. (statement only) 2. Binomial: p.m.f., mean, variance and additive property. (statement only) real life situation. 3. Poisson: p.m.f., mean, variance and additive property.(statement only) real life situation. Examples and problems.	12
Unit 4	Bi-variate Discrete Probability Distribution: Bivariate discrete random variable, Joint probability distribution of bivariate discrete random variable, marginal and conditional distribution and independence of two variables. Examples and problems.	12
Term 2		
Unit 5	Normal Distribution: Normal Distribution :Definition, p.d.f. curve, properties of normal distribution, state mean and variance, standard normal variate, problems to evaluate probabilities(using statistical table and excel), additive property for two variables (statement only). Fitting of normal distribution using Excel.Examples and problems.	14
Unit 6	Test Of Hypothesis-I: 1. Definitions of :Hypothesis, Null hypothesis, Alternating hypothesis, Critical region, Types of Errors, Level of significance,	18

	<p>P-value.</p> <p>2. Test for Population Mean (for large and exact sample): Describe test procedure for testing</p> <p>i. $H_0: \mu = \mu_0$ against $H_1: \mu \neq \mu_0$ and</p> <p>ii. $H_0: \mu_1 = \mu_2$ against $H_1: \mu_1 \neq \mu_2$. If population variance is known.</p> <p>3. Test for Population Mean: Describe test procedure for testing</p> <p>i. $H_0: \mu = \mu_0$ against $H_1: \mu \neq \mu_0$ and</p> <p>ii. $H_0: \mu_1 = \mu_2$ against $H_1: \mu_1 \neq \mu_2$. If population variance is unknown.</p> <p>4. Describe the test procedure for paired t-test.</p> <p>5. Test for population proportion : Describe test procedures for testing</p> <p>i. $H_0: P = P_0$ against $H_1: P \neq P_0$ and</p> <p>ii. $H_0: P_1 = P_2$ against $H_1: P_1 \neq P_2$.</p>	
Unit 7	<p>Test Of Hypothesis-II:</p> <p>1. Describe Chi-square test for testing</p> <p>i. Goodness of fit.</p> <p>ii. Independence of attributes.</p> <p>2. Describe test procedure for testing $H_0: \sigma_1^2 = \sigma_2^2$ against $H_1: \sigma_1^2 \neq \sigma_2^2$ (test based on F-distribution)</p>	8
Unit 8	<p>Non-parametric Tests :</p> <p>Introduction , sign test, run test, Kolmogrove – Smirnov test, Mann whitney test.</p>	8

List of Practicals

Sr. No.	Name of Experiment
1	Applications of Binomial and Poisson Distribution.
2	Bi-variate Probability Distribution.
3	Applications of Normal distribution.
4	Testing of Population means and proportions.
5	Test based on Chi-square and F distributions.
6	Non parametric test.

Books Recommended:

1. Fundamentals of Mathematical Statistics: Gupta, Kapoor V.K.
2. Fundamentals of Statistics: S.C. Gupta
3. Business Statistics : Gupta Indra
4. Fundamentals of Statistics: D.N. Elhance
5. Statistical Methods: S.P.Gupta

T.Y. B.Com.
Business Entrepreneurship Special Paper II
Subject Name :- Business Entrepreneurship.
Course Code :- 305 – g.

Objective : To enable students to understand the basic concepts of entrepreneurship and preparing a business plan to start a small industry.

1. To Develop Knowledge and understanding in creating and managing new venture.
2. To Equip students with necessary tools and techniques to set up their own business venture.
3. To Help students to bring out their own business plan.
4. To make students aware about business crises and sickness.

Term I

Unit No	Topic	Lectures
1	SMALL SCALE INDUSTRIES Definition - Meaning - Product Range - Capital Investment - Meaning and importance of Tiny Industries, Ancillary Industries, Cottage Industries. Role played by SSI in the development of Indian Economy. Problems faced by SSI's and the steps taken to solve the problems - Policies Governing SSI's.	12 Hrs
2	FORMATION OF SMALL SCALE INDUSTRY Business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. Steps involved in the formation of a small business venture: location, clearances and permits required, formalities, licensing and registration procedure.	12 Hrs
3	BUSINESS PLAN PREPARATION : Meaning and importance - objectives - Selection of suitable form of organisation - Precautions to be taken by an entrepreneur while preparing Business Plan. Project Appraisal - Break - even Analysis and Ratio Analysis : Debt : Service Coverage Ratio - Gross Profit : Net Profit Ratio and Return on Investment (ROI), Project Audit	14 Hrs
4	PROJECT ASSISTANCE Financial assistance through SFC's, SIDBI, Commercial Banks, IFCI - Non-financial assistance from DIC, SISI, KVIC - Financial incentives for SSI's and Tax Concessions - Assistance for obtaining Raw Material, Machinery, Land and Building, Venture Capital and Technical Assistance	10 Hrs
Total		48 Hrs

Term II

Unit No	Topic	Lectures
5	BUSINESS PLAN (BP) IMPLEMENTATION	12 Hrs

	Meaning - importance - preparation of Business Plan, Financial aspects, Marketing aspects, Human Resource aspects, Technical aspects, Social aspects of Business Plan. Common pitfalls to be avoided in preparation of a Business Plan.	
6	SMALL ENTERPRISE MANAGEMENT : (As Distinct from corporate sector management) Functional v/s Integrated Approach Structured v/s Flexible Approach Logical v/s Creative Approach Start up phase Management: Difference of opinion with in promoting team - Avoiding failure – Problem-Solving, Creativity and Innovation, Stability Phase Management, Growth phase Management,	12 Hrs
7	BUSINESS CRISES AND SICKNESS : Types of Business Crises, Starting crises, Cash crises, Delegation Crises, Leadership Crises, Financial Crises, Prosperity Crises, Succession Crises, Sickness : Meaning and Definition, Symptoms, Causes, Turnaround Strategies, Revival Schemes of Sickness,	12 Hrs
8	SKILL DEVELOPMENT <ul style="list-style-type: none"> • Preparation of a Project report to start a SSI Unit. • Preparing a letter to the concerned authority-seeking license to the SSP Unit (You propose to start). • Format of a business plan. • A Report on the survey of SSI units in the region where college is located • Chart showing financial assistance available to SSI along with rates of interest • Chart showing tax concessions to SSI both direct and indirect. • Success stories of Entrepreneurs in the region. (Any Two) • Documents required for Registration of SSI 	12 Hrs
Total		48 Hrs

Recommended Books

1. Desai Vasant -: "Management of Small Scale Industries" Himalaya Publishing House.
2. Khanka S.S. -: "Entrepreneurial Development" S.Chand.
3. Gupta S.S. -: "Entrepreneurial Development" Sultan Chand & Sons.
4. Taneja Satish and Gupta S.L. "Entrepreneurship Development - New Venture Creation" Gaigotia Publishing Company, New Delhi.
5. Chandra P. - 'Project - Preparation, Appraisal and Implementation' - Tata McGraw Hill, New Delhi.
6. Jain P.C. (ed.) 'Handbook for New Entrepreneurs' - Entrepreneurship Development Institute of India, Ahmedabad.

7. Pandey G.N. - 'A Complete Guide to Successful Entrepreneurship' Vikas Publishing House Pvt Ltd.
8. Maharashtra Centre for Entrepreneurship Development - 'Project Profile', 'Profile for SSI Projects.'
9. Edward D. Boao - 'Opportunities'.
10. Prof. John Mullins - 'The New Business Road Tests' - Pearson.
11. Prof. Rajeev Roy - 'Entrepreneurship' Oxford University Press.
12. Rashmi Bansal - 'Stay Hungry Stay Foolish' - CIIFIM, Ahmedabad.
13. Dr. Patel V.G. - 'When The Going Gets Tough' - Tata McGraw Hill, New Delhi.
14. dovakr yaaogiraja Á]VaogasaMQal Á SaaQaa mhNajao saapDola – ka^inTnaonTla p`kaSana, puNao
15. rSmal bansala Á sTo hMga`I sTo fUilaSa³marazi Anauvaad Á ivadulaa Taokokr´
16. Mark. J. Dollinger, Entrepreneurship - Strategies and Resources, Pearson Edition.
17. Udai Pareek and T.V. Rao, Developing Entrepreneurship
18. S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems
19. Srivastava, A Practical Guide to Industrial Entrepreneurs
20. Anil Kumar: Small Business and Entrepreneurship I.K. International Publishers
21. Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975
22. Bharusali, Entrepreneur Development
- 23 Vidya Hattangadi : Entrepreneurial
24. Dr. Venkataramanappa : : Entrepreneurship Development
25. B. Janakiraman , Rizwana M: Entrepreneurship Development
26. N.V.R Naidu : Entrepreneurship Development, I.K. International Publishers
27. Business Entrepreneurship – Dr. M. B. Sonawane
28. Business Entrepreneurship – Dr. Sudhakar Jadhavar (Dean Commerce Faculty)
29. Business Entrepreneurship –Dr. S. L. Shirgave.

T.Y. B.Com.
Marketing Management Special Paper II
Subject Name -: Marketing Management.
Course Code -: 305 – h.

Objectives of the Paper

- I. To understand the concept and functioning of marketing planning and sales management
- II. To know marketing strategies and organization
- III. To inform various facets of marketing with regulatory aspects
- IV. To understand marketing in globalize scenario

First Term

Unit I

Marketing Planning and Sales Forecasting

Meaning of Marketing Planning
Importance of Marketing Planning
Types of Marketing Plan
Elements of a Marketing Plan
Process of Preparing a Marketing Plan
Meaning of Sales Forecast, Sales Budgets and Sales Quota
Sales Forecasting Methods
Forecasting Techniques
(12 Periods)

Unit 2

Social Marketing:

Meaning and Objectives of Social Marketing
Social Responsibility of Marketing Manager
Impact of Marketing on Society and Other Business
Social Criticism of Marketing
Recent Trends in Social Marketing
(16 Periods)

Unit 3

Marketing Organisations

Meaning of Marketing Organisation
Changing role of Marketing Organisation
Factors affecting on Marketing Organisation
Essentials of an effective Marketing Organisation
Types of Marketing Organisation
(10 Periods)

Unit 4

Marketing Strategies

Concept of Strategy
Characteristics of Strategy
Meaning of Marketing Strategy
Competitive Marketing Strategies

Competitive Strategies in Global Environment

Benchmarking – A total for effective Marketing Strategy – meaning, process and advantages of

Benchmarking

(10 Periods)

Second Term

Unit 5

Agricultural marketing

Meaning of Agriculture Marketing

Types of Agri-Products

Features of Agri-Products

Types of Markets – Defects of Agri- marketing and remedies

Marketing Intelligence System and Agriculture Marketing

Distinction between manufacture goods marketing and Agriculture goods marketing

(14 Periods)

Unit 6

International Marketing

Meaning, nature, need and importance of International Marketing

International Marketing Vs Domestic Marketing

Problems and Challenges in International Marketing

Mode of entry in International Market

Scope of International Marketing

(12 Periods)

Unit 7

Marketing Regulations

Importance of Marketing Regulations in Marketing.

Relevance and importance of following Acts in the Context Marketing Management

Consumer Protection Acts, 1986

Trade Mark Acts, 1999

Competition Acts, 2002

Indian Patent (amendment) Acts, 2005

Bureau of Indian Standards Act

(12 Periods)

Unit 8

Globalization and Marketing

Meaning of Globalization

Features of Globalization

Marketing in 21st Century

Impact of Globalization on marketing

Benefits and limitation of Globalization

Case study related to Global Marketing

(10 Periods)

Recommended:

Books:

T.Y. B.Com. w.e.f. 2015-16

Philip Kotler	Marketing Management
David Carson	International Marketing: A Comparative System Approach, Wiley, New York
Steven M. Bungess	The New Marketing Halfway House, Zebra Press, South Africa
David J. Schwartz	Marketing Today: A Basic Approach Harcourt Brace Jovanovich, New York
Thomas V. Boroma	The Marketing Edge: Making Strategic Work The Free Press, New York
Peter Doyle	Value-based Marketing: Marketing Strategies for Corporate Growth and Shareholder value John Wiley, Crichester, England
E. Jenome McCarthy	Basic Marketing: A Managerial Approach Irwin, Homewood, Illinois

Suggested mode of conducting practical

1. Guest lecture
2. Library assignment
3. Case study
4. Field visit
5. Conducting Survey
6. Presentation

T.Y. B.Com.

Agricultural and Industrial Economics Special Paper II

Subject Name :- Agricultural and Industrial Economics.

Course Code :- 305 – i.

Objectives –

1. To study the agricultural development in India.
2. To analyze the importance of industrial development in India

Term I – Agricultural Development in India		
Unit	Topic	Lectures
1.	Agriculture :- 1.1 Role of Agriculture in Indian Economy 1.2 Progress of Agriculture since 1991. 1.3 Concept & Problems of Productivity 1.4 Causes of low Productivity in Indian Agriculture 1.5 Measures adopted to improve the productivity 1.6 Causes and its effects on sub-division and fragmentation of land holding	10
2.	Land Reforms :- 2.1 Technological & Institutional Reforms 2.2 Evaluation of Land Reforms.	08
3.	Agriculture Labour :- 3.1 Types of Agriculture Labour. 3.2 Causes of increase Agriculture Labour. 3.3 Government Policy Measures : EGS/MGNREGA	10
4.	Problems of Farming :- 4.1 Seasonal changes and farming 4.2 Minimum support price of crops. 4.3 Purchasing of foods by Government 4.4 Role of Government in natural calamities 4.5 Problems of Farmers Suicide. 4.6 Land Acquisition	12
5.	Agricultural Processing :- 5.1 Role of Agricultural Processing in India 5.2 Scope & Importance of Agricultural Processing. 5.3 Problems & remedial measures of Agricultural Processing.	08
		Total 48
Term II – Industrial Development		
Unit	Topic	Lectures
6.	Industry & Economic Development :- 6.1 Role of Industry in India 6.2 Highlights of Industrial growth Since 1991 6.3 Ownership of Industry 6.4 Pattern of Ownership of Indian Industries 6.5 Public & Private Sector. 6.6 Role of Small Scale Industries.	10

	6.7 Problems & Policy measures adopted to their developments.	
7.	Major Industries in India :- 7.1 Sugar & Textile. 7.2 Iron & Steel. 7.3 Power Generation.	10
8.	Industrial Labour :- 8.1 Government wage policy 8.2 Industrial Dispute – Causes and Measures 8.3 Social Security & Welfare Measures.	08
9.	Industrial Finance :- 9.1 Problems of Industrial Finance 9.2 Sources of Industrial Finance 9.3 IDBI, IFCI, ICICI, SFC.	10
10.	Public Enterprises :- 10.1 Government policy of Public Enterprises. 10.2 Problems of Public Enterprises 10.3 Arguments against Privatization of Public Enterprises	

Recommended Books :

1. S.K.Misra and V.K.Puri : Indian Economy - Himalaya Publishing House, Delhi.
 2. Khedkar B.D. : Indian Economy, Success Publication, Pune
 3. Sundaram & Black : The International Business Environment, New Delhi
 4. Agrawal A.N. Indian Economy – Vikas Publication
 5. Khem Farooq A. Business and society, S.Chand Delhi
 6. Dutt R & Sundaram K.P.M – Indian Economy, s.chand delhi
 7. Dutt Rudder : Economic Reforms in India – A Critique – S Chand, New Delhi
 8. Hedge: Environmental Economics, MaMillan
- K.V. Srivyya and V.R.M. Das : Indian Industrial Economy, Chand & Com.New Delhi 1977.

T.Y. B.Com.

Defense Budgeting, Finance & Management Special Paper II
Subject Name -: Defense Budgeting, Finance & Management.
Course Code -: 305 – j.

Aim of the paper

One of the crying needs of the hour is to ensure that the National Security objectives are met-in a cost effective manner. Against such backdrop, the aim can be achieved by educating the students and disseminating the information and by giving the planners, decision makers and administrators all the information they need in an easily understandable form. By studying this paper students will understand all the financial aspects of budgetary and defence production in India.

Term I

Unit No.	Topic	Lectures
1.	Rationale of Defence Production in India. a. Economic aspects of Defence Production. b. Political aspects of Defence Production.	12
2.	Defence and Development. a. Concept of Defence v/s Development. b. Evaluation of the Debate. c. Future prospects of the debate	12
3.	Government Policies towards Defence Production in India. a. Industrial Policy Resolution of the Government 1947-48, 1956-57, Since 1991 onwards. b. Weapons Procurement Policies in India since 1947.	12
4.	Structure of Defence Production. a. Department of Defence Production in the Ministry of Defence b. Structure and Functions. c. Defence Public Sector Undertakings - Basic Aims and Objectives. d. Information & role of Defence Public Sector Undertakings.	12
Total		48

Term II

Unit No.	Topic	Lectures
5.	Role of Private Sector in Defence Production. a. Status of Indigenous arms production in India. b. Problems of prospectus of arms production in India.	12
6.	Defence Management. a. Nature, Scope, Function and Principles of Management. b. Principles and Types of Organisation, Military and Non Military Organisations.	12
7.	Decision making in Armed Forces. a. Organisational aspects of Decision Making. b. Decision making process in India.	12
8.	Logistics Management for Indian Defence. a. An understanding of Logistics management - meaning and concept.	12

	b. Significance and Historical Evaluation. c. Scope of Logistics management. d. Principles of Logistics Management. e. Logistics Planning for Indian Defence.	
Total		48

Recommended Books	
1.	Raju G.C. Thomas, "The Defence of India: A Budgetary Perspective" (MacMillan Publication, New Delhi, 1978)
2.	Subramanyam K., "India's Security Perspective – Policy and Planning", (Lancer Books, New Delhi, 1991).
3.	Nanda Ravi, "National Security Perspective, Policy and Planning", (Lancer Books, New Delhi, 1991).
4.	Khanna D. D. and Malhotra P. N., "Defence vs. Development: A Case Study of India", (Indus Publication Company, New Delhi, 1993).
5.	Kennedy Gavin, "Defence Economics", (Gerald Duckworth & Co. Ltd, 1983).
6.	Ghosh Amiya, "India's Defence Budget & Expenditure Management in Wider Context", (Lancer Publication and Span Tech, Delhi, 1996).
7.	Dutta Meena and Sharma Jai Narayan, "Defence Economics", (Deep and Deep Publication, New Delhi)
8.	Deger S. & Sen S. "Military Expenditure in the Third World Countries: The Economic Effects", (Routlet & Kegan Paul, 1986).
9.	Agarwal Rajesh K., "Defence Production and Development", (Gulab Vazirani for Arnold Heinermann Publishers, 1978).
10.	Thomas Raju G. C., "Indian Security Policy", (Princeton, New Jersey, University Press, 1988).
11.	Robert Loony and David Winterford, "Economic Causes and Consequences of Defence Expenditure in the Middle East and South Asia", (University Press, 1995).
12.	Shrinivas V. N., "Budgeting for Indian Defence: Issues of Contemporary Relevance", (KW Publishers Pvt., Ltd., New Delhi – 2008).
13.	Annual Report, Ministry of Defence, Government of India.
14.	Report of the Finance Commission, Government of India.

T.Y. B.Com.
Insurance Transport and Clearance Special Paper II
Subject Name -: Insurance Transport and Clearance
Course Code -: 305 – k.

Objectives :

- 1) To know the fundamentals of Life Insurance & General Insurance.
- 2) To create the awareness of Insurance Business & practices .
- 3) To know the knowledge about laws & regulations relating to Life Insurance & General Insurance.

Term I

Unit	Topic	Lectures
1	Insurance Management Life Insurance, Claim Settlements ,Maturity Claims – Meaning , Procedure for claim ,types of claims ,survival benefits ,Death claims , early claims , required documents & forms	12
2	Nomination & assignments of policies Difference between Nominations & assignments , policy conditions ,loans & surrender of policies, post maturity claims	12
3	Privatization & Insurance Business Effect of privatization on Insurance Business, Comparative study of private companies & government companies, Malhotra committee report, current trends in global insurance business.	12
4	Laws relating with Insurance Business 1) Commentaries on Insurance Act 1938 2) Life Insurance corporation Act 1956 3) Insurance Regulatory & Development Act 1991 4) Overview of Income Tax Act	12
Total-		48

Term II

1	Insurance Management General Insurance Maturity Claims – Meaning ,Procedure for claim , Types of claims, survival benefits ,Death claims , early claims, required documents & forms, Accidental benefits & disability benefits, various conditions in the policy , permanent disability benefits, post maturity claims, payments, importance of timely payment, due dates of payment, methods & rules of payment , current trends of General Insurance in Global Business	12
2	Premium Payments Importance of timely payment, due date of payment Surrender values – Meaning & Conditions, Lapse of policy, forfeiture & revival of policies, special revival scheme, Installment revival scheme, loan cum revival scheme	12

3	Laws related to General Insurance Business	12
	1) Insurance Act 1938	
	2) Insurance Amendment Act 2002	
	3) IRDA Regulations 2002	

4	Insurance Business & Saving Plans	12
	1) Financial planning & Taxation	
	2) Mutual Funds & shares	
	3) Unit Trust & Unit based policies	
	4) Record Keeping & performance for insurance Agents	
	5) Business Targets & Incentives	

Total- 48

Recommended Books

- 1) Principles and Practices of Insurance- Dr. P. Periaswamy
Himalaya Publishing House, Mumbai
- 2) Theory and Practice of Insurance Business- M. Ariff Khan
- 2) Marketing and Life Insurance Business- P.K. Biswas Roy
Discovery Publishing House, New Delhi
- 4) Travel and Tourism Business Management – Dr.S.K.Wadekar
Shanti Prakashan, Ahmedabad (Gujrat)
- 5) Life Insurance Administration, Insurance Institute of India
- 6) Manual for Agents- LIC India

T.Y. B.Com.

Computer Programming and Application Special Paper II

Subject Name :- Computer Networking and Cyber Security.

Course Code :- 305 – I.

Course Objectives:

1. To know about computer network.
2. To understand different topologies used in networking
3. To learn different types of network.
4. To understanding the use of connecting device used in network.

Term-I

Unit No.	Name of the Topic	No. of Lectures	Ref. Books
1	Chapter 1: Computer Networks. 1.Introduction Computer Network, Topology, Types of Networks 2.Communication Types Serial, Parallel 3.Modes of Communication : Simplex, Half Duplex, full Duplex, Server Based LANs &Peer-to-Peer LANs, Comparison of both 4.Protocols and Standards	14	1,2,3
2	Chapter 2 : Network Models 1.Design issues of the layer 2. Protocol Hierarchy 3.ISO-OSI Reference Model : Layers in the OSI Model, Functions of each layer 4. Terminology : SAP, Connection Oriented services, connectionless services, Peer Entities 5. Internet Model (TCP/IP) 6. Comparison of ISO-OSI & TCP/IP Model 7. Addressing : Physical Addresses, Logical Addresses, Port Addresses 8. IP Addressing : Classfull addressing, Classless addressing	12	1,2,3
3	Chapter 3 :Transmission Media 1.Guided Media (Wired) : Coaxial Cable:- Physical Structure, standards, BNC Connector, Applications, Twisted Pair: Physical Structure, UTP vs STP, Connectors, Applications, Fiber Optics Cable: Physical Structure, Propagation Modes (Single Mode & Multimode), Connectors, Applications. 2. Unguided Media(Wireless) Electromagnetic Spectrum For Wireless Communication, Propagation Methods(Ground, Sky, Line-Of- Sight),Wireless Transmission(Radio Waves, Infra-Red,	12	1,2,3

	Micro- Wave)		
4	Chapter 4 : Wired LANs : Ethernet 1. IEEE Standards 2. Standard Ethernet(MAC Sublayer, Physical layer) 3. Fast Ethernet(MAC Sublayer, Physical layer) 4. Gigabit Ethernet(MAC Sublayer, Physical layer) 5. Network Interface Cards (NIC), Components of NIC, Functions of NIC, Types of NIC.	10	1,2,3
Total No of Lectures		48	

Term-II

Unit No.	Topic	No. of Lectures	Ref. Books
5.	Chapter 5 : Wireless LANs 1. IEEE802.11 (Architecture, MAC Sub layer, Frame Format, Frame Types, Addressing Mechanism) 2. Bluetooth (Architecture Piconet and Scatternet Applications)	10	1,2,3
6.	Chapter 6 : Information Security Concepts 1. Information Security Overview: Background and Current Scenario 2. Types of Attacks 3. Goals for Security 4. E-commerce Security 5. Computer Forensics 6. Steganography	10	1,2,3
7	Chapter 7: Security Threats and Vulnerabilities 1. Overview of Security threats 2. Weak / Strong Passwords and Password Cracking 3. Insecure Network connections 4. Malicious Code 5. Programming Bugs	10	
8.	Chapter 8 : Cryptography / Encryption 1. Introduction to Cryptography / Encryption 2. Digital Signatures 3. Public Key infrastructure 4. Applications of Cryptography 5. Tools and techniques of Cryptography	10	
9.	Chapter 9: Wireless Networks and Security 1. Components of wireless networks 2. Security issues in wireless	08	
Total No. Lectures		48	

Recommended Books:

- 1) Computer Networks - Andrew Tanenbaum (III Edition)
- 2) Data Communications & Networking - Behrouz Ferouzan (III Edition)
- 3) Complete Guide to Networking - Peter Norton

T.Y. B.Com.
Business Administration Special Paper III
Subject Name :- Business Administration
Course Code :- 306 – a.

Objective :-

To acquaint the students with the basic concepts in finance and production functions of a business enterprise.

Term I

Unit No.	Finance	Lectures
	content	
1	Finance :- 1.1 Money and Finance, Need, Nature and Importance of Finance. 1.2 Finance Functions, Objectives of Financial Management, Functions of Finance Manager. 1.3 Financial need of a modern business organization.	10
2	Financial Planning :- 2.1 Meaning, Nature and characteristics of financial planning. Scope, Importance, Advantages, Limitations, of Financial Planning . 2.2 Steps in financial planning. 2.3 Methods of estimating financial requirements.	12
3	Capitalization and Capital Structure :- 3.1 Capitalization – Concept, Factors governing capitalization, over and under capitalization - Causes and effects, Fair Capitalization. 3.2 Capital Structure- Meaning, Concept and Principles of capital structure, Factors influencing the pattern of capital structure. 3.3 Trading on equity- Concepts and effects.	12
4	Management of Capital :- 4.1 Types of capital- Fixed capital and working capital, owned and borrowed capital, Short and Long term Capital. 4.2 Need, Importance, Factors governing fixed and working capital requirement. 4.3 Sources of capital - Shares, Debentures, Public Deposits, Ploughing back of profits, Loans from Bank and Financial Institutions, Trade creditors, Installment credit etc.	14
	Total	48

Term II

(Production, Operations Functions)

Unit No.	Production, Operations Functions	Lectures
	content	
1	Production management Functions :- 1.1 Meaning, Definition, Functions of Production Management, Responsibilities of Production manager . 1.2 Production Planning - Objectives, Importance, levels of planning. 1.3 Routing & Scheduling - Meaning, Route Sheets, Scheduling, Master and sequential scheduling, scheduling devices.	14

	1.4 Production control- Definition and meaning, Necessity, objectives, factors and techniques of production control	
2	Plant Location and Plant Layout 2.1 Introduction, importance, factors responsible for plant location. 2.2 Plant Layout- Meaning, Definition, Importance of good layout, factors relevant for choice of layout, Line, Process and Product layout. 2.3 Plant Layout - Advantages, disadvantages and techniques.	10
3	Inventory management 3.1 Inventory management -Introduction, methods, and Norms. 3.2 EOQ, Use of Computers in Inventory Management, 3.3 Material Requisition Planning (MRP) , Just In Time (JIT),ABC Analysis.	10
4	Material Handling and supply chain management 4.1 Meaning, function of material handling, principles of material handling. 4.2 Common material handling devices fork lift truck, platform truck, straddle carrier, chain hoist, roller and belt conveyor, bridge crane, crawler crane. 4.3 Supply chain management- Theory, Principles, Implications, Factors affecting supply chain management.	14
	Total	48

Recommended Books	
1.	Fundamentals of Business Finance- Dr. R. M. Shrivastav
2.	Corporate Finance- S C Kuchhal
3.	Industrial Finance- M C Kuchhal
4.	Corporate Finance- Dr. P V Kulkarni
5.	Financial Management- Dr. Prasanna Chandra
6.	Production, Operations Management - Dr.B.S. Goel (Pragati Prakashan Meerut)
7.	Operations Management- Norman Gaither, Greg Frazaier (Sengage Learning)
8.	Production Management - Chunawalla

T.Y. B.Com.
Banking & Finance Special Paper III
Subject Name :- Banking Law and Practices in India.
Course Code :- 306 - b.

Objectives:

1. To acquaint the students with Banking Law and Practice in relation to the Banking system in India
2. To understand the legal aspects of Banking transactions and its implications as Banker and Customer.
3. To make the Students aware of the Banking Law and Practice in India

Term I

Unit No.	Topic	Lectures
1.	LAWS RELATING TO BANKING IN INDIA Provisions of The Banking Regulation Act, 1949, with reference to the following: Definition – Capital - Reserve Fund - Cash Reserve for Non Schedule Banks Liquid Assets – Licensing - Branch Licensing - Management Profit and Loss Account and Balance Sheet – Sec. 10, 29 & 30 Powers of the Reserve Bank of India – Sec. 35 & 36 Voluntary Amalgamation – Sec. 44A Compulsory Amalgamation – Sec. 45 Liquidation – Sec. 45 Banking Regulation Act as applicable to Co-operative Banks.	14
2.	NEGOTIABLE INSTRUMENTS ACT, 1881 Definition, Characteristics and Presumptions of Negotiable Instruments. Promissory Note, Bills of Exchange and Cheque – Definition and Features Parties to Negotiable Instruments Negotiation Presentment Notice of Dishonor Noting and Protesting	14
3.	PAYING BANKER Precautions in Payment of Customers' Cheques Paying Banker's Duties and Rights Statutory Protection to Paying Banker Payment of forged Cheque Return of cheques	10
4.	COLLECTING BANKER Precautions in collecting Customer's Cheques Collecting Banker's - Duties and Rights Statutory Protection to Collecting Banker Dishonor of Cheques by Non-Acceptance and Non-Payment	10
Total		48

Term II

Unit No.	Topic	Lectures
5	RELATIONSHIP BETWEEN BANKER AND CUSTOMER	14

	Definition of Banker and Customer Relationship as Debtor and Creditor Banker as Trustee Banker as Agent Banker's Obligation of Secrecy of Accounts Banker's Lien Right of Set Off Disclosure permitted by the Banker's Practices and Usage Bankers Obligation to honour Cheques Garnishee Order Termination of Relationship	
6	SECURITIES FOR ADVANCES: Principles of Secured Advances Precautions to be taken by the banker while advancing against: a. Documents of title to Goods b. Real Estate c. Fixed Deposit Receipt d. Bullion e. Supply Bills f. Life Insurance Policy g. Shares h. Agricultural Produce	10
7.	MODES OF CREATING CHARGE: Lien , Pledge , Hypothecation Mortgages and types of Mortgages, Precautions to be taken by Bankers while creating and recording charge	10
8.	PROJECT APPRAISAL & RECOVERY MEASURES A) Steps in Project Appraisal - Economic, Technical, Managerial, Operational and Financial Aspects. B) Recovery Measures: i) Legal Measures: Debt Recovery Tribunal – LokAdalat – Corporate Debt ii) Non Legal Measures: Follow up action – One time settlement – Recovery Camps – Recovering through Self Help Groups. Recovery System – Recovery under Securitisation and Reconstruction of financial Assets and enforcement of Security Interest Act, 2003	14
Total		48

Recommended Books

1. Practice of Law and Banking -: G.S. Gill
2. Banking Law and Practice -: P.N. Varshney
3. Banking Theory and Law Practice -: E. Gordon, K. Natarajan
4. Banking Law and Practice in India -: M.L. Tannan
5. Banking Law and Practice in India -: Maheshwari
6. Law and Practice of Banking -: Prof. Mugli
7. Banking Theory and Practice -: K.C. Shekar
8. Law and Practice of Banking -: B.M. Lall and Nigam
9. Banking Law & Practices Shri. Prakash Misal, Success Publication.

T.Y. B.Com.

Business Laws & Practices Special Paper III

Subject Name :- Business Laws & Practices.

Course Code :- 306 - c.

Objectives -

- 1) To impart the students with the knowledge and understanding of important business Laws including tax related laws.
- 2) To acquaint the students with Company law & Secretarial Practice.

Term I

Unit No.	Topic	Lectures
1	Central Excise Act 1944 Meaning and object of Excise - Definitions- Goods, Manufacture, Production, Excisable Goods - Registration Procedure and Documentation - Valuation - Transaction Value, Valuation under MRP, Tariff Value, Valuation under Central Excise Valuation Rules. Simple Problems on valuation - Daily Stock Account (DSA), Invoicing and Periodical returns, Assessment - Payment of Duty - Method, manner and mode of duty, payment, Account Current and TR - 6 - Challan - CENVAT - Definition of INPUT, CAPITAL GOODS, Manner and availment of CENVAT - SSI Unit - Records, Documents to be maintained, Benefits for SSI Units - SSI Units and Manufacture of Branded goods - SSI Unite and job work	10
2	Service Tax - 1. Meaning, object and scope of the service tax. 2. Taxable Services - Stock Broking. - Advertising - Courier - Tour Operator - Photography Services - Online information and data base access and/or retrieval - services - Value of taxable service 3. Procedure of Registration, Payment of Service Tax, Refund of Service Tax. 4. Return of Service Tax, Assessment and Penalties.	10
3	CUSTOM ACT 1962. , 1. Meaning object and scope, Definitions - Customs Area, Customs Port / Air Port / Station /Water - Prohibited goods - smuggling - Shipping Bill - Entry - Bill of Entry-Bill of Export - Costal Goods. 2. Levy and exemption from Custom duty - Valuation of goods for purpose of assessment. 3. Clearance of Imported and Exported goods - Confiscations of goods and conveyances and imposition of penalty.	10
4	CENTRAL SALES TAX ACT 1956 1. Definitions - Sale, inter-state sales, intra-state sales, sales during import sales, export, goods, dealer, appropriate state, declared goods. 2. Persons liable to pay CST, Rate of CST, Practical Problems on Calculation of CST payable. 3. Registration under CST Act	10
5	Law of patent & Trade Mark	08

	<p>Patent Act 1970 - Important Definitions, Inventions Net Partner, Application for patents,, Opposition to Grant of Patent, Grant and sealing of patents, Suit concerning infringement of patents, Surrender and revocation of patents, penalties.</p> <p>Trade Mark Act 1999 - Important definitions, procedure of Registration, Duration, Renewal etc. of registration - infringement of Trade Mark -Penalties.</p>	
Term II		48
6	<p>Role of company secretary</p> <p>Origin & concept - Definition of secretary - Importance of company secretary - Duties, Liabilities & Rights of company secretary - Qualification of Company secretary</p>	12
7	<p>Borrowing Powers and Methods of Borrowing</p> <p>Statutory Provisions - Unauthorized Borrowings - Security for borrowings - Mortgage - Pledge - Hypothecation - Charge - Fixed Mortgage and Charge - Registration of Charges</p> <p>Method of borrowings -</p> <p>Short-term Borrowings - Loan From Banks - Public Deposits - Companies Acceptance of Deposits Rule 1975 - Repayment of Deposit and Powers of Company</p> <ul style="list-style-type: none"> • Company Law Board • Income Tax on Company Deposits • Regulation by RBI • Long and Medium Term Borrowings <p>Debentures : Meaning, Kinds - Procedure for Issue of Debentures - Guidelines for Issue of Debentures - Rights of Debenture holders - Liabilities of Trustees - Transfer and Transmission of Debentures - Redemption - Reissue of Redeemed Debentures</p> <ul style="list-style-type: none"> • Appointment of a Receiver and Its Registration • Inter-Company Loans and Investments 	08
8	<p>Dividend, Interest & Bonus Shares</p> <p>Dividend</p> <p>Meaning, Statutory Provisions - Conditions under which Dividend may not be paid - Declaration of Dividend - Dividend paid out of Reserves - Unpaid or Unclaimed Dividend Transfer to Central Govt. - Procedure for Payment of Dividend - Dividend Mandates / Authority - Interim Dividend - Loss of Dividend Warrants - Payment of Interest out of Capital - Dividend and Income Tax</p> <p>Interest -</p> <p>Meaning and Distinction from Dividend - Procedure of paying Interest on Debentures</p> <p>Bonus Shares -</p> <p>Bonus Shares or Capitalization of Profits - Statutory Provisions / Guidelines for Issue of bonus shares, Procedure for Issue of Bonus Shares - Forms of Issue of Bonus Shares - Effects of Issue of Bonus Shares - Advantages of the Issue of Bonus Shares - Limitations of the</p>	14

	Issue of Bonus Shares	
9	Accounts, Statutory Books & Registers Accounts : Books of Accounts - Annual Accounts - Balance Sheet of a Holding Company - Annual Return - Statutory Books and Registers - Statistical Books	04
10	Company Audit Appointment of Auditors - Special Audit - Audit of Cost Accounts - Removal of Auditors - Remuneration and Expenses of an Auditor - Qualifications and Disqualifications of an Auditor - Rights, Powers and Duties of an Auditor - Auditor's Report - Liabilities of Auditor	10
		48

Recommended Books :-

1. Company Law – A.K.Mujumdar (Taxmann Publication Pvt.Ltd.)
2. Company Law – Avtar singh (Eastern Book Comp. Lucknow)
3. Secretarial Practice – M.C. Kuchhal
4. Indirect Taxes – V.S.Datey (Taxmann Publication Pvt.Ltd.)
5. Indirect Taxes- S.C. Mehrotra (Sahitya Bhavan Publication, Agra)
6. Corporate Law – Dilip Shinde, Kiran Nerkar, Abhishek Sahu
(Sai Jyoti Publication)

T.Y. B.Com.
Co-operation and Rural Development Special Paper III
Subject Name -: Co-operation and Rural Development.
Course Code -: 306 - d.

Objectives -:

1. To acquaint students with the co-operative marketing
2. To develop the capability of students for knowing different types Marketing.
3. To aware the role of National Agricultural Co-operative Marketing Federation (NAFED)

Term I

Unit No.	Topic	Lectures
1	Introduction to Marketing 1.1 Meaning and definition 1.2 Elements 1.3 Objectives 1.4 Importance 1.5 Evaluation of marketing 1.6 Scope of marketing 1.7 Classification of markets - Local, Regional, National and Global markets	10
2	Co-operative Marketing 2.1 Basic concepts and features. 2.2 Structure of cooperative marketing 2.3 Primary Co-operatives Marketing Societies-objects, Functions and Progress. 2.4 District and State Co-operatives marketing societies / Federation - objects, Functions and Progress. 2.5 Development and Evaluation.	10
3	Consumer Co-operatives 3.1 Meaning, Need and Importance 3.2 Structure. 3.2.1 Primary Co-operative Consumer Stores, Student Consumer Stores. 3.2.2 Wholesale Co-operative Stores 3.2.3 Super markets 3.2.4 State Co-operative Consumer Federation 3.2.5 National Co-operative Consumer Federation 3.2.6 Problems of consumer co-operatives 3.3 Evaluation and development	10
4	Other Co-operative and It's Marketing 4.1 Dairy Co-operatives 4.2 Poultry Co-operatives 4.3 Sugar Co-operatives. 4.4 Cotton processing (Ginning, Spinning Mills)	5
5	Pricing 5.1 Meaning and Objectives of Pricing 5.2 Competitive and Co-operative Pricing 5.3 Agricultural Cost and Price Commission (ACPC)	8

	5.4 Mechanism of estimating of Minimum Support Price (MSP) by ACPC 5.5 Problems related to MSP	
6	Marketing Research 6.1 Concept and Scope 6.2 Steps involved in marketing research 6.3 Globalization and marketing research 6.4 Need and practice of marketing research in co-operatives	5
	Total	48

Term-II

Unit No.	Topic	Lectures
6.	Marketing Strategy for Co-operatives 6.1 Meaning and definition 6.2 Importance of marketing strategy in co-operatives 6.3 Factors influencing marketing strategy of co-operatives 6.4 Marketing strategy followed by 6.4.1 Agricultural Cooperative Processing. 6.4.2 Co-operative produce Marketing. 6.4.3 Co-operative Service Marketing. 6.5 Strategy for Exporting Agricultural Produce.	12
7.	National Agricultural Co-operative Marketing Federation (NAFED) of India limited. 7.1 Objectives 7.2 Organizational Set-up 7.3 Functions 7.4 Performance and evaluation of NAFED.	8
8.	Agricultural Produce Market Committee 8.1 Organizational Set-up 8.2 Functions 8.3 Progress and Problems	10
9.	Agricultural Produce Market (Regulation) Act, 1963 9.1 Background for Enactment 9.2 Objectives 9.3 Feature of the Act 9.4 Main Provisions.	8
10.	The Agricultural Produce Marketing (Development & Regulation) Act, 2003 (Model Act) 10.1 Objectives 10.2 Basic features. 10.3 Main provisions 10.4 Impact on Agricultural Marketing	10
	Total	48

Recommended Books

Dr. Mukund Tapkir:- Sahakar ,Nirali Prakashan, Pune

Dr G.H.Barhate, Dr.J.R.Bhor and, Prof. L.P.Wakale--Sahakar ,Seth Publication , Mumbai.

G.S.Kamat.- Cases in Co-operative management.

K.K.Taimani.- Co-operative Organization and Management.

G.S.Kamat.- New Dimensions of Co-operative Management.

Dr G.H.Barhate, Prof.B.G.Sahane and Prof, L.P.Wakale---Sahakar vikas , Seth Publication, Mumbai.

Vasant Desai—Fundamentals of Rural Development.

Dr.Dandekar and Rath- Poverty in India.

Dr.P.R.Dubhashi- Rural Development and Administration in India.

V.Reddy- Rural Development in India

S.K.Gopal- Co-operative Farming in India.

I.C.A--State and Co-operative Movement.

K.K.Taimani.- Co-operative Organization and Management.

Dr.D.M.Gujrathi and Prof.A.D.Divekar, Patsansthace Vishwat

T.Y. B.Com.
Cost and Works Accounting Special Paper III
Subject Name -: Cost and Works Accounting.
Course Code -: 306 – e.

Objectives :-

- 1 To impart knowledge regarding costing techniques.
- 2 To provide training as regards concepts, procedures and legal Provisions of cost audit.

Level of Knowledge :- Basic Knowledge.

Term I

Unit No.	Topic	Lectures
1.	Marginal Costing:	18
	1.1 Meaning and concepts- Fixed cost, Variable costs, Contribution, Profit-volume Ratio, Break-Even Point & Margin of Safety. 1.2 Cost-Profit-Volume Analysis- Assumptions and limitations of cost volume analysis 1.3 Application of Marginal Costing Technique:- Make or buy decision, Acceptance of export order & Limiting factors.	
2.	Budgetary Control:	12
	2.1 Definition and Meaning of Budget & Budgetary control 2.2 Objectives of Budgetary control 2.3 Procedure of Budgetary control 2.4 Essentials of Budgetary control 2.5 Advantages and Limitations of Budgetary control 2.6 Types of Budgets.	
3.	Uniform costing and Inter-firm Comparison	08
	3.1 Meaning and ,objectives 3.2 Advantages and disadvantages.	
4.	Introduction to management information system in Costing	10
	4.1 Meaning , objectives and Advantages 4.2 Procedure of MIS	
	Total	48

Term II

Unit No.	Topic	Lecture
5.	Standard Costing	16
	5.1 Definition and meaning of standard cost & standard Costing . 5.2 Types of standards, setting up of Material & Labour Standards 5.3 Difference between Standard Costing & Budgetary Control. 5.4 Advantages and Limitations of standard costing 5.5 Variance Analysis & its Significance 5.6. 1 Meaning, Types and Causes of Material & Labour variances. 5.6. 2 Problems on Material & Labour variances.	
6	Farm Costing	10
	6.1 Meaning and Features of Farm Costing 6.2 Advantages & Limitations of Farm Costing 6.3 Practical Problems	

7	Cost Accounting Record Rules & Cost Audit:	12
	7.1 Introduction to cost accounting record u/s 148 of the companies Act 2013 7.2 Cost records and Verification of Cost Records 7.3 Cost auditor – Appointment- Rights and duties	
8	Cost Audit (Legal Provisions):	10
	8.1 Cost Audit - Meaning, Scope, objectives & advantages of Cost Audit. 8.2 Cost Audit Report and Annexure to cost Audit Report. 8.3 Introduction to Cost Accounting Standards issued by Institute of Cost and Management of India . 8.4 Generally accepted Cost Accounting principles.	
	Total	48

Note :-

Allocation of Marks-

- a) 50% For Theory.
- b) 50% For Practical Problems.

Areas of Practical Problems:

Marginal Costing [problems on P/V Ratio BEP, M/S Angle of incidence
Budgetary Control-[Sales Budget, Cash Budget, Flexible budget .
Standard Costing-Material & Labour Variances only. [Simple problem]
Farm Costing [Farm Cost sheet]

Books Journals and Websites Recommended for Cost and Works Accounting Paper I, II and III	
1.	Prof. Subhash jagtap -: Practice in Advanced costing and Management Accounting. Nirali Prakashan, Pune
2.	Ravi Kishor -: Advanced Cost Accounting and Cost Systems Taxman's Allied Service Pvt.Ltd., New Delhi.
3.	S.P. Lyengar -: Cost Accounting Principles and Practice, Sultan Chand & Sons Accounting Taxman's, New Delhi.
4.	Ravi Kishor -: Students Guide to Cost Accounting Taxman's, New Delhi.
5.	M.N. Arora -: Cost Accounting Principles and Practice Vikas Publishing House Pvt. Ltd., New Delhi.
6.	S.N. Maheshwari and S.N. Mittal -: Cost Accounting, Theory and Problems, Mahavir book Depot, New Delhi.
7.	B.L. Lall and G.L. Sharma -: Theory and Techniques of Cost Accounting. Himalaya Publishing House, New Delhi.
8.	V.K. Saxena and Vashista -: Cost Accounting – Text book. Sultan Chand and Sons, New Delhi
9.	V.K. Saxena and Vashista -: Cost Audit and Management Audit. Sultan Chand and Sons, New Delhi
10.	Jain and Narang -: Cost Accounting Principles and Practice. Kalyani Publishers
11.	N.K. Prasad -: Principles and Practice of Cost Accounting Book Syndicate Pvt. Ltd., Calcutta.
12.	N.K. Prasad -: Advanced Cost Accounting Syndicae Pvt. Ltd., Calcutta.
13.	R.K. Motwani -: Practical Costing. Pointer Publisher, Jaipur.
14.	R.S.N. Pillai and V. Bhagavati -: Cost Accounting.
15.	Hornefgrain and Datar -: Cost Accounting and Managerial Emphasis.
16.	Dr.J.P.Bhosale -: Management Accounting, Vision Publication

T.Y. B.Com.
Business Statistics Special Paper III
Subject Name :- Business Statistics.
Course Code :- 306 – f.

Objectives:

1. To study different optimization techniques.
2. To study different charts.
3. To study simulation.

Sr. No.	Topic	No. of Lectures
Term 1		
Unit 1	Game Theory: Meaning, two person zero-sum game, pure and mix strategies, Pay off tables, saddle points, minimax and maximin principles, Dominance principles. Examples and problems.	10
Unit 2	Statistical Decision Theory: Introduction, acts, states of nature, pay off, regret, Decision Making Under Risk, Expected Opportunity Loss (EOL) Criterion and Expected Monetary Value (EMV) Criterion. Decision Making Under Uncertainty, Maximin Criterion, Maximax , Minimax Regret Criterion, Laplace Criterion, Hurvitz Criterion, Examples and problems.	16
Unit 3	Replacement Problem: Introduction, replacement of Item that deteriorates with time when value of money remains same during the period.	6
Unit 4	Statistical Quality Control : Introduction, Chance and assignable Causes of variation, Uses of SQC, Control limits, specification limits, Tolerance limits Process and product control, Control charts for mean, range, P-Chart, C-Chart , Process Capability study , Interpretation of capability index C_p and C_{pk}	16
Term 2		
Unit 5	CPM/PERT: Meaning and scope, activity, event, node, network, path, critical path, slack, float (total, free, independent), forward pass and backward pass methods. Pessimistic, Most likely and Optimistic times in PERT, mean and variance for each activity, expected duration of project, probability of completion of project, Examples and problems.	16
Unit 6	Simulation: Meaning and scope, Advantages and disadvantages of simulations, Examples and problems, step wise procedure of drawing model sample using EXCEL from i) uniform distribution and ii) normal distribution using Box-Muller transformation.	10
Unit 7	Queuing Theory: Meaning, calling population, queue discipline, inter arrival rate, service	10

	rate, traffic intensity, single channel Poisson arrival with exponential service rate, average waiting time in i) queue and ii) system, average length of i) queue and ii) system. Examples and problems.	
Unit 8	Application of derivative in Business: Algebraic Function: Cost function, Profit function, Revenue function. Derivative and double derivative of some simple algebraic functions and its meaning in computation of maxima and minima of a function. Concept of average cost, marginal cost, variable cost and fixed cost. Examples and problems.	12

List of Practicals

Sr. No.	Name of Experiment
1	Game Theory
2	Statistical Decision Theory
3	Statistical Quality Control
4	CPM/PERT
5	Simulation Using Excel
6	Queuing Theory

Books Recommended:

1. Operations Research : Harndy, Taha
2. Operations Research: Kantiswroop, Gupta
3. Business Mathematics : J. K. Sharma
4. Statistical Quality Control: Montgomery
5. Fundamentals of Mathematical Statistics: Gupta, Kapoor V.K.
6. Fundamentals of Statistics: S.C. Gupta

Pattern of Question Paper (Annual Exam)

Max. Marks:80

Time : 3 hours

Question No.

Max. Marks

Q 1 Attempt any five of the following (2x5)	10
Q 2 Attempt any four of the following (5x4)	20
Q 3 Attempt any four of the following (5x4)	20
Q 4 Attempt any two of the following (15x2)	30

T.Y. B.Com.
Business Entrepreneurship Special Paper III
Subject Name :- Business Entrepreneurship.
Course Code :- 306 – g.

Objectives:-

- 1) To develop the Knowledge and understanding of behavioral aspects of entrepreneurship.
- 2) To acquaint students with the behavioral aspects of members of the team or employees

Term I

Unit No.	Topic	Lectures
1.	Organizational Behavior: Organization; Meaning, Definitions, Goals, Approaches. Organizational Behavior – Meaning, Definitions, Need. Nature. Importance & Scope Historical roots of OB. Organizational Behavior Models.	12
2.	Individual Behavior and Personality: Determinants of individual behavior – Personality: Meaning, Definitions, Determinants of Personality, Personality Traits, Personality Development, Emotional Intelligence, Entrepreneurial Personality.	12
3.	The study of Autobiographies of following Entrepreneurs: (1) Dr. Nilakantha Kalyani (2) Shri. D.S. Kulkarni (3) Mr. Aditya Vikram Birla (4) Shri. Dilip Narayan Borawake (5) Mrs. Jyoti Naik (Ejjat Ki Lajjat, Shri Mahila Gruh Udyog, Lijjat Papad) (6) Shri Ramesh J. Chavan-Thundered Unbottled	12
4.	Group and Group Dynamics: Meaning and Definitions of group, Classification of group, Group task Group size – Group formation process. Group Structure. Group Dynamics: Influence in Group Group Cohesion – Helping Behavior, Co – Operation and Competition Improved Work group.	12
Total		48

Term II

Unit No.	Topic	Lectures
5.	Team Building: Team - Meaning and Definitions Team v/s Group Types of team Creating high performance team Managing team	12
6.	Stress and Conflict Management: Stress – Meaning and Definitions. Types Sources and Consequences of stress Stress management – Personal and Organizational approach	12

	Conflict Management: Meaning and nature of Conflicts. Types Causes of Conflicts. Remedies to overcome the Conflicts	
7.	Motivation: Motivation at work place – Meaning and Definitions. Need & Types of Motivation Job description & Job analysis Management by Objects (MBO)– Job rotation – Job enrichment – Employee Involvement Programme	12
8.	Organizational Change and Development: Meaning and Definitions Causes of Change A Change Model Resistance to Change Strategies of Change and Development	12
	Total	48

Recommended Books	
1)	Tosi H.L., Rizzo J.R., Carrol S.J. 'Handbook of Organizational Behaviour' – Infinity Books, New Delhi.
2)	Robbins Stephen – 'Organizational Behaviour' Prentice – Hall of India, New Delhi.
3)	Ghandekar (Dr.) Anjali – 'Organisational Behaviour' – Everest Publishing House.
4)	Journal: Shri. Ram Centre for Industrial Relations and Human Resources – 'Indian Journal of Industrial Relations' New Delhi.
5)	Vyavsay Udhojakata-Dr.Sudhakar Jadhavar Success Publication Pune
6)	Udhojakanchi Kartutvagatha-Dr.P,C,Shejwalkar

T.Y. B.Com.
Marketing Management Special Paper III
Subject Name -: Marketing Management.
Course Code -: 306 - h.

Objectives of the Paper

1. To know detailing of Marketing Research
2. To understand the role Brand and Distribution Management in marketing
3. To inform about Marketing and Economic Development
4. To Know of the importance of control on marketing activities

First Term

Unit 1

Advertising I

a) Fundamentals of Advertising

1. Conceptual framework, Nature, Scope and Functions of Advertising
2. Role of Advertising in Modern Business
3. Advertising – Objectives – Types, Benefits and Limitations
4. Ethics in Advertising

b) Advertising Media

1. Definitions – Classifications and Characteristics of Different Media
2. Comparative Study of Advertising Media
3. Selection of Media-Factors Affecting Selection of Media
4. Media Mix-Geographical selective-Media Scheduling
5. E-Advertising
(14 periods)

Unit 2

Advertising II

Appeals and Approaches in Advertisement

1. Introduction- Different Appeals and their Significance
2. Advertising Message
3. Direct and Indirect Appeal
4. Relation between Advertising Appeal and Buying Motive
5. Positive and Negative Emotional Approaches
(12 periods)

Unit 3

Brand management

- a) Introduction of Branding
- b) Brand identity
- c) Advertising and Branding
- d) Brand Extension
- e) Identity Sources – symbols, logos, trademarks
(10 Periods)

Unit 4

Industrial Marketing

- a) Introduction to Industrial Marketing
- b) Types of Industrial Goods
- c) Difference between Industrial and Consumer Marketing
- d) Purchasing practices of Industrial customers
(12 Periods)

Second Term

Unit 5

Marketing Research

- a) Meaning, nature and scope of Marketing Research
- b) Marketing Research process
- c) Types of Research
- d) Types of Data
- e) Types of Questionnaire
(14 Periods)

Unit 6

Distribution Management

- a) Warehousing and Transport decisions
- b) Logistics – meaning, nature
- c) Logistics Function
- d) Warehousing – need, functions
- e) Transportation – modes, factors affecting transportation costs
(10 Periods)

Unit 7

Target Marketing

- a) Meaning, nature, importance
- b) Market Targeting
- c) Selection of Target Segment
- d) Targeting Strategies
(10 Periods)

Unit 8

Marketing Control

- a) Meaning, objectives of Marketing Control
- b) Benefits of Marketing Control: - essential of an effective Marketing Control System
- c) Techniques of Marketing Control
- d) Process of Marketing Control
- e) Marketing Audit – meaning, characteristics, objectives, process of Marketing Audit
(14 Periods)

Recommended Books:

Philip Kotler	Marketing Management
David Carson	International Marketing: A Comparative System Approach, Wiley, New York
Steven M. Bungess	The New Marketing Halfway House, Zebra Press, South Africa
David J. Schwartz	Marketing Today: A Basic Approach Harcourt Brace Jovanovich, New York
Thomas V. Boroma	The Marketing Edge: Making Strategic Work The Free Press, New York
Peter Doyle	Value-based Marketing: Marketing Strategies for Corporate Growth and Shareholder value John Wiley, Crichester, England
E. Jenome McCarthy	Basic Marketing: A Managerial Approach Irwin, Homewood, Illinois
Bert Rosenbloom	Marketing Channels: A Management View Dryden, Hinsdale, Illinois
Edward L. Nash	Direct Marketing: Strategy, Planning, Execution McGraw Hill, New York

Suggested mode of conducting practical

1. Guest lecture
2. Library assignment
3. Case study
4. Field visit
5. Conducting Survey
6. Presentation

T.Y. B.Com.

Agricultural and Industrial Economics Special Paper III

Subject Name :- Agricultural and Industrial Economics.

Course Code :- 306 – i.

Objectives –

1. To study the agricultural development in India.
2. To understand the role of industries in India – in the light of globalization.

Term I – Agriculture and Rural Development		
Unit	Topic	Lectures
1.	Rural Economy of India 1.1 Features of Rural Economy. 1.2 Recent Trends in Agriculture Economy – Horticulture & Sericulture	08
2.	Irrigation and Agricultural Inputs 2.1 Types of Irrigation. 2.2 Modern Changes in Irrigation. 2.3 Plant Analysis and Soil Analysis Methods	10
3.	Rural Credit :- 3.1 Need &Types of Rural Credit. 3.2 Role of cooperative credit. 3.3 Role of NABARD	10
4.	Rural Development Programs :- 4.1 Community Development Programme. 4.2 Intensive Agricultural Area Programme. 4.3 Small Farmers Development Agency.	10
5.	Co-Operation in India :- Functions, Growth and Weaknesses of 5.1 Dairy Cooperatives. 5.2 Poultry Cooperatives. 5.3 Service Cooperatives.	10
		Total 48

Term II – Industrial Development		
Unit	Topic	Lectures
6.	Industrial Policy 6.1 Importance of Industrial Policy 6.2 Impact of Industrial Policy since 1991	08
7.	Industrial Imbalance 7.1 Meaning of Industrial Imbalance. 7.2 Need for balance Regional Development in Indian Industry 7.3 Causes & Measure of Industrial Imbalance in India.	08
8.	Globalization & Industrialization :- 8.1 Concept of Multinational Corporations (MNC's) in India. 8.2 Multinational Corporations & Industrial Development. 8.3 Role of Multinational Corporations in Indian Economy 8.4 Impact of Multinational Corporations in India	12

9.	Special Economic Zones (SEZ's) in India :- 9.1 Role of Government in SEZ. 9.2 Impact of SEZ in India	08
10	Infrastructural Development in India 10.1 Importance of Infrastructural Development in Economic Development 10.2 Role of Private Investment in Infrastructural Development. 10.3 Problems of Public Sector Investment in Infrastructural Development.	12
		Total 48

Recommended Books :

1. S.K.Misra and V.K.Puri : Indian Economy - Himalaya Publishing House, Delhi.
2. Khedkar B.D. : Indian Economy, Success Publication, Pune
3. Sundaram & Black : The International Business Environment, New Delhi
4. Agrawal A.N. Indian Economy – Vikas Publication
5. Khem Farooq A. Business and society, S.Chand Delhi
6. Dutt R & Sundaram K.P.M – Indian Economy, s.chand delhi
7. Dutt Rudder : Economic Reforms in India – A Critique – S Chand, New Delhi.
8. Hedge: Environmental Economics, MaMillan.
9. K.V. Srivyya and V.R.M. Das : Indian Industrial Economy, Chand & Com.New Delhi 1977

T.Y. B.Com.

Defense Budgeting, Finance & Management Special Paper III
Subject Name -: Defense Budgeting, Finance & Management.
Course Code -: 306 – j.

Aim of the paper

One of the crying needs of the hour is to ensure that the National Security objectives are met-in a cost effective manner. Against such backdrop, the aim can be achieved by educating the students and disseminating the information and by giving the planners, decision makers and administrators all the information they need in an easily understandable form. By studying this paper students will understand all the financial aspects of budgetary and management systems in India.

Term I

Unit No.	Topic	Lectures
1.	Financial Management. a. Purpose, Planning, Control and Need. b. Salient Features of India's Economic System.	10
2.	Economic Theories of Defence. a. Concept of Public Good. b. Defence and Development. c. Basic Macro – Economic Concept.	10
3.	Government Financial System. a. Introduction – Principles, Structure Ministry of Finance, Parliament, Controller and Auditor General.	10
4.	Defence Budget Structure. a. Preparation. b. Allocation and Execution of Defence Budget.	08
5.	Financial Administration in Defence Services. a. Role of Financial Advisor. b. Defence Accounts Department. c. Structure of the Five Year Defence Plan and its Formulation, Approval and Execution.	10
Total		48

Term II

Unit No.	Topic	Lectures
6.	New Trends in India's Defence Expenditure. a. Understanding of the Defence Budget. b. Analysis of India's Defence Expenditure Since 1998. c. Impact of Expenditure on Defence Forces.	12
7.	Elements of War Potential. a. Economic Elements. b. Natural Resources and Raw Material. c. Manpower and its utility. d. Industrial Capacity. e. Foreign Aid as a Contributory Element.	12

8.	Effects of War. a. Economic Structure. b. Industry. c. Post War Problem.	12
9.	Challenges in Defence and Financial Management. a. System of Financial Management in Defence. b. Linkages between Planning and Budget. c. Arm Impacts vs. Indigenisation: Progress, Pitfalls and Impact on Defence Budget.	12
Total		48

Recommended Books	
1.	Raju G.C. Thomas, "The Defence of India: A Budgetary Perspective" (MacMillan Publication, New Delhi, 1978)
2.	Subramanyam K., "India's Security Perspective – Policy and Planning", (Lancer Books, New Delhi, 1991).
3.	Nanda Ravi, "National Security Perspective, Policy and Planning", (Lancer Books, New Delhi, 1991).
4.	Khanna D. D. and Malhotra P. N., "Defence vs. Development: A Case Study of India", (Indus Publication Company, New Delhi, 1993).
5.	Kennedy Gavin, "Defence Economics", (Gerald Duckworth & Co. Ltd, 1983).
6.	Ghosh Amiya, "India's Defence Budget & Expenditure Management in Wider Context", (Lancer Publication and Span Tech, Delhi, 1996).
7.	Dutta Meena and Sharma Jai Narayan, "Defence Economics", (Deep and Deep Publication, New Delhi)
8.	Deger S. & Sen S. "Military Expenditure in the Third World Countries: The Economic Effects", (Routlet & Kegan Paul, 1986).
9.	Agarwal Rajesh K., "Defence Production and Development", (Gulab Vazirani for Arnold Heinermann Publishers, 1978).
10.	Thomas Raju G. C., "Indian Security Policy", (Princeton, New Jersey, University Press, 1988).
11.	Robert Loony and David Winterford, "Economic Causes and Consequences of Defence Expenditure in the Middle East and South Asia", (University Press, 1995).
12.	Shrinivas V. N., "Budgeting for Indian Defence: Issues of Contemporary Relevance", (KW Publishers Pvt., Ltd., New Delhi – 2008).
13.	Annual Report, Ministry of Defence, Government of India.
14.	Report of the Finance Commission, Government of India.

T.Y. B.Com.
Insurance Transport and Clearance Special Paper III
Subject Name -: Insurance Transport and Clearance
Course Code -: 306 – k.

Objectives :

- 1) To understand the importance of travel and tourism industry.
- 2) To study the functions and working of various Travel Organizations.
- 3) To understand the marketing mix and recent trends of Global Tourism and Transport Business.

Term I		
Unit	Topic	Lectures
1	Development of Tourism Planning for International Tour, Factors considers to travel and tourism business, planning for tour, Reservation, Group Tours, Currency ticket arraignment, Hotel Reservations	12
2	Functions and Working of Travel Organizations IATA (International Air Travel Agency) WTO (World Tourism Organization) IUTO (International Union of Travel Organization) TAAI (Travel Agents Association of India) PATA (Pacific Air Travel Association)	12
3	Tour Planning Requirement documents for foreign tour-Passport, Visa, Health clearance, reading of maps, Role of Embassy, City Guides, Whether conditions, comparative study of tourism in India and Other Countries.	12
4	Transport Means Current scenario of Railway, Road, Water and Air transport in India Significance of Transport in Indian Economy, Role of Air and water transport in global trade. Logistic Management- Elements, Features, Important of logistics management in Business and Industry	12
		Total- 48

Term II		
1	Development of Tourism Role of Tour and Travel Agents- Advertisement, Publicity, Marketing of group tours, Knowledge of employer packages, schemes, LTC facility to employee, Designing of Package tours suitable to employees.	12
2	Tourism Knowledge of Popular Countries Thailand And Malaysia, Gulf and Dubai, Singapore and Hong Kong, U.K., Europe.	12

3	Reservation and Accommodation	12
	Holiday Homes, Campus, Rest Houses, Hotels, Hostels, motels, Clubs, Availability of Food and Catering Services at various sites	
4	Qualities Required for Tourism Business	12
	a. Product Knowledge	
	b. Customer Orientation	
	c. Communication skills	
	d. Analytical , ability skills	
	e. Motivation and Behavioral skills	
	f. Presentation skills	
	g. Personality Development and Behavioral Aspects	

Total 48

Recommended Books

- 1) Travel and Tourism Management – Foster Dougals, Macmillan London.
- 2) Service Marketing – Jha S.M., Himalaya Publishing House, Mumbai
- 3) Tourism and Travel Management – Bishwanath Ghosh, Vikash Publishing House
- 4) Tourism Management- Wahab & Salah, Tourism International Press, London.
- 5) Travel and Tourism Business Management – Dr.S.K.Wadekar
Shanti Prakashan, Ahemadabad (Gujrat)

T.Y. B.Com.
Computer Programming and Application Special Paper III
Subject Name -: Software Engineering.
Course Code -: 306 – I.

Objective:

- a. To understand the different system concepts used in Software Engineering.
- b. To learn the different types applications of Software Engineering.
- c. To know the facts about Software Development.

Term-I

Unit No.	Name of the Topic	Number of lectures	Reference Book
1	Introduction to System Concepts 1 Definition , Elements of System 2 Characteristics of System 3 Types of System 4 System Concepts	10	Book1
2	Requirement Analysis 1 Definition of System Analysis 2 Requirement Anticipation 3 Knowledge and Qualities of System Analyst 4 Role of a System Analyst 5 Feasibility Study And It's Types 6 Fact Gathering Techniques 7 SRS(System Requirement Specification)	14	Book1
3	Introduction to Software Engineering 1 Definition Need for software Engineering 2 Software Characteristics 3 Software Qualities (McCall's Quality Factors	10	Book2
4	Software Development Methodologies 1 SDLC (System Development Life Cycle) 2 Waterfall Model 3 Spiral Model 4 Prototyping Model 5 RAD MODEL	14	Book2
	Total Lectures	48	

Term-II

Unit No.	Name of the Topic	Number of lectures	Reference Book
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5	Analysis and Design Tools 1 Entity-Relationship Diagrams 2 Decision Tree and Decision Table 3 Data Flow Diagrams (DFD) 4 Data Dictionary Elements of DD, Advantage of DD 5 Pseudo code 6 Input And Output Design 7 CASE STUDIES (Based on Above Topic solve min.5 case studies)	16	Book1, Book2
6	Structured System Design 1 Modules Concepts and Types of Modules 2 Structured Chart 3 Qualities of Good Design Coupling, Types of Coupling, Cohesion, Types of Cohesion 4 CASE STUDIES (Based on Above Topic solve min.5 case studies)	14	Book1 and Book2
7	Software Testing 1 Definition, Test characteristics 2 Types of testing Black-Box Testing, White-Box Testing, Unit testing, Integration testing 3 Validation 4 Verification 5 Testing Tools	10	Book1 and Book2
8	Risk Management 1 Software risk 2 Risk identification 3 Risk projection	08	Book1
	Total Lectures	48	

Recommended Books:

- 1) Software Engineering - Roger s. Pressman.
- 2) SADSE (System Analysis Design) - Prof. Khalkar and Prof. Parthasarathy.

Savitribai Phule Pune University, Pune
Revised syllabi (2019 Pattern) for three years B. Com. Degree course
Credit Base Choice System (CBCS)

Syllabus for T.Y.B. Com. Semester –V

Subject Name: Business Regulatory Framework

Course code: - 351

Credit - 3

Depth of the program – Fundamental Knowledge

Preamble

Savitribai Phule Pune University and UGC has initiated several measures to bring efficiency and quality education to the students. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

The Business Regulatory framework course provides the student with basic information about the Indian legal system and dispute resolution, and their impact on business. The understanding of legal system is a prerequisite for better decision making. The course gives exposure to students in the areas of legal principles of business contract, aspects in the formation, running and winding up of partnership and LLP, the scope and the issues associated with partnerships, application of sale of goods act and E Contract regulations in India. This course focuses on orientation of students to legal studies from the point of view of basic concepts of business law and legal system in India. The course will be useful to the commerce students to understand and apply the business laws in commercial situations.

Objectives of the Program

1. To provide conceptual knowledge about the framework of business Law in India.
2. To orient the students about the legal aspect of business.
3. To create awareness among the students about legal environment relating to the Contract Law, Partnership Act, Sale of Goods Act in India.
4. To understand the emerging issues relating to e-commerce, e-transaction issues and E Contracts

5. To seek the career opportunity in corporate sector relating to business law in India.
6. To acquaint students with the basic concepts, terms & provisions of Mercantile and Business Laws.

Course Contents

nit No	Unit Title	Contents	Purpose Skills to be developed
1	The Indian Contract Act, 1872	<ol style="list-style-type: none"> 1. The nature of the contract, General Principles 2. Definitions and elements of Contract- consideration, other essential elements of a valid contract, 3. Legality of object and consideration. , Void Agreements. , Discharge of contract. 4. Performance of the contract and breach of contract and remedies (Including damages, meaning, kinds and rules for ascertaining damages) 	<p>Understand the concept of Contract and its contents. Equip the students with knowledge of nature and performance and breach of Contracts.</p>
2	The Indian Partnership Act, 1932	<ol style="list-style-type: none"> 1. General Nature of Partnership , Rights, and duties of partners, Types of partner 2. Registration and dissolution of a firm 3. Limited Liability Partnership Act 2008: Limited Liability Partnership (LLP); Concept, Nature and Advantages, Difference between LLP and Partnership Firm, Difference between LLP and company 4. Incorporation of LLP, Partners and their relations, Liability of LLP and Partners (Section 27). Financial Disclosure by LLP, Contributions (Section 32), Assignments and Transfer of Partnership Rights (Section 42) Conversation to LLP (Section 55), Winding-up and 	<p>Understand the nature of partnership ,Rights and duties of Partner Handling the registration and dissolution of the partnership. Aquint Knowledge about LLP</p>

		dissolution (Section 63 & 64)	
3	The Sale of Goods Act, 1930	<ol style="list-style-type: none"> 1. Formation of the contract of sale , Concept and Essentials. Sale and agreement to sale. 2. Goods – Concept and kinds ,Conditions and Warranties 3. Transfer of ownership and delivery of goods 4. Unpaid seller and his rights and Remedial Measures. 	Compressive understanding about the sale of Goods Act. Acquaint knowledge about ownership and delivery of goods.
4.	Arbitration and Conciliation:	<ol style="list-style-type: none"> 1. Concept of Arbitration & Conciliation. 2. Definition & Essentials of Arbitration Agreement. Power and Duties of Arbitration Conciliation proceeding. (Provisions of Arbitration & Conciliation Act,1996 in nutshell with Amendment of 2021to be covered.) 	To give Comprehensive insight about the emerging trend of Arbitration and conciliation and its regulatory mechanism

[Note: Recent amendments in the Acts and relevant Landmark cases decided by courts are expected to be studied]

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	20	Indian Contract Act , Document , PPT, Narration, Case Study	You Tube about Contract Act	Report Review	Acquaint knowledge and maturity to understand Contract Law.

2	09	Project making, Street play, slogan , Quiz Competition,	Use of You tube, Review of Movie	New Emerging Issues in Principle documents of Partnership Deed	To Acquaint knowledge and application of Partnership Deed.
3	14	Case study, Poster making, jingles, Survey Analysis Article review	Case Analysis, Mute court	Recent amendments and silent feature Sale of Goods Law	To get training to face emerging issues relating Sale of Goods Act.
4	05	Virtual Learning, Group Discussion, Assignments on E signature Interview of Arbitrator.	Film on Arbitration and conciliation	Project on Arbitration and conciliation	To give Comprehensive insight about the emerging trend of Arbitration and conciliation and its regulatory mechanism

Methods of Evaluations

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	Continuous Evaluation,, MCQ, Assignment, Oral examination	As per University Guidelines	Seminar on Contract Act and Case study
Unit – II	Written examination, Qui, Presentations, Projects ,	As per University Guidelines	Awareness program

	Assignments , Tutorials g. Oral examination		
Unit – III	Continuous Evaluation, MCQ, Assignment.	As per University Guidelines	Visit to company secretary's office
Unit – IV	Continuous Evaluation, Case Study, Literature Review , E procedure, Oral examination.	As per University Guidelines	Seminar on Arbitration and conciliation

References

- 1) Business and Corporate Law: - Dr. Kaur Harpreet, Lexis Nexis (2013)
- 2) Laws for Business, Sulphery M.M.&Basheer, PHI Learning Pvt. Ltd., Delhi. (2013)
- 3) Business Laws: - Kuchhal M.C.&KuchhalVivek, Vikas Publishing House (2013)
- 4) Business and Commercial Laws:-Sen And Mitra , The World Press Pvt. Ltd.(2018)
- 5) An Introduction to Mercantile Laws:-N.D.Kapoor , Sultan Chand and Sons,(2014)
- 6) Business Laws: - N.M.Wechlekar , Everest Publishing House (2016)
- 7) Business Regulatory Law, Chaudhari,Zalte, Bhawari,Dagade, Prashant Publication (2021)
- 8) Arbitration & Conciliation Act, 1996 (Lawmann's), Kamal Publishers (2017)
- 9) <https://www.indiacode.nic.in/bitstream/123456789/2187/1/A1872-9.pdf>
- 10) https://legislative.gov.in/sites/default/files/A1930-3_0.pdf
- 11) https://www.mca.gov.in/Ministry/actsbills/pdf/Partnership_Act_1932.pdf
- 12) <https://egazette.nic.in/WriteReadData/2021/225832.pdf>

Revised Syllabus (2019 Pattern) for three years B. Com. Degree Course (CBCS)

T. Y. B. Com. (Semester- V)

Paper: ADVANCED ACCOUNTING – I

Code: 352

No. of lectures: 48

Preamble

In today's modern age, the Corporate, Banking and Investment sectors are the major contributors towards development of Indian Economy. In the last two decades, these sectors have seen the largest and fastest growing sectors and enormous growth in Indian economy. In this growth, accounting plays an energetic role and to ensure safeguard of the interest of the stakeholders and the society. It is, therefore, important to educate the students of commerce in the accounting practices adopted by different organizations. It helps stakeholders make better business decisions and deal with problems by providing them with accurate financial information. By studying the Learning Path in Accounting – Advance Concepts you will gain a deeper understanding of the accounting process and what it involves.

Objectives of the course

1. To acquaint the student with knowledge about various concepts, objectives, and applicability of some important accounting standards.
2. To develop the knowledge among the students about reorganization of business regarding restructuring the capital.
3. To update the students with knowledge for preparation of final accounts of a Banking Companies with the provisions of Banking Regulation Act 1949.
4. To empower to students with skills to prepare the investment account in simple and summarized manner.

Objectives of the Program

1. To instill the knowledge about accounting procedures, methods and techniques.

2. To impart students' knowledge of various Advanced Accounting Concepts.

Depth of the program – Fundamental Knowledge

CONTENTS

Unit No.	Unit Title	Contents	Purpose skills to be developed
1	Accounting Standards & Financial Reporting	<ul style="list-style-type: none"> - Brief Review of Indian Accounting Standards - Introduction to AS- 3, AS-12 and AS-19 with simple numerical. - Introduction to IFRS - Fair Value Accounting. 	<ul style="list-style-type: none"> - To develop conceptual understanding about various Accounting Standards and its applicability and also introduce the students about IFRS – Fair Value Accounting.
2	Accounting for Capital Restructuring (Internal Reconstruction)	<ul style="list-style-type: none"> - Meaning and Concept of Capital Restructuring, Types of Capital Restructuring, Meaning & of Internal Reconstruction - Accounting Entries: Alteration of Share Capital, Reduction of Share Capital, Reduction in Liabilities, Cancellation of Expenses, Losses etc. - Preparation of Balance Sheet after Internal Reconstruction 	<ul style="list-style-type: none"> - To develop conceptual understanding about accounting for capital restructuring in the form of internal reconstruction. - To develop the skill & upgrade the knowledge regarding reorganization of venture capital and it's recording.
3	Final Accounts of Banking Companies	<ul style="list-style-type: none"> - Introduction of Banking Company, Legal Provisions regarding Non-Performing Assets (NPA) - Reserve Fund - Acceptance, Endorsements & Other Obligations - Bills for Collection – Rebate on Bills Discounted – Provision for Bad and Doubtful Debts - Vertical form of Final Accounts as per Banking Regulation Act 1949. - Simple Numerical on Preparation of Profit & Loss A/c and 	<ul style="list-style-type: none"> - To understand the various legal provisions regarding banking companies. - To understand the procedure regarding preparation of final accounts of banking companies.

		Balance Sheet in vertical form.	
4	Investment Accounting	<ul style="list-style-type: none"> - Meaning & Introduction, Classification of Investments, - Meaning & Calculation of the Concept of Acquisition Cost & Carrying Cost of Investment, - Calculation of Profit/loss on disposal of investments. 	<ul style="list-style-type: none"> - To understand the meaning of different costs incurred in investment business. - To develop the knowledge and skill regarding Investment Accounting.

Teaching Methodology

Unit No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	Use of e- contents, online lectures and PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	Individual assignment report	Developing understanding on applicability of various Accounting Standards
2	12	Use of e- contents, online lectures and MCQ based Quiz, PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	Individual assignment of solving practical problems	Knowledge about of the Accounting for Capital Restructuring
3	16	Use of e- contents, online lectures, MCQ based Quiz, PowerPoint Presentations	Study of the Final Accounts of Banking companies from its Annual Report	Individual assignment of solving practical problems	Conceptual Clarity and Practical understanding of preparation of final accounts of banking companies.
4	10	Use of e- contents, online lectures and PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	Individual assignment of solving practical problems	Developing knowledge about Investment Accounting

Method of Evaluation

Unit	Internal Evaluation	External Evaluation	Suggested Add on Course
1	MCQ / Small Practical Problem	As per University norms	--
2	Practical Problem	As per University norms	--
3	Practical Problems written Test / MCQ	As per University norms	--
4	MCQ / Small Practical Problem	As per University norms	Certificate Course on Share Trading

References:

❖ List of Books Recommended:

1. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd.)
2. Advanced Accountancy: By S. P. Jain & K.N. Narang (Kalyani Publishers)
3. Advanced Accountancy: By R. L. Gupta & M. Radhaswamy (Sultan Chand & Sons)
4. Company Accounts: By S.P. Jain & K.L. Narang
5. Advanced Accounts: By Paul Sr.
6. Corporate Accounting: By Dr. S. N. Maheshwari & S.K. Maheshwari
7. Corporate Accounting: By Mukharji & Hanif
8. Accounting Standards –as issued by Institute of Chartered Accountants of India

❖ List of Videos Recommended:

Unit	Topic Name	Links
1	Accounting Standards & Financial Reporting	https://youtu.be/zxSaR3JNQzE https://youtu.be/d8QaGSKWkuU https://youtu.be/HmAzVMlYf5U https://youtu.be/g40Po3TbHcM https://youtu.be/6d7wrVPmaPs https://youtu.be/OVNOno8qHIs?list=TLPQMDEwNjIwMjGQcgyNjkn5tw https://youtu.be/mvbpTW9WUPk
2	Accounting for Capital Restructuring (Internal Reconstruction)	https://youtu.be/MWca2VO8D7o https://youtu.be/6ZBxQJobApI https://youtu.be/Ta2tUaTJ5t4?list=RDCMUCILLZmeWNoJYW8iSqbuECw
3	Final Accounts of Banking Companies	https://youtu.be/nF_P5dxGZCI https://youtu.be/TVrj-tJo3qs
4	Investment Accounting	https://youtu.be/pMe8ymUs2gc https://youtu.be/ghCZzJCgFd8

Savitribai Phule Pune University, Pune
Third Year, B.Com. (Core Course)
Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - V

Course Code: 353

Subject: Indian & Global Economic Development

Total Credits: 3

Preamble:

An approach to Indian and Global Economic Development is to examine the Indian economic development policies in context with global economies. This paper aims to provide knowledge about economic development of India, economic development policies that are applied for development of economy in general and development of various sectors in particular. It also aims to develop ability of the students to analyze the development of Indian economy as compared to global economies through the comparison of different sectors like agriculture, Industry, service and availability of resources and its quality.

Scope of the Programme –

Knowledge related to development policies of Indian Economy as compared to World Economies.

Objectives:

- 1.To develop ability to analyze economic development process of India.
2. To impart knowledge about the relevance of economic practices in modern competitive world.
3. To help the students develop a sound theoretical foundation for their future academic ventures.

Course Outcomes:-

- 1.Students will be able to understand present Economic Scenario of Indian Economy as well as World Economy.
- 2.Students will be able to understand the various aspects of development in Agricultural, Industrial and service sector in India.
- 3.Student will be able to critically evaluate the role of India in international economy.
4. Students will be able to evaluate the working of international financial organization and institutions.

Unit No.	Topic	Purpose & Skills to be Developed
Unit 1	Indian and Global Economy	<p>Purpose: To make the students aware of concept of Development. To help the students compare Indian Economy with other developed and competitive economies.</p> <p>Skills: Analyze & think critically, develop writing skills.</p>
	1.1 Economic Development: Meaning and Indicators	
	1.2 Developed and Developing Countries: Meaning	
	1.3 Characteristics of Indian Economy as an Emerging Economy	
	1.4 Comparison of the Indian Economy with World Economy with reference to: National Income, Population, Agriculture, Industry and Service Sector	
Unit 2	Agricultural Development In India	<p>Purpose: To give the knowledge about varied aspects of agricultural sector in India.</p> <p>Skills: Analyze & think critically, developing critical and analytical writing skills.</p>
	2.1 Indian Agriculture: Role and Progress	
	2.2 Low Productivity of Indian Agriculture: Causes and Measures	
	2.3 Agricultural Finance: Need and Sources	
	2.4 Agricultural Marketing: Problems and	

	Measures	
	2.5 New Farm Act 2020	
	2.6 Organic Farming and Contract Farming: Meaning and Advantages	
Unit 3	Industrial Development in India	<p>Purpose: To give the knowledge about importance and status of Industrial Development in Indian Economy. To update the students about the latest policies for Industrial development in India.</p> <p>Skills: Analyze & think critically, developing critical writing skills.</p>
	3.1 Role of Industrialization in Indian Economic Development	
	3.2 New Industrial Policy 1991	
	3.3 Role of Micro, Small and Medium Scale Enterprises (MSMEs) in India	
	3.4 Role and Problems of Public Sector Enterprises in India	
3.5 New Schemes for Industrial Development: Make in India, Start- up India and Stand up India		
Unit 4	Service Sector and Infrastructural Development in India	<p>Purpose:To provide the knowledge about importance and status of Service Sector and Infrastructure Development in Indian Economy</p> <p>Skills: Analyze & think critically, developing critical writing skills.</p>
	4.1 Role and Growth of Service Sector in India	
	4.2 Meaning and Effects of Digital Economy, E Commerce and E-Finance	
	4.3 Role of Infrastructure in Economic Development of India	
4.4 Role of Public and Private Sector in Infrastructural Development		

Teaching Methodology:

Unit No.	No. of Lectures	Innovative methods to be used	Film Shows and AV Applications	Project	Expected Outcome
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1	10	<ul style="list-style-type: none"> • Open Book discussion • Digital lectures • Reading • Projects 	You Tube lectures on Development Theories and Indian Economic Development	Difference in goals of developed and developing economies	<ul style="list-style-type: none"> • Students will understand basic concepts of Development. • Will be able to analyze and interpret critically
2	14	<ul style="list-style-type: none"> • Group discussion • Case studies • Problem solving based learning 	<ul style="list-style-type: none"> • You Tube lectures, • Lectures on SWAYAM Portal 	<ul style="list-style-type: none"> • Difficulties in Agricultural development in India. • Features of Agricultural Policy 	<ul style="list-style-type: none"> • Will know Difficulties in agricultural development in India. • Will understand the sources of agro finance marketing
3	12	<ul style="list-style-type: none"> • Pair learning • Group discussion • Open book discussion 	<ul style="list-style-type: none"> • Teacher oriented PPTs. • You tube lectures 	<ul style="list-style-type: none"> • Critical evaluation of Industrial Policy • Analysis of Indian Industrial sector 	<ul style="list-style-type: none"> • Will understand New Industrial Policy • Able to interpret the features of Indian Industrial Sector
4	12	<ul style="list-style-type: none"> • Group discussion • Teacher driven power point presentation 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Changing trends of Service Sector • Role of Infrastructure Development in economic development 	<ul style="list-style-type: none"> • Will understand the Role of service sector in economy • Will know the importance of Infrastructural Development in Indian Economy

Recommended Books:

1. Misra S.K. and Puri V.K. Indian Economy, Himalaya Publishing House, Delhi.
2. Black and Sundaram, International Business Environment, Prentice Hall India.
3. Tayebmonis H., The Global Business Environment, Sage Publication, New Delhi.
4. Charles Hill, International Business, Competing in the Global Market place, Arunkumar Jain, Tata McGraw Hill.
5. Gupta K.R, Sharma Manoranjan, Indian Economic Policies and Data, Atlantic Publishers and Distributers (P) Ltd.
6. Ann Larkin Hansen, The Organic Farming Manual, Storey Publishing, North Adams.
7. Jhingan M.L., International Economics, Vrinda Publications, Delhi.
8. RuddarDatta and K.P.M. Sundaram, Indian Economy, S. Chand and Co., New Delhi.

9. Agarwal A.N., Indian Economy, Problems of Development and Planning, New Age International Publishers.
10. Bhole, L.M., impacts of Monetary Policy, Himalaya Publishing House, New Delhi.
11. Kayndepatil, G.V, Agricultural Economies: Theory & Policy, ChaitanyaPubli. Nasik
12. Bajpai A.D.N., Caubey S.K. et al, Leading Issues of Indian Economy, Atlantic Publishers and Distributers.
13. Brics development bank launched, first president to be from India, Times of India July 16, 2014
14. Ministry of Finance, Government of India (Oxford Press), Economic Survey 2020.
15. Arun Kumar, International Business- competing in the Global Marketplace- Charles Hill.
16. World Bank, World Development Report
17. Magazines / Journals Reports,
18. Web sites:
 - [www.,mospi.gov.in/national-sample-survey-office-nssso](http://www.mospi.gov.in/national-sample-survey-office-nssso) (Ministry of Statistics and Programme Implementation, GoI)
 - <https://www.toppr.com/ask/question/economic-development-is-characterized-by-which-of-the-following/>
 - <https://www.economicdiscussion.net/economic-development/role-of-agriculture-in-the-economic-development>
 - <https://www.iedunote.com/foreign-trade>
 - <https://www.vedantu.com/commerce/liberalisation>
 - <https://ncert.nic.in/textbook/pdf/keec103.pdf>

OR

Savitribai Phule Pune University, Pune
Third Year, B.Com. (Core Course)
Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - V

Course Code: 353

Preamble:

Subject: International Economics-I

Total Credits: 3

An approach to International Economics is to examine the International Trade on the basis of trade theories. International Economics is subject that is ever dynamic and relevant in the current context. International Economics provides a framework on international trade and finance in the theoretical context, along with economic analysis as well as practical applications. This paper aims to provide knowledge about International Economics that includes trade theories, trade practices and their implications. It also aims to make students familiar about the various concepts of international economics, international trade and other concepts related to international economics

Scope of the Programme:

Knowledge of trade theories, trade policies and other subject matters related to international economics.

Objectives:

1. To acquaint the students with the basic theories of international trade and international economics.
2. To help the students evaluate the working and functions of international organizations and institutions.
3. To develop a foundation in the subject that will help the students in their future academic and professional ventures.

Course Outcomes:-

1. Students will be able to understand present Economic Scenario of Indian Economy as well as World Economy.
2. Students will understand the working of foreign trade market and foreign exchange market.
3. Students will be able to comprehend trade policies and concepts related to trade policies.
4. Students will be able to use the subject knowledge in their future academic and professional ventures.

Unit No.	Topic	Purpose & Skills to be Developed
Unit 1	International Economics	Purpose: To make the students aware of concepts in international economics Skills: Analyze & think critically, developing writing skills.
	1.1 Meaning and Scope of International Economics	
	1.2 Importance of International Economics	
	1.3 Inter-regional Trade and International Trade	
	1.4 Role of International Trade in Economic Development	
	1.5 Trade Problems Facing LDC's	
Unit 2	Theories of International Trade	Purpose: To give the knowledge to students about trade theories in international economics Skills: understand theories of international trade,
	2.1 Theory of Absolute Cost Advantage	
	2.2 Theory of Comparative Cost Advantage	
	2.3 Theory of Factor Endowment (Heckscher-Ohlin)	

	2.4 Leontief Paradox 2.5 Recent Development in Theories- 2.5.1 New Trade Theory (Zeala- Harrison) 2.5.2 Product Life Cycle Theory (Vernon)	developing writing skills.
Unit 3	Trade Policy	Purpose: To give the knowledge about trade policies. Skills: Analyze & think critically, developing writing skills.
	3.1 Free Trade Policy – Meaning, Arguments for and Against	
	3.2 Protection Policy – Meaning, Arguments for and Against	
	3.3 Tools of Protection: Meaning and Types 3.3.1 Tariffs 3.3.2 Quotas	
	3.4 Dumping: Concept and its Effects	
Unit 4	Terms of Trade	Purpose: To make the students aware of concept of terms of trade. Skills: Analyze & think critically, developing writing skills.
	4.1 Meaning and Importance of Terms of Trade	
	4.2 Types of Terms of Trade A) Gross Barter Terms of Trade B) Net Barter Terms of Trade C) Income Terms of Trade D) Single Factorial Terms of Trade	
	4.3 Factors affecting Terms of Trade	
	4.4 Causes of Unfavourable Terms of Trade to Developing Countries	

Teaching Methodology:

Unit No.	No. of Lectures	Innovative methods to be used	Film Shows and AV Applications	Project	Expected Outcome
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1	10	<ul style="list-style-type: none"> • Open book discussion • Digital lectures • Reading • Projects 	You tube lectures on International economics	<p>Difference in Inter-regional and International trade</p> <p>Role of international trade in economic development of country</p>	<ul style="list-style-type: none"> • Students will understand concepts of international economics • Will be able to analyze and interpret
2	14	<ul style="list-style-type: none"> • Group discussion • Case studies 	You tube lectures, Lectures on SWAYAM Portal	<ul style="list-style-type: none"> • Critical evaluation of trade theories. • Comparison between different trade theories • Recent development in trade theories 	<p>Will know various theories of international trade.</p> <p>Will understand the difference between classical and modern approaches of trade theories</p>
3	12	<ul style="list-style-type: none"> • Pair learning • Group discussion • Open book discussion 	<ul style="list-style-type: none"> • Teacher oriented PPTs. • You tube lectures 	<ul style="list-style-type: none"> • Critical evaluation of • Free Trade Policy • Protection policy • In present context 	<p>Will understand the difference between Free Trade Policy</p> <p>Protection policy</p> <p>Able to interpret means of protection and free trade</p>
4	12	<ul style="list-style-type: none"> • Group discussion • Teacher driven • Games and simulation 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Different concepts of terms of trade • Causes of unfavourable terms of trade for India 	<p>Will understand the concept of terms of trade</p> <p>Will know the factors affecting on terms of trade</p>

Recommended Books:

1. Dr.D.M.Mithani – International Economics (Himalaya Publishing house ltd)
2. Bo Sodersten, Geoffrey Reed, International Economics (3rd Edition) Publisher Red Globe Press
3. Z.M.Jhingan : International Economics (Vrinda Publication)
4. Robert Feenstra, Alan M Taylor, International Trade (5th Edition) Publisher Worth
5. Dr.Mrs.NirmalBhalerao&S.S.M.Desai – International Economics (Himalaya Publishing house ltd)
1. Kenan, P.B. (1994), The International Economy, Cambridge University Press, London.
2. Kindlberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
3. Krugman, P.R. and M. Obstgeld (1994), International Economics: Theory and Policy, Glenview, Foresman.
4. Salvatore, D.L. (1997), International Economics, Prentice-Hall, Upper Saddle River, N.J.
5. Sodersten, Bo (1991), International Economics, Macmillan Press Ltd., London.
6. International Economics , M.L. Jhingan
7. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge University Press, Mass.
8. Greenaway, D. (1983), International Trade Policy, Macmillan Publishers Ltd., London.
9. Joshi V. and I.M.D. Little (1998), India's Economic Reforms, 1999-2001, Oxford University Press, Delhi.
10. Panchmukhi, V.R. (1978), Trade Policies of India: A Quantitative Analysis, Concept Publishing Company, New Delhi.
11. Patel, S.J. (1995), Indian Economy towards the 21st Century, University Press Ltd., India.
12. DeminicSalvatove – International Economics
13. Francis Cherunilam – International Economics, McGraw Hill publications
14. Francis Cherulliom - International Economics (Prentice hall)
15. L.M.Bhole – Financial Institutions Markets (Tata McGraw Hill)
16. H.R.Macharaju – Internathttps://saylordotorg.github.io/text_international-trade-theory-and-policy/s07-01-factor-mobility- overview.htmlional Financial Markets and India (Wheeler Publication)
17. <https://princonkedi.files.wordpress.com/2015/08/international-economics-francis-cherunilam-pdf.pdf>
18. <https://www.emerald.com/insight/content/doi/10.1108/00251749710160214/full/html>
19. https://www.economicsonline.co.uk/Global_economics/Terms_of_trade.html
20. https://en.wikipedia.org/wiki/Main_Page
21. https://saylordotorg.github.io/text_international-trade-theory-and-policy/s07-01-factor-mobility-overview.html
22. <https://www.worldbank.org/en/publication/global-economic-prosp>https://www.academia.edu/23377962/International_Trade_and_Factor_Mobility_Theorissects
23. <https://openknowledge.worldbank.org/handle/10986/2140>
24. <https://www.imf.org/en/About#:~:text=The%20IMF%20was%20established%20in,staff%20drawn%20from%20150%20nations.>
25. <https://infobrics.org/>

Faculty of Commerce & Management
T Y B Com (Semester V)
(Choice Based Credit System)
Revised Syllabus (2021-22)

CORE COURSE – I

Subject: Auditing

Course Code: 354

Total Credits: 04 (Theory 03 + Practical 01=04)

Objectives of the Course:

1. To acquaint themselves about the Definition, Nature, Objectives and Advantages of Auditing, Types of Audit, Errors and Fraud, Audit Program, Notebook, Working Paper, Internal Control, Check.
2. To get knowledge about concept of Checking, Vouching, Verification and Valuation, Types of Audit Report and Auditing Assurance Standard.
3. To understand the provision related Qualification, Disqualification, Appointment, Removal, Rights, Duties and Liability of Company Auditor and Provisions regarding Tax Audit as per Income Tax Act 1961 (Section 44 AA to 44AE).
4. To know the various new concepts in computerized system and Forensic Audit.

Unit No	Unit Title	Contents	Skills to be developed
1.	Introduction to Principles of Auditing and Audit Process	Definition, Nature-objects-Advantages of Auditing-Types of errors and frauds Various Classes of Audit. Audit programme, Audit Note Book, Working Papers, Internal Control-Internal Check-Internal Audit.	i) Understanding the concept of Auditing, Various type of Audit ii) Help to Find out Errors frauds and help to improve internal control system in business organization.
2.	Checking, Vouching and Audit Report	Test checking-Vouching of Cash Book-Verification and Valuation of Assets and Liabilities. Types of Audit Report-Audit Certificate-Difference between Audit Report and Audit Certificate. Auditing and Assurance Standards. (AAS- 1,2,3,4,5)	i) Know the procedure of vouching, Verification, and Valuation use for audit. ii) To know the terms used in Audit Report, Certificate and Auditing Assurance Standard.
3.	Company Audit and Tax Audit	<u>Company Audit</u> Qualification, Disqualifications, Appointment, Removal, Rights, Duties and liabilities of Company Auditor <u>Tax Audit</u> Provisions under Income Tax Act 1961 (Sec 44AA, 44AB, 44AD, 44ADA, 44AE) Recent Amendment made as applicable as per Income Tax Act 1961	i) Understanding provisions for Work as Company Auditor as per Companies Act 2013. ii) Enhance Provisions under Income Tax Act 1961 used for Conduct Tax Audit.
4.	Audit of Computerized	<u>Auditing in an EDP Environment</u> General EDP Control –	i) Enhance the knowledge of Computerized Systems ii) Forensic Audit used for new techniques applicable for

	Systems & Forensic Audit	EDP Application Control- Computer Assisted Audit Techniques (Factors and Preparation of CAAT) Forensic Audit Definition, Importance of Forensic Auditor, Services Render by Forensic Auditor, Process of Forensic Auditing and Forensic Audit Techniques and Forensic Audit Report	new business trends.
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Teaching Methodology:

Unit No	Total lectures	Innovative Methods to be used	Film Shows and A.V. Applications	Projects / Practical's	Expected Outcome
1	16	Introduction to Principles of Auditing and Audit Process	Lectures of experts available on You Tube About Errors, Frauds, Types of Audit.	Individual assignment of solving practical problems, report review	Acquaint with knowledge and maturity to understand concept of Auditing, types of Audit and Audit Process.
2	12	Checking, Vouching and Audit Report	Lectures of experts available on YouTube and other digital platforms.	Individual assignment of solving practical problems, report review	Conceptual Clarity and Practical understanding of Vouching Verification and valuation and Types of Audit Report.
3	10	Company Audit and Tax Audit	Lectures of experts available on YouTube and other digital platforms. Website Review	Individual assignment of solving practical problems, report review	Practical knowledge about appointment, reappointment and other related provision. Practical knowledge about Tax Audit as per I.T. Act 1961 (Form 3CA, 3CB & 3CD)

4	10	Audit of Computerized Systems & Forensic Audit	Lectures of experts available on YouTube and other digital platforms.	Individual assignment of solving practical problems, report review	Understanding new concepts under Audit of Computerized Systems & Forensic Audit
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Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit– I	MCQ/ Assignment/Written test/PPT	As per University norms	--
Unit–II	MCQ/Quiz/ Written test	As per University norms	--
Unit–III	Practical Problems/written Test/MCQ/PPT	As per University norms	--
Unit–IV	MCQ/ Assignment/Written test/PPT	As per University norms	--

Reference books:

Sr. No	Title of Book	Author/s	Publication
1	Practical Auditing	Spicer and Peglar	Allied, 1975, H.F.L., 1978
2	A Handbook of Practical Auditing	B.N. Tondon	S Chand & Co Ltd
3	Auditing assurance standards	The Institute of Chartered Accountants of India	ICAI
4	Company Accounts & Audit	The Institute of Cost Accountants of India	ICMAI

5	Fundamentals of Accounting and Auditing	The Institute of Company Secretaries of India	ICSI
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Guidelines for completion of Practical's:

Sr. No	Title of Practical	Objective of the Practical	Outcomes	Methodology
1	A study of Audit Procedure of organisation	i) To study the meaning & Definition of Audit ii) To study the nature, scope & objective of Audit iii) To study the Audit Procedure of Organisation.	Acquaint with knowledge and maturity to Understand concept of Auditing, Know the concept of Audit Process.	Report based on visit to Individual assessee and collection of documents know the audit process
2	A study of Procedure of Vouching in Auditing	i) To study the concept of voucher and its contain ii) To study the concept of vouching and precautions to be taken by Auditor while vouching iii) To conduct vouching of representative vouchers	Conceptual Clarity and Practical understanding of Vouching	Report based on visit to a Businessman or professionals and documents collected
3	A study of Audit Report	i) To study the concept of Audit report ii) To study the types and features of Audit Report iii) To study forms of Audit Report	Understand concept of Audit Report and its types Know the various forms of Audit Report	Report based on visit to a Businessman or professionals and documents collected
4	A Study of Tax Audit	i) To study the meaning of Tax Audit ii) To Study scope of Auditor's Role under Income Tax Act iii) To Study criteria for Compulsory Tax Audit	Acquaint Practical knowledge about Tax Audit as per I.T. Act 1961 (Form 3CA, 3CB & 3CD)	Practical example in Guest Lecture /seminar / workshop and Report

		iv) To study Formats for Tax Audit (Form 3CA, Form 3CB, Form 3CE & Form 3CD)		based on visit to a Businessman or professionals and documents collected
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1. For each semester minimum three practicals should be completed.
2. Two practicals are compulsory from the above table.
3. Teachers are allowed to choose one practical according to the situation in their local area.
4. If a student fails to complete minimum number of practical's, then the student shall not be eligible for appearing at the practical examination.

Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - V (T.Y.B.Com)

Subject Code :- 355 (a)

Subject : - Business Administration – II (Human Resource Management)

Preamble

Human resource management is centered around developing a strategic approach to find, train, recruit and retain the right professionals, for the right job, and at the right time, such that they become future leaders to further the organizational goals, keeping in mind the company's most important asset – IT'S PEOPLE.

This is possible if the organization embraces the idea of building effective management of its human resource management department. As such, human resources enables institutions and businesses to create a well-structured team with a distinctive organizational culture. With this, the workforce stands a high chance of getting engaged or developed with whatever activity they are doing. In simple language, effective human resource management helps the organization to enhance productivity. Study of Human Resource Management not only helps you work on the theory but also enables you to discover your own style of managing people.

Human resource management plays a crucial role in any organization and has a range of functions that it undertakes. The scope of HR is vast and diverse, as well as hugely impactful. To comprehensively know about its entire scope, all the disciplines and subdisciplines, one must pursue any of the credible human resource management courses. Going through those will give you insights not only into the theories that define the human resources framework but also the application of those concepts

Objectives of the course

1. To acquaint the student with knowledge about various Concepts , Objectives of the Human Resource Function , to identify the difference between Human Resource Management and Human Resource Development
2. To update the students on the emerging trends in the area of Human Resource Management
3. To develop understanding among the students the process of Recruitment and Selection, understanding the various means and methods associated with the Recruitment and Selection function
4. To educate the students on the importance of Training and Development and its impact on Career Planning and Development
5. To acquaint the students on the concept of Performance Appraisal ,d the process for effective Performance appraisal and imbibe the values of Ethical Performance appraisal among the students

Depth of the program – Fundamental Knowledge

Unit No	Unit Title	Contents	Skills to be developed
1	Introduction to Human Resource Function of Management	<p>1.1 Meaning, Objectives and Functions of Human Resource , , Difference between Human Resource Management and Human Resource Development</p> <p>1.2 Organization, Scope and functions of Human Resource Department in Modern Business.</p> <p>1.3 Human Resource Planning – Nature and Scope, Job analysis - Job description - Job specification.</p> <p>1.4 Human Resource Planning – Role of Human Resource Planning, Steps in Human Resource Planning , Factors influencing Human Resource Planning. Essentials of a Good Human Resource Planning , Job Analysis – Process , Tools and Techniques , Job Description & Job Specification – Meaning and Distinguish between Job Description & Job Specification.</p> <p>1.5 Emerging Concept of H.R.D.</p> <p>Quality Circles ,Kaizen ,Talent Management and Leadership Development ,HRD as a Business Partner ,Visionary and Transforming Leadership, E- Learning: Integration of IT and HR , HRIS (Human Resource Information Systems) ,Incorporation of career development ,Internal consultancy and Linkage to knowledge management</p>	<p>Conceptual Understanding</p> <p>Critical thinking skills</p> <p>Accessing and analyzing information skills</p> <p>Imaginative thinking</p> <p>Awareness on the latest in the trends</p>

2	Recruitment and Selection	<p>1.1 Recruitment – Meaning, Purpose/ Importance, Sources of Recruitment, and Factors Governing Recruitment Process</p> <p>1.2 Selection – Meaning, Importance of selection procedure, Tools of Selection and selection Process</p> <p>1.3 Distinguish between Recruitment and Selection</p> <p>1.4 Types of Employment tests, Types of Interviews</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Accessing and analyzing information</p> <p>Imaginative thinking</p>
3	Training and Development	<p>1.1 Meaning ,Need , Objectives of Training and Development, Benefits/ Importance of Training to the organisation and employees.</p> <p>1.2 Types of Training , Methods of Training and Development, Process/ Procedure for effective Training.</p> <p>1.3 Career Development , Steps in Career Development , Stages of Career Development , Advantages and Limitations of Career Development, Career Development Cycle , Career Counselling and Self Development</p>	<p>Conceptual Understanding</p> <p>Analytical Skills</p> <p>Technical skills</p> <p>Critical thinking</p>
4	Performance Appraisal Management	<p>1.1 Introduction, Meaning, Need and Importance of Performance Appraisal</p> <p>1.2 Process of Performance Appraisal</p> <p>1.3 Merits and Limitations of Performance Appraisal</p> <p>1.4 Methods and Techniques of Performance Appraisal</p> <p>1.5 Ethical Performance Appraisal</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Accessing and analysing information</p> <p>Value Education</p>

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	PPT , Lectures by experts from Industry experts,	Online Videos of Human Resource Managers. Live online session by Industry Experts	Interview Report of Human Resource Manager/s of business of various sizes and sectors	Developing Conceptual understanding and Conceptual Clarity Learning of the Latest development in Human Resource
2	12	PPT , Lectures by experts from Industry experts and Placement Agency Managers, Role Play , Mock Interview , Demonstrations	Online Videos	Interview Report of Placement Agency Personnel , Detailed Project report on any 3 Sources of Recruitment	Conceptual Clarity and Practical understanding Hands on Experience Technical Knowledge
3	18	PPT, Videos of Various Products from inception till date , Demonstration	Videos of various Multi Product Line Manufacturers	Creation of Short Video of Innovative Product Development, Pricing, Market Launch Strategy	Conceptual Clarity and Practical understanding Creative and Imaginative Skills Innovation
4	08	PPT , Lectures by Experts from the field of Media , Comparative Case study of Ethical and unethical Performance Appraisal Practices	Online Videos of Tata Group of Industries	Study of Performance Appraisal System of various organisations And Study of Performance Appraisal System of Domestic, Multinational and International companies	Analytical skills Decision making skills Creative and Imaginative Skills I

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ, Field Visit Report , Interview Report	As per University norms	Certificate Course in Best Practices in Human Recourse Development
Unit – II	MCQ, Assignments, PPT	As per University norms	Certificate course in Ethical Leadership Development
Unit – III	MCQ, Interview Report with Placement Agencies, Case Study , Project on Need and Importance of Campus Placement Office and Campus Interviews	As per University norms	Certificate Course in Ethics in Human Resource Management
Unit – IV	MCQ , Case study , Project	As per University norms	

References:

List of Books Recommended: -

- Personnel and Human Resource Management – A M Sharma (Himalaya Publishing House)
- Personnel Management and Industrial Relations- R S Davar (Vikas Publishing House)
- Human Resource Development and Management- Biswanath Ghosh (Vikas Publishing House)
- Personnel Management – C.B. Mamaria, S V Gankar (Himalaya Publishing House)
- Human Resource Management – AShwathappa
- Human Resource Management - *Gary Dessler*
- HR from the Outside In: Six Competencies for the Future of Human Resources - Dave Ulrich, Jon Younger, Wayne Brockbank, Mike Ulrich
- The HR Scorecard - *Brian Becker, Mark Huselid, Dave Ulrich*
- Victory Through Organization - ***Dave Ulrich, David Kryscynski, Wayne Brockbank, Mike Ulrich***
- Investing in people. Financial Impact of Human Resource Initiatives - *KirsWayne Cascio, John Boudreau*
- Work Rules! -*Laszlo Bock*

- HR Rising!!: From Ownership to Leadership -*Steve Browne*
- The Practical Guide to HR Analytics: Using Data to Inform, Transform, and Empower HR Decisions - *Shonna D. Waters, Valerie N. Streets, Lindsay McFarlane, and Rachael Johnson-Murray*

Revised syllabi (2019 Pattern) for T.Y.B. Com Degree course (CBCS)
SPECIAL ELECTIVE COURSE (Special Course – II)
Banking and Finance-Special Paper II (Semester-V)
(Financial Markets and Institutions in India – I Course code: 355-B)
Total Credits: 04 (Theory 03 + Practical 01=04)

- **Objectives:**
- 1. To acquaint the students with Indian Financial System and its various segments.
- 2. To make the students aware about Indian Money Market.
- 3. To analyse and understand the functions of Indian Capital Market.
- 4. To enable the students the functioning of Foreign Exchange Market.

Unit No.	Topic	Number of Lectures	Teaching Method	Proposed skills to be developed
01	1. Indian Financial System: 1.1 Meaning and Definition of Financial System in India. 1.2 Structure of Indian Financial System 1.3 Functions of financial system in India 1.4 Role of financial system in Economic Development 1.5. Indicators of Financial Development	10	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the Indian Financial System. Understanding the meaning, structure and role of Financial System in India.
02	Indian Money Market : 2.1 Meaning and definition of Indian Money Market 2.2 Functions of Indian Money Market 2.3 Participants in Indian Money Market 2.4 Credit Instruments used in Indian	14	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the meaning, functions, credit instruments, deficiencies and recent development in Money Market in India.

	<p>Money Market</p> <p>2.5 Deficiencies of Indian Money Market.</p> <p>2.6 Recent development in Indian Money Market</p>			
03	<p>Indian Capital Market:</p> <p>3.1 Meaning and definition of Indian Capital Market</p> <p>3.2 Functions of Indian Capital Market</p> <p>3.3 Participants in Indian Capital Market</p> <p>3.4 Credit Instruments used in Indian Capital Market</p> <p>3.5 Deficiencies of Indian Capital Market.</p> <p>3.6 Recent development in Indian Capital Market</p>	12	<p>Lecture, PPT, Group Discussion, Library Work</p> <p>Book Assignment, Use of internet</p>	<p>Understanding the meaning, definition functions, credit instruments, deficiencies and recent development in Capital Market in India</p>
04	<p>Foreign Exchange Market:</p> <p>4.1. Meaning and definition of foreign exchange market</p> <p>4.2. Functions of Foreign Exchange Market</p> <p>4.3 Participants in Foreign Exchange Market</p> <p>4.4. Determination of Exchange Rate</p> <p>4.5 Recent development in Foreign Exchange Market</p>	12	<p>Lecture, PPT, Group and Panel Discussion, Library Work, Assignments</p>	<p>Understanding the meaning, definition functions, participants and recent development in Foreign Exchange Market.</p>
Total		48		

• **References:**

- 1. Avadhani V.A. (2019), 'Investment and Securities Markets in India', Himalaya Publishing House
- 2. Bhole L.M. (2004), 'Financial Institution and Markets' McGraw Hill Education
- 3. Khan M.Y. (2019), 'Indian Financial System' 11th Edition, McGraw Hill Education
- 4. Kohok Mukund, 'Business Finance and Financial Services'
- 5. Kumar, Gupta and Kaur (2021), 'Financial Markets and Institutions' Taxmann
- 6. Meir Kohn (2000), 'Financial Institutions and Markets', Tata MC Graw-Hill Publication

- 7. Michael Brandl (2016), 'Money, Banking, Financial Markets and Institutions', CENGAGE Learning Custom
- 8. Mittal Anand (2003), 'Economic Reforms and Capital Markets in India', Galgotia Publishing Company, New Delhi.
- 9. Pathak Bharti V. (2018), "The Indian Financial System", Pearson Education [India] Ltd.

SYLLABUS FOR T.Y.B.COM UNDER CBCS PATTERN 2019
SEMESTER-V
PAPER- II
SUBJECT NAME: - BUSINESS LAWS AND PRACTICE PAPER II (BLP-II)
COURSE CODE – 355 (c)

Objectives of the course:

To develop an understanding of the significant provision of selective Business & labour Laws.

To acquaint the students to address a basic business legal application-oriented issues.

Depth of the program:

Basic to application based knowledge.

Objectives of the Subject:

- To impart the students with the fundamental understanding of important business laws.
- To study & acquaint students an application based knowledge of various Business & Labour Laws.
- To familiar the students with legal Business Environment of India.
- To develop & strengthen students through the legal practical knowledge and their importance to the Indian Business organizations.

Unit . No.	Unit Title	Contents	Purpose skills to be developments
1	An Introduction to Labour Laws in India	1.1 History and Evolution of Labour Laws in India 1.2 Labour Policy of India 1.3. Classification of Labour Laws and an overview of labour laws. 1.4 Unfair Labour Practices 1.5 Labour Laws in the unorganized sector 1.6 Authorities under the Labour Laws in India (Ministry of Labour & Employment –Government of India, Chief Labour Commissioner Labour Courts / Industrial Tribunals, (Appointment, Qualification, Disqualification, Rights & duties)	Understanding of evolution & historical legal framework of Labour Laws in India.
2	The Factories Act, 1948 (Sections 1-50)	1.1 Introduction, Objectives & Key Definitions, Approval, 1.2 Licensing and Registration of Factories, 1.3 The Inspecting Staff, Provisions Regarding Worker's Health, 1.4 Provisions Regarding Safety and Welfare of Workers. Recent amendments (If any)	Students will get the basic knowledge about various provisions under factories Act 1948.
3	The Employees State Insurance Act,1948	3.1 Scope, Application and Definitions 3.2 Chapter II of the Act(ESI Corporation, Standing Committee, Medical Benefit Council, Principle Officers) 3.3 Chapter III of the Act(Finance &	It will help the students to gain insights of the Employees State Insurance Act,1948.

		Audit) 3.4 Chapter IV-(Contributions, Recovery of Contribution,) 3.5 Chapter V(Benefits) 3.6 Chapter VI(Adjudication of Disputes & Claims) 3.7 Chapter VII(Punishment)	
4	The Employees Provident funds and Miscellaneous Provisions Act, 1952	5.1 Introduction, Objectives and scope of the Act, 5.2 Applicability and Constitutional validity of the Act, 5.3 Definitions, Employees' Provident Fund Scheme, 5.4 Employees' pension scheme and Employees Deposit Linked Insurance scheme Authorities - Under the Act, and their workings, penalties, offences and protection.	To learn various provisions & applications of the Employees Provident funds & Miscellaneous Provisions Act, 1952.

Teaching Methodology

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	<ul style="list-style-type: none"> ➤ Group Discussion ➤ Article Reviews 	<ul style="list-style-type: none"> ➤ E-Content on Evolution of Labour laws provided by UGC/University/M OOC etc. to be analyzed. ➤ Other open E-Content Internet Sources. 	Project report shall be prepared on Development of labour laws as per their necessity.	Understanding the actual requirement of legal framework in India.

2	12	<ul style="list-style-type: none"> ➤ Benefits of Factories Act to be discussed in Group. ➤ Internet Sources. ➤ Discussion on legal requirements. 	<ul style="list-style-type: none"> ➤ E-Content on Factories Act provided by UGC/University/M OOC etc. to be analyzed. 	Project report can be prepared on applications of Factories Act 1948.	Understanding the major insights of Factories Act 1948.
3	12	<ul style="list-style-type: none"> ➤ Benefits of Insurance to be discussed in Group. ➤ Internet Sources. ➤ Discussion on various Provisions of the Act. 	<ul style="list-style-type: none"> ➤ You tube E-Content Sources. ➤ E-Content on the Employees State Insurance Act provided by UGC/University/M OOC etc. to be analyzed. 	Project report can be prepared on benefits of Employees State insurance Act.	Make students aware about Employees State Insurance Act.
4	12	<ul style="list-style-type: none"> ➤ Benefits of The Employees Provident funds and Miscellaneous Provisions Act, 1952 to be discussed in Group. ➤ Internet Sources. ➤ Discussion on various Provisions of the Act. 	<ul style="list-style-type: none"> ➤ You tube E-Content Sources. ➤ E-Content on the Employees Provident funds and Miscellaneous Provisions Act, 1952 provided by UGC/University/M OOC etc. to be analyzed. 	Project report can be prepared on benefits of The Employees Provident funds and Miscellaneous Provisions Act, 1952	Make students aware about The Employees Provident funds and Miscellaneous Provisions Act, 1952

References

Sr. No.	Title of the Book	Author/s	Publication
1	Labour Laws	Taxmann	Taxmann
2	Labour & Industrial Laws	S N Misra	Central Law Publication
3	Labour and Industrial Laws	M.N. Mishra	Central Publicaions
4	Business & Commercial Laws	Sen & Mitra	--
5	Business Law for Management	Bulchandani K.R.	--

Practical for Semester - V

Topic	Mode of Practical
Evolution of labor policies in India	Group Discussion & Survey can be conducted.
Applications of Factories Act 1948	Overview & Presentation can be taken.
Benefits of Employees state insurance Act.	Online data analysis with library sources.
Overview of Employees Provided fund & Miscellaneous provisions Act.	Applications to studied.

Revised Syllabi (2019 Pattern) for Three years B.Com Degree Course (CBCS)

Semester -V

Course Code- **355 (d)**

Subject: --: Co-operation & Rural Development ((Special Paper-II)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Cooperative learning requires students to engage in group activities that increase learning and adds other important dimensions. The positive outcomes include academic gains, improved race relations and increased personal and social development. The purpose of this course is to impart knowledge of concept of cooperative marketing, consumer cooperative and marketing of other cooperative organisations. This course enables students to acquire in-depth knowledge of cooperative marketing.

Objectives of the Course:

- 1) To create awareness among students about co-operative marketing
- 2) To develop the capability of students for knowing different types Marketing.
- 3) To create awareness about the role of National Agricultural Co-operative Marketing Federation (NAFED)

Unit No.	Unit Title	Contents	Skills to be developed
1	Introduction to Marketing	1.1 Meaning and definition 1.2 Elements of marketing	Understanding Basic Marketing and its importance

		<p>1.3 Objectives of marketing</p> <p>1.4 Importance of marketing</p> <p>1.5 E- marketing for co-operatives</p> <p>1.6 Recent trends in co-operative marketing</p>	
2	Co-operative Marketing	<p>2.1 Basic concepts and features of co-operative marketing</p> <p>2.2 Structure of cooperative marketing</p> <p>2.3 Primary Co-operatives Marketing Societies- Objects, Functions and Progress.</p> <p>2.4 District and State Co-operatives marketing societies / Federations objectives, Functions and Progress.</p> <p>2.5 Development and Evaluation</p>	Understanding basic concepts of co-operative Marketing, Cooperatives federations, their functions, objectives etc.
3	Consumer Co-operatives	<p>3.1 Meaning, Need and Importance</p> <p>3.2 Structure of consumers Co-operatives</p> <p>3.3 Primary Co-operative Consumer Stores, Student Consumer Stores.</p> <p>3.4 Wholesale Co-operative Stores & Super markets</p> <p>3.5 State Co-operative Consumer Federation & National Co-operative Consumer Federation</p> <p>3.6 Problems of consumer co-operatives</p> <p>3.7 Evaluation and development</p>	<p>1) Creating awareness about consumer co-operatives, its needs and structure.</p> <p>2) Understanding about problems of consumer co-operatives, their evaluation and development</p>
4	Other Co-operative Organizations and It's Marketing	<p>4.1 Dairy Co-operatives</p> <p>4.2 Poultry Co-operatives</p> <p>4.3 Sugar Co-operatives.</p> <p>4.4 Cotton processing (Ginning, Spinning Mills) Pricing</p> <p>4.5 Meaning and Objectives of Pricing</p>	Creation of awareness about different cooperative originations and their marketing strategies

		4.6Competitive and Co-operative Pricing 4.7Agricultural Cost and Price Commission(ACPC)	
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Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources	Relevant You Tub Videos, Relevant slide show, online Video Short Film Show	Individual assignment report	Understanding of basic knowledge of Marketing
2	12	Pre reading, Class discussion, internet resources, Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion, Library /Home Assignment ,Internal Assignment, case study	Relevant You Tub Videos , Short Film Show, A.V Application ,	Visit to Office of co- operative society	Understanding the importance and Essentials co-operative Marketing
3	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources ,students Seminar/Workshop ,case study	Relevant You Tub Videos.PPT AV Application, online video	Presentation	1) To acquire the fundamental knowledge consumer co-operative institutions 2) To understand the function of state and National consumer federations
4	12	Guest Lectures of eminent Personalities , Group Discussion, Library visit ,Home Assignment, case study	Online Videos, Relevant slide show , Short Film Show	Visit to co-operative organization & Presentation on it.	To understand elements different co-operative organization and their pricing policies and pricing policies.

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add-on Course
Unit- I	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	Certificate Course on Cooperation and Rural Development
Unit-II	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-III	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-IV	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	

References:

Sr. No	Title of Book	Author/s	Publication	Place
1	New Dimensions of Co-operative management	G.S.Kamat	Himalaya Publication House,	Mumbai
2	Co-operative Management principals and techniques	Dr.Nakkiran S.A.-	Himalaya Publication House,	Mumbai
3	Co-operative Management and Administration	Goel B.B	Deep and Deep Publication	New Delhi.
4	Co-operation and Rural Development	Principal Dr.Nitin Ghorpade	Success	Pune
5	Human Resource Management Practices in Co-operative sector	Principal Dr.Shaikh Aftab Anwar	Idea Publication	New Delhi
6	Theory & Practice of Co-operation,	Dr. Dhiraj Zalte &Others –	Prashant Publication	Jalgaon
7	C.A State and C-operative Movement			
8	https://www.bhagirathgram.org/			
9	Journal of Commerce and Management Thought(JCMT)			

SPPU, Pune

Revised Syllabi (2019pattern) for three years B.Com. Degree Course CBCS

T.Y. B.Com. (Semester V)

Subject Name :- Cost and Works Accounting. Special Paper II

Subject Title :-Overhead and Accounting for Overheads

Course Code :- 355 – e

Objectives:

1. To provide knowledge about the concepts and principles of overheads.
2. To Introduce the cost accounting standards and the cost accounting standard board.
3. To understand the stages involved in the accounting of overheads.
4. To build an ability towards strategic overhead accounting under Activity Based Costing

Unit No.	Unit Title	Contents	Skills to be developed
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1	Overheads	<p>1.1 Meaning and definition of overheads.</p> <p>1.2 Classification of overheads</p> <p>1.3 Introduction to Cost Accounting Standard, Cost Accounting Standard Board</p> <p>1.4. Introduction to of CAS 3, CAS 11, CAS 15</p> <p>1.5 Cost Accounting Standard 3: Production and operation Overheads</p>	<p>a. Ability to understand the concept of Overhead and classification of overheads.</p> <p>b. Students will be able to relate the cost Accounting Standard with respective overheads.</p>
2	Accounting of Overheads (Part-I)	<p>2.1 Collection and Allocation of overheads.</p> <p>2.2 Apportionment and Reapportionment of overheads</p> <p>2.3 Simple problem of primary distribution of Overhead</p> <p>2.4 Simple Problem of Secondary distribution of overheads (Repeated & Simultaneous Equation method only)</p>	<p>a. To understand the stages in the process of accounting overheads.</p> <p>b. Students will be able to calculate total departmental overheads after implementing Primary and Secondary Distribution.</p>
3	Accounting of Overheads (Part-II)	<p>3.1 Absorption - Meaning, Rate and Methods of Overhead Absorption</p> <p>3.2 Under and Over Absorption of overheads- Meaning, Reasons and Accounting treatment</p> <p>3.3 Simple problems on the accounting treatment of under and overabsorption of Overheads</p>	<p>a. Conceptual understanding of under and over absorption.</p> <p>b. Enable the learner with accounting treatment for under and over absorption.</p>

4	Activity Based Costing	4.1 Definitions-Stages in Activity Based Costing 4.2 Purpose and Benefits of Activity Based Costing 4.3 Cost Pools and Cost Drivers 4.4 Problems on Activity Based Costing [Simple Problems only]	a. Students will be able to identify overheads as per various activities.
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Teaching Methodology

Unit No.	Total Lectures	Innovative Methods to be used	Films Shows and AV Applications	Practical	Expected Outcome
1	08	Powerpoint Presentations	Relevant Youtube	Group discussion	To remember and understand the concept of

			Links		overhead and classification of overheads
2.	16	Group Discussion		Visit small units and make a list of overheads of the respective units.	Understanding the significance of overheads in the total cost of product/service.
3	12	Quiz		Powerpoint Presentations	1) Ability to understand the stages in the process of accounting overheads. 2) Application of accounting treatment for under and over absorption.
4	12	Expert lecture		Case Study	Knowledge about detection of

					overheads to different activities
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Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add-On Course
Unit I	Multiple Choice Questions, Written Test, Internal Examination, Powerpoint Presentations, Orals, Assignments, Tutorials etc.	SPPU	Two industrial visits and subsequent reports on the visits.
Unit II			
Unit III			
Unit IV			

References

Sr. No	Title of the Book	Author	Publisher	Place
01	Practice in Advanced costing and Management Accounting.	Prof. Subhash Jagtap	Nirali Prakashan	Pune
02	Advanced Cost Accounting and Cost Systems	Ravi Kishor	Taxman's Allied Service Pvt. Ltd.	New Delhi

03	Cost Accounting Principles and Practice.	S.P. Iyengar	Sultan Chand & Sons Accounting, Taxman's	New Delhi
04	Students Guide to Cost Accounting	Ravi Kishor	Taxman's, New Delhi.	New Delhi
05.	Cost Accounting Principles and Practice	M.N. Arora	Vikas Publishing House Pvt. Ltd.	New Delhi.
06	Cost Accounting, Theory and Problems,	S.N. Maheshwari and S.N. Mittal	Mahavir book Depot	New Delhi
07	Theory and Techniques of Cost Accounting.	B.L. Lall and G.L. Sharma	Himalaya Publishing House	New Delhi.
08	Cost Accounting – Textbook.	V.K. Saxena and Vashista	Sultan Chand and Sons	New Delhi.
09	Cost Audit and Management Audit.	V.K. Saxena and Vashista	Sultan Chand and Sons	New Delhi
10	Cost Accounting Principles and Practice.	Jain and Narang	Kalyani Publishers	Kolkata
11	Principles and Practice of Cost	N.K. Prasad	Book Syndicate Pvt.	Kolkata

	Accounting		Ltd.	
12	Advanced Cost Accounting Syndicate Pvt Ltd., Calcutta.	N.K. Prasad	Book Syndicate Pvt. Ltd.	Kolkata
13	Practical Costing.	R.K. Motwani	Pointer Publisher	Jaipur
14	Cost Accounting.	R.S.N. Pillai and V. Bhagavati	Sultan Chand and Sons	New Delhi.
15	Advanced Cost Accounting	Dr D. M. Gujarathi	Idol Publication	Pune

Web References

Sr. No	Lectures	Films	PPTs	Articles	Others
For all the units.	Guest Lectures by Field Personnel such as working executives from industries and of practising Cost	YouTube films showing the working of different	Relevant PowerPoint presentations are available	Articles from professional journals such as The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial	https://icmai.in www.glo

	and Management Accountants.	industries.	on all these topics.	Analyst of India	balcma.in eclm.unp une.ac.in
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Notes: The breakup of marks in the Examination will be as follows:

- 50 % of the marks for Theory & 50 % of the marks for Practical Problems (Simple Problem Only)

Areas of Practical Problems

- ▶ Accounting & Control of Overhead. [Part I]
Primary and Secondary Distribution of Overheads(Repeated & Simultaneous equation methods only)
- ▶ Accounting & Control of Overhead. [Part II] Problems of Machine Hour Rate Only.
- ▶ Problems of Activity Based Costing [Simple Problems only]

Revised syllabi (2019 Pattern) for three years B. Com. Degree course (CBCS)

Syllabus for **B. Com. Semester: - V**

Subject Name: - **Business Statistics II**

Course code: - **355(F)**

Credit 3

Preamble to the syllabus:

Tools and techniques learned in Statistics give a precise way of formulating and analyzing a problem and to make logical conclusions. Concepts and tools introduced in this course are useful to students for higher studies and career in any branch of

Economics, Commerce and Management. Professionals working in these fields, wishing to upgrade their knowledge, will also benefit. The stress of the course will be on building the concepts and their applications.

In modern times, Statistics is viewed not as a mere device for collecting numerical data but as a means of developing some techniques for their handling and analysis and drawing valid inferences from them. Statistics provides tools for making decisions when conditions of uncertainty prevail. So it is very useful in various fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc.

Depth of the Course – Basic Knowledge of Probability Theory

Objective of the Course

1. To understand and Master the concepts of Probability.
2. To understand the concepts of discrete probability distributions.
3. To make students to understand the art of applying statistical techniques to solve some real life problems.
4. To gain knowledge of Statistical Computations.

Unit No.	Unit Title	Contents	Purpose/Skills to be developed
1	Probability	Definition of permutation and combination of distinct objects; Relationship between nPr and nCr , Statement of binomial theorem for positive integral index (without proof); Sample space - Definitions of sample space, event, sure event, null event, Complimentary events, Equally likely events, Simultaneous occurrence of the two events, Occurrence of at least one of the two events; Probability - Definitions of probability using classical and axiomatic approach; Addition and multiplication laws of probability; Conditional probability - $P(A B)$, $P(B A)$ Where A and B are any two events defined on same sample space, independence of two events, Bayes Theorem (statement only); Examples and problems related to business.	<ol style="list-style-type: none"> 1. To understand the concepts of probability 2. To apply the concepts of probability to real life business problems.
2	Univariate and Bivariate Discrete Probability Distribution	Random Variable - Meaning of a random variable, discrete random variable; Probability distribution of a discrete random variable; Probability mass function (p.m.f); Expected value, variance and S.D, Examples and problems related business based on finite sample space.	<ol style="list-style-type: none"> 1. To understand the concept of random variable 2. To understand the concepts of univariate and bivariate probability of distribution

		Bivariate discrete random variable; Joint probability distribution of a bivariate discrete random variable; Marginal probability distribution of a discrete random variable; Independence of two discrete random variables, Examples and problems related to business.	3. To apply the concept of random variables and probability distribution to real life business problems.
3	Some standard discrete probability distributions	Bernoulli distribution - Bernoulli trials, Probability mass function, Expected value, variance and S.D; Binomial distribution - Probability mass function, Expected value, variance and S.D (Formulae only) statement of additive property (without proof), Problems to calculate probabilities, Expected value and parameters of binomial distribution, Relation with Bernoulli distribution, Real life situations; Poisson distribution - probability mass function, Expected value, variance and S.D (Formulae only) statement of additive property (without proof), problems to calculate probabilities, expected value and parameter of Poisson distribution, Real life situations.	<ol style="list-style-type: none"> 1. To understand the concepts of different discrete probability distributions 2. To apply concepts of discrete probability distributions to real life business problems.
4	Inventory Control	Meaning and necessity of inventory control; Deterministic inventory Model: - Economic order quantity for instantaneous replenishment with uniform demand and a) shortages not allowed, b) shortages allowed; Lead time, Re - order level and Buffer stock; Probabilistic Inventory Model : - Single period probabilistic model without set up costs.	<ol style="list-style-type: none"> 1. To understand the concept and Inventory control 2. To apply the concept of inventory control to real life business models.

List of Practicals

Sr. No	Name of the Experiment
1.	Applications of Binomial distribution using
2.	Application of Poisson distribution
3.	Application of Bivariate discrete probability distributions

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	ICT	NA	NA	Students will be able to understand and apply concepts probability to real world business problems.
2	14	ICT	NA	NA	Students will be able to understand and apply the concepts of discrete probability distributions to real world business problems.
3	14	ICT	NA	NA	Students will be able to understand and apply some standard probability distributions to real world business problems.
4	08	ICT	NA	NA	Students will be able to understand and apply the concept of inventory control to real world business problems.

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Unit wise distribution of Marks (Final Examination)	Suggested Add on Course
Unit – I	30%	70%		
Unit – II	30%	70%		
Unit – III	30%	70%		
Unit – IV	30%	70%		
Total				

Notes: -

1. Internal evaluation is continuous assessment.
2. Internal evaluation shall have following components: -
 - a. At least one test of 20 marks involving objective questions of following type: - multiple choice, true or false, state definitions/concepts, one line answer etc.
 - b. At least one assignment of 05 marks.
 - c. If time and resources permit then there can be power point presentation of group or individual (this component is not compulsory).

d. Final score will be average score of all components.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Business Mathematics and Statistics	N.G. Das & Dr. J.K. Das	McFraw Hill	New Delhi
2	Fundamentals of Business Mathematics	M. K. Bhowal	Asian Books Pvt. Ltd	New Delhi
3	Mathematics for Economics and Finance: Methods and Modeling	Martin Anthony and Norman Biggs	Cambridge University Press	Cambridge
4	Statistical Methods	Gupta S. P.	Sultan Chand and Sons	New Delhi
5	Applied Statistics	Mukhopadhyaya Parimal	New Central Book Agency Pvt. Ltd.	Calcutta.
6	Fundamentals of Statistics	Goon A. M., Gupta, M. K. and Dasgupta, B.	World Press	Calcutta.
7	Fundamentals of Applied Statistics	Gupta S. C. and Kapoor V. K.,	Sultan Chand and Sons	New Delhi
8	Statistics for Business and Financial Economics	Cheng-Few Lee, John C. Lee and Alice C. Lee	Springer	New York
9	Fundamentals of Statistics	S. C. Gupta	Himalaya Publishing House	New Delhi
10	Statistics for Business and Economics	J. S. Chandan	Vikas Publishing House	New Delhi
11	Business Statistics	S. P. Gupta and M. P. Gupta	Sultan Chand and Sons	New Delhi
12	Quantitative Techniques	N. D. Vohra	McGraw Hill Education	New Delhi

13	Business Statistics	S. C. Gupta and Indra Gupta	Himalaya publishing House	New Delhi
14	Complete Business Statistics	Amir Aczel, J. Sounderpandian, and P. Saravanan	McGraw Hill Education	New Delhi
15	Fundamentals of Statistics	D. N. Elhance	Kitab Mahal	New Delhi

Revised Syllabi (2019 Pattern) for Three years B.Com Degree Course (CBCS)

Semester V (T.Y.B.Com)

Subject code :- 355 (g)

Subject :- Business Entrepreneurship (Special Paper II)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Entrepreneurs create jobs, increase innovation, raise competition and are responsive to changing economic opportunities and trends. Youth entrepreneurship is also attractive to policy makers because of the high rates of latent entrepreneurship amongst young people. Entrepreneurship education aids students from all socioeconomic backgrounds to think outside the box and nurture unconventional talents and skills. It creates opportunities, ensures social justice, instills confidence and stimulates the economy. Entrepreneurship is the capacity to not only start companies, but also to think creatively and ambitiously. Hence it is very important to be included in curriculum.

Objectives:

- 1) To Develop understanding of MSME and its formation
- 2) To Develop Knowledge and understanding in creating and managing new venture.
- 3) To Equip students with necessary tools and techniques to set up their own business venture
- 4) To help students to bring out their own business plan.
- 5) To make students aware about business crises and sickness.

Depth of Programme: - Basic knowledge of Business Entrepreneurship

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	MICRO SMALL AND MEDIUM ENTERPRISES (MSME) POLICY 2020:	Introduction, Definition, Investment and Annual Turnover, Key Announcements of Atma Nirbhar Bharat Abhiyan, Criterion, Classification of Enterprises, Government Schemes for MSME in India, Covid impact on MSME	1) To understand the concept of MSME 2) To study the government schemes related to MSME
2	FORMATION OF MSME:	Business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. Registration under MSME, Udyam Registration	1) To study the procedure of formation of MSME 2) To study the Development and Service covered under MSME

		Portal, MSME Development and Service covered under MSME, Limits of MSME, and Eligibility for MSME.	3) To study Limits of MSME and Eligibility for MSME.
3	BUSINESS PLAN PREPARATION AND PROJECT REPORT:	<p>Meaning and importance - objectives - Selection of suitable form of organization - Precautions to be taken by an entrepreneur while preparing Business Plan.</p> <p>Meaning, Concept and classification of project</p> <p>Project for Retail store, Oil Mill, Cold Storage, Eco friendly Bag production- Reasons for failure of project</p> <p>Project Appraisal - Break - Even Analysis and Ratio Analysis : Debt : Service Coverage Ratio - Gross Profit : Net Profit Ratio and Return on Investment (ROI), Project Audit</p>	<p>1) To understand the concept and various aspects of Business Plan and Project Report</p> <p>2) To study the concept of project appraisal and its related aspects</p>
4	PROJECT ASSISTANCE:	<p>Financial assistance through State Financial Corporation's (SFC's), District Industries Centre (DIC), Maharashtra Industrial Development Corporation (MIDC), National Institute for Entrepreneurship and Small Business Development (NIESBUD), National Institute of Small Industry Extension Training (NISIET), Small Industries Development Organization (SIDO), Small Industrial Development Bank of India (SIDBI), Technical Consultancy Organization (TCO), Commercial Banks, Industrial Finance Corporation of India (IFCI) - Non-financial assistance from District Industries Centre (DIC), Small Industries Service</p>	<p>1) To study the role of various institutions in Project assistance</p> <p>2) To study the scheme of assistance and incentives of various institutions</p>

		Institute (SISI), Khadi and Village Industries Commission (KVIC) - Financial incentives for Small Scale Industries (SSI's) and <i>Tax</i> Concessions - Assistance for obtaining Raw Material, Machinery, Land and Building, Venture Capital and Technical Assistance	
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Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Expected Outcome
1	12	Group Discussion, Quiz	Related Videos and PPTs	Understanding the concept and government schemes related to MSME
2	12	Power Point Presentation, Survey Analysis	Related Videos and PPTs	Gaining practical knowledge related to formation of MSME
3	14	Poster Making, Article Review, Practical based learning, Problem solving based learning	Project Reports of Companies, Related Videos and PPTs	Students will be able to prepare business plan and formulate project report
4	10	Power Point Presentation, Case study	Annual Reports of Companies Related Videos and PPTs	Understanding the role and schemes of various institutions in Project assistance

Method of Evaluation:

Topic No.	Internal Evaluation	External Evaluation	Suggested Add On Course
1	MCQ, Assignment	As per University Norms	1) MSME Entrepreneurship
2	Project, Presentation	As per University Norms	2) Professional Entrepreneurship Courses
3	Project, Quiz, Tutorials	As per University Norms	3) Entrepreneurship: Launching an Innovative Business
4	MCQ, Assignment	As per University Norms	4) Essentials of Entrepreneurship: Thinking and Action

References:

- 1) Pandey G.N. - 'A Complete Guide to Successful Entrepreneurship' Vikas Publishing House Pvt Ltd.
- 2) Maharashtra Centre for Entrepreneurship Development - 'Project Profile', 'Profile for SSI Projects.'
- 3) Edward D. Boao - 'Opportunities'.
- 4) Prof. John Mullins - 'The New Business Road Tests' - Pearson.
- 5) Prof. Rajeev Roy - 'Entrepreneurship' Oxford University Press.
- 6) Rashmi Bansal - 'Stay Hungry Stay Foolish' - CIIFIM, Ahmedabad.
- 7) Dr. Patel V.G. - 'When The Going Gets Tough' - Tata McGraw Hill, New Delhi.
- 8) Mark. J. Dollinger, Entrepreneurship - Strategies and Resources, Pearson Edition.
- 9) Udai Pareek and T.V. Rao, Developing Entrepreneurship
- 10) S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems
- 11) Srivastava, A Practical Guide to Industrial Entrepreneurs
- 12) Anil Kumar: Small Business and Entrepreneurship I.K. International Publishers
- 13) Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975
- 14) Bharusali, Entrepreneur Development
- 15) **23 Vidya Hattangadi : Entrepreneurial**

- 16) Dr. Venkataramanappa : : Entrepreneurship Development
- 17) B. Janakiraman , Rizwana M: Entrepreneurship Development
- 18) N.V.R Naidu : Entrepreneurship Development, I.K. International Publishers
- 19) Business Entrepreneurship – Dr. M. B. Sonawane
- 20) Business Entrepreneurship –Dr. S. L. Shirgave.

Web References:

- 1) <https://msme.gov.in/>
- 2) <https://www.startupindia.gov.in/>

T.Y. B.Com. (Semester -V) (2019 Pattern)

Special Paper-II

Marketing Management-II

Course code – 355 (h)

Objectives:

- The objective of this course is to facilitate understanding of the conceptual framework of marketing and its applications in decision making under various environmental constraints.
- The course will make learners understand how to make effective marketing decisions, including assessing marketing opportunities and developing marketing strategies and implementation plans.

Unit No	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1	<u>Market Demand and Sales Forecasting</u> What is Demand? Definition Meaning Determinants Understanding Needs, Wants and Demands in Marketing. Types of Demands in Marketing Meaning of Sales Forecast, Sales Budget and Sales Quota Sales Forecasting Methods	12	Conceptual Learning, Power Point Presentation, Library Work, Assignment.	To equipped with a comprehensive understanding of the key factors in demand and sales forecast.

	Forecasting Techniques			
2	<u>Marketing of Non-Profit Organization</u> Non-Profit Organization-Concept, Characteristics Types Problems Need of Marketing of Non-Profit Organization Non-Profit Organization in India	12	Conceptual Learning , Visit Assignment.	Familiarizing the students with the application of the concept & need of marketing in Non-profit organization.
3	<u>Changing Role of Marketing Organizations</u> Meaning of Marketing Organization Types of Marketing Organizations Factors Affecting on Marketing Organization Essentials of an effective Marketing Organizations The changing role of marketing and marketers.	12	Conceptual Learning, Power Point Presentation, Library Work, Case Study.	Understanding marketing organization and its changing role.
4	<u>Brand Building Strategy</u> Concept of Brand Strategy Importance of Building a Brand Strategy Brand Building Strategy key concepts and Steps Various types of Brand Building Strategies Reviewing Brand Building Strategies	12	Conceptual Learning, Power Point Presentation, Group Discussion, Assignment.	Understanding the concept and importance of Building Brand Strategy, as well as its relationship in reviewing to competitive advantage.
	Total	48		

References

Sr.No	Title of the Book	Author/s	Publication
1	Marketing Management	Philip Kotler	Pearson Publication
2	Marketing Management	Rajan Saxena	McGraw Hill Education
3	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication
4	Strategic Brand Management, Building, Measuring and Managing Brand Equity.	Keller .K	Pearson Publication
5	Marketing Management	Dr.K.Karunakaran	Himalaya Publishing House
6	Agriculture Marketing	J.W.Barker	Oxford University Press
7	Sales Forecasting Management: A Demand Management Approach	John T.Mentzer & Mark A. Moon	Sage Publications
8	Global Marketing	Carlyle Farrell	Sage Publications

Savitribai Phule Pune University, Pune
Third Year, B.Com.
Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - V

Subject: Agricultural and Industrial Economics II

Paper-II

Course Code: 355 (i)

Total Credits: 4

Objectives:

1. To understand the concept of Agricultural Marketing and related Issues.
2. To impart adequate knowledge role of Agricultural Processing in India.
3. To understand the Role, Importance and Growth of Major Industries in India.
4. To get acquainted with the role and problems of Public sector Enterprises in India.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Content	Purpose Skills to be Developed
1	Agricultural Marketing	1.1 Nature, Scope and Role of Agricultural Marketing in India 1.2 Organisation and Functions of Agricultural Marketing in India 1.3 Problems of Agricultural Marketing, 1.4 Present Status of Food Retail Marketing System in India 1.5 Recent Agricultural Marketing Policies in India, 1.5.1 National Agriculture Market (e-NAM) 1.5.2 Model APLM Act, 2017	<ul style="list-style-type: none"> ▪ To apprise students regarding various aspects of Agricultural marketing. ▪ To understand the functions and Problem of Agricultural Marketing. ▪ To impart knowledge about Policies of Agricultural Marketing.
2	Agricultural Processing	2.1 Role and Growth of Agricultural Processing in India 2.2 Scope & Importance of Agricultural Processing. 2.3 Problems & Remedial Measures of Agricultural Processing. 2.4 Governments Schemes for Development Agro-Processing	<ul style="list-style-type: none"> ▪ To understand the role of Agricultural Processing. ▪ To make the students know about Problems & remedial measures of Agricultural

		Industries	Processing.
3	Major Industries in India	The Role, Importance, Growth and Problems of... 3.1 Agro-Industries 3.1.1 Textiles and Jute Industry 3.1.2 Sugar Industry 3.2 Service Industry 3.2.1 Information Technology Industry 3.2.2 Health Sector	To understand the Role, Importance and Growth of Agricultural Industry, Textiles and Jute Industry, Sugar Industry, Service Industry, Information Technology Industry, Health Sector
4	Public sector Enterprises	4.1 Role of Public Sector in Economic Development of India. 4.2 Government Policy towards Public Sector. 4.3 Problems of Public Sectors, Issues Regarding Deregulation 4.4 Disinvestment and Future of Economic Reforms	<ul style="list-style-type: none"> ▪ To understand the role of the Public sector ▪ To get acquainted with Government Policy towards Public Sector. ▪ To understand the problems of the Public sector in India

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ Visit any Agriculture Marketing Committee and Identify the problem of Agricultural Marketing. 	<p>After completing this topic, the student will be able to understand</p> <ul style="list-style-type: none"> ▪ The Meaning and Role of Agricultural Marketing ▪ Various aspect of Agricultural Marketing In India. ▪ Agricultural Marketing Policies in India
2	10	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ the importance of Agro-Processing in India. 	<ul style="list-style-type: none"> ▪ Role of Agricultural Processing in India ▪ Scope & Importance of Agricultural Processing. ▪ Problems & remedial measures of Agricultural Processing. ▪ Scheme for Agro-Processing

					Industries
3	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	▪ Identify the Problems of the Sugar Industry.	▪ The role, Importance and Growth of Iron & Steel Industry, Textiles and Jute Industry, Sugar Industry, Cement Industry, Automobile Industry
4	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	▪ Importance of Public sector in India.	▪ Role of Public Sector ▪ Government Policy towards Public Sector, problems associated with Privatization, issues regarding Deregulation, Disinvestment and future of Economic Reforms.

Recommended Books:

1. Acharya and Agarwal, 1987, Agricultural Marketing in India, Oxford & IBH Publishing Company.
2. Bhalla, G. S. and Singh G., 2001, Indian Agriculture: Four Decades of Development, Sage Publications
3. Acharya and Agrawal (1992), Agricultural Marketing in India, Oxford and IBH Publishing Co. Pvt. Ltd.
4. Crawford (1997), 'Marketing and Agribusiness Texts', FAO.
5. Jelen P. (1985), Introduction to Food Processing. Reston Publishing.
6. Potly, V.H. and M. J. Mulky (1993), Food Processing. Oxford & IBH
7. Datt R. & K.P.M Sundharm (2007) Indian Economy, S.Chand&Co.Ltd.Delhi.
8. Misra S.K. & V.K.Puri, (2017) Indian Economy, Himalaya Publication house Mumbai.
9. Kavimandan Vijay, (2009) KrushiArthshastra, Shri Mangesh Prakashan, Nagpur.
10. Barthwal R.R (2204) Industrial Economics Introductory Text Book, New Age International Limited, Kanpur.
11. Govind Bhattacharjee (2020) Public Sector Enterprises in India, Evolution, Privatization and Reforms, Sage Publication, Delhi

Web reference

1. <https://www.youtube.com/user/cecedusat>
2. <https://www.swayamprabha.gov.in/>
3. <http://14.139.13.96:8080/> - UGC CEC E Contain on Agricultural Economics

Savitribai Phule Pune University
Faculty of Commerce & Management
T Y B Com (Semester V)
(Choice Based Credit System)
Revised Syllabus (2019 Pattern)

SPECIAL ELECTIVE COURSE – I

Course Code: 355 (j)

Subject: Defence Budgeting Finance and Management special paper - II

Total credits:

Objectives:

1. Understanding the importance of Defence Budget
2. To know the latest development of Indian Defence Industry.
3. To know the concept financial management regarding defence.
4. Understanding Defence Expenditure.

Unit No.	Topic	No. of lectures	Teaching Method	Proposed Skill to be Developed
1	Defence budgeting A) Budget as Instrument of financial Direction & control B) Ingredients of Budgeting C) Defence budgeting-it cost	12	Lecture group Discussion library work assignment field visit	.Understanding how the defence Budget is used as instrument of financial direction & Control.

	Effectiveness			
2	Development of Indian defence Industry A) Indian Defence Industry : A Historical overview B) Policy changes in Defence Industry C) India's offset Policy to encourage domestic production D) Growth opportunities in the Indian Defence Industry	12	Lecture group Discussion library work assignment field visit	Understanding the development of Indian Defence Industry and growth opportunities in the Indian defence industry.
3.	Financial management A) Purpose, planning, control & need. B) Salient features of India's Economic system	12	Lecture group Discussion library work assignment field visit	Understanding of propose, planning control, need and of defence financial management.
4	Defence Expenditure Trends A) Defence Expenditure as a production of the GDP B) Calculating Defence Expenditure C) Characteristics of defence Spending	12	Lecture group Discussion library work assignment field visit	Understanding Defence Expenditure proportion with GDP & know the calculating system of defence Expenditure & also characteristics of Defence Expenditure.

Reference:

- 1) Raju G. C. Thomas(1978), 'The Defense of India: A Budgetary perspective', MacMillan Publication, New Delhi
- 2) Subramanyam K. (1991), 'India's security perspective – Policy and Planning' Lancer books, New Delhi.
- 3) Nanda Ravi, (1991), 'National Security Perspective, policy planning', Lancer Books, New Delhi.
- 4) Khanna D. D. and Malhotra P N. (1993), 'Defense vs Development: A Case study of India', Indus publication company, New Delhi.
- 5) Kennedy Gavin (1983), 'Defense Economics' Gerald Duckworth & Co. Ltd.
- 6) Ghosh Amiya (1996), "India's Defense Budget & Expenditure Management in Wider Context", Lancer Publication and Span Tech, Delhi
- 7) Dutta Meena and Sharma Jai Narayan, 'Defence Economics', Deep and Deep Publication, New Delhi.

- 8) Deger s. & Sen S. (1986), 'Military Expenditure in the Third World countries: The Economic effects', Routlet & Kegan Paul.
- 9) S. Sandeep (col retd), 'Funding for Defence & Development', Published by Sumit Enterprises, New Delhi.
- 10) Annual report, Ministry of Defence, government of India.
- 11) Report of the finance Commission, government of India.

T.Y. B.Com. (Semester -V) (2019 Pattern)

Special Paper-II, Course Code - 355(k)

Insurance, Transport & Tourism-I

(Insurance)

Objectives:

- To acquaint the students with basic insurance terminology.
- To aware about risk management and develop proper understanding in insurance.
- To study the various pricing elements and its importance.
- To review the various legislations and its application to insurance business in India

Unit No	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1	Insurance Terminology- Common for both Life and Non-Life Insurance First Premium- Renewal- Mode- Limited Payment- Policies- Single Premium- convertible- Days of Grace- Lapse- paid Up Policy- Revival- Deferment Period- Nomination- Assignment- Bonus- With Profit— Participating- Non-Participating or Without Profit- Surrender Value	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Visit to institutions etc.	Understanding the basic terminology in Life and Non-life insurance

2	Risk Management: Concept of Risk, Uncertainty, Perils and Hazards, Definition of Risk – classification of risk □ Personal, Property & Liability Risk, Insurance and Risk Management Technique □ Risk sharing and Risk Transfer, Risk prevention & avoidance.	12	Lecture, PPT, Group Discussion, Library Work, Assignments, etc.	Understanding the risk management in insurance.
3	Pricing Elements – Pricing Objectives, Pricing elements- Probability & Mortality Tables, Time value of Money, Loading & benefits promised, Rate computation- single premium plan, level premium plan, flexible premium plan, yearly renewable plan, saving & investment aspect of life insurance, Methods of rating.	12	Lecture, PPT, Group Discussion, Library Work, Assignments, tests, etc.	Understanding the pricing elements and its importance.
4	Other Legislations Applicable to Insurance Business in India: Motor Vehicles Act 1988, Marine Insurance Act 1963, Consumer Protection Act 1986, Public Liability Insurance Act 1991, The Insurance Laws (Amendment) Act 2015.	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Visit to institutions, tests, etc.	Understanding various legislations and its application to insurance business
	Total	48		

References:

1. Sharma M.N. (2006), 'Insurance Principles and Practice (in Hindi), Apex Publishing House, 1st edition.
2. Vinayakam N. Radhaswamy and Vasudevan S. V., 'Insurance Principles & Practice', S. Chand & Co. New Delhi,
3. M. Arif Khan (2016), 'Theory and Practice of Insurance', Educational Book House, Aligarh ,
4. Malhotra R. P. 'Elements of Insurance' , Macmillan Publisher
5. M. N. Mishra & S.B. Mishra (2016), 'Insurance Principles and Practices', S. Chand & Company, New Delhi.
6. Panda G. S. (2011), 'Principles & Practice of Insurance, Kalyani Publisher,

Savitribai Phule Pune University, Pune

(T.Y. B.Com.)

Computer Programming and Application Special Paper II (Sem V)

Subject Name: Computer Networking and E-Commerce-I.

Course Code: 355(L).

Course Objectives:

1. To know about computer network.
2. To understand different topologies used in networking
3. To learn different types of networks.
4. To understanding the use of connecting device used in network.

Term-I

Unit No	Name of Topic	No. Of Lectures	Reference Books
1	Computer Networks. Introduction Computer Network, Topology, Types of Networks Communication Types Serial, Parallel	12	Book No 1,3

	<p>Modes of Communication: Simplex, Half Duplex, full Duplex,</p> <p>Server Based LANs & Peer-to-Peer LANs, Comparison of both Protocols and Standards</p>		
2	<p>Network Models ISO-OSI Reference Model : Layers in the OSI Model, Functions of each layer SAP Terminology Internet Model (TCP/IP) Comparison of ISO-OSI & TCP/IP Model Addressing : Physical Addresses, Logical Addresses, Port Addresses IP Addressing : Classful addressing, Classless addressing Transmission Media Guided Media (Wired) : Coaxial cable, Twisted Pair Cable, Fiber Optic cable Unguided Media (Wireless):- Radio Transmission, Microwave Transmission, Infrared Transmission</p>	14	Book No 1,3
3	<p>Types Of Networks IEEE Standards Wired LANs : Ethernet Ethernet Types Standard Ethernet (MAC Sublayer, Physical layer), Fast Ethernet (MAC Sublayer, Physical layer). Gigabit Ethernet (MAC Sublayer, Physical layer) Network Interface Cards (NIC):- Components of NIC, Functions of NIC, Types of NIC. Wireless LANs IEEE802.11 (Architecture, MAC Sub layer, Frame</p>	12	Book No 1,3

	Format, Frame Types, Addressing Mechanism) Bluetooth (Architecture Piconet and Scatter net Applications)		
4	Case Studies of E-Commerce Amazon, Flipkart, Google Pay, Phone Pay, Paytm, etc.	10	Book No 4,5
Total No of Lectures			48

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
Unit – I	12	Use ICT or presentation on Computer Networks.	U–tube Tutorial on Computer Networks.	-	Familiar with Computer Networks.
Unit – II	14	Use ICT or presentation on Network Models	U–tube Tutorial Network Models	-	Familiar with Network Models
Unit – III	12	Use ICT or presentation on Types Of Networks	U–tube Tutorial Types Of Networks	-	Familiar with Types Of Networks

Unit – IV	10	Use ICT or presentation on Case Studies of E-Commerce	U-tube Tutorial Case Studies of E-Commerce	Case Study on E-Commerce	Familiar with Case Studies of E-Commerce
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Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30	70
Unit – II	30	70
Unit – III	30	70
Unit – IV	30	70

Guidelines for Examination:

- [1].Internal Exam (30 Marks):
- [2].To be conducted by college as per rules provided by University of Pune. Semester Exam 70 Marks):
- [3].To be conducted by University of Pune at the end of the academic year.
- [4].Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Semester Examination).

Recommended Books:

1. Computer Networks - Andrew Tanenbaum (III Edition)
2. Data Communications & Networking - Behrouz Ferouzan (III Edition)
3. Complete Guide to Networking - Peter Norton
4. E-Commerce, Strategy, Technologies And Applications : David Whiteley, Tata Mcgraw Hill
5. E-Commerce & Mobile Commerce Technologies: Pandey, Saurabh Shukla, S. Chand

Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - V (T.Y.B.Com)

Subject Code :- PR- 356 (a)

Subject : - Business Administration – III (Finance)

Preamble

Financial management is one of the most important aspects in business. In order to start up or even run a successful business. Financial management deals with directing, controlling, planning and strategically organizing financial projects or accounts of an organization. Financial

management education involves using management rules for the finances of an organization. Study of financial management opens up lot of diverse career opportunities for students in the private and public sector such as include investment banking, entrepreneurship, financial analysis, financial and managerial accounting, and strategic financial management. It also serves larger benefit to young entrepreneurs who aspire to set up their own ventures.

Objectives of the course

1. To acquaint the student with knowledge about Corporate Finance and the structure if the Indian Financial Market
2. To develop the Financial Planning Skills among the Students by introducing them to the process of efficient Financial Planning
3. To educate the students on the importance of Capitalisation and the importance to maintaining an optimum capital structure
4. To create awareness among the students in the various sources of Finance available for raising corporate capital

Depth of the program – Fundamental Knowledge

Unit No	Unit Title	Contents	Skills to be developed
1	Introduction to Corporate Finance and Indian Financial	1.1 Meaning, Features, Need, Importance of Corporate Finance, Finance Functions (Executive and Routine Functions) 1.2 Meaning , Objectives , Scope of Financial Management 1.3 Indian Financial Market – Meaning and Structure (Money Market & Capital	Conceptual Understanding Accessing and analyzing

	System	<p>Market)</p> <p>1.4 Stock Exchange – Meaning , Features ,Functions.</p> <p>1.5 Bombay Stock Exchange , National Stock Exchange of India , Dematerialisation of Securities</p> <p>1.6 Securities Exchange Board of India – Objectives , Powers and Functions</p> <p>1.7 Credit Rating Agencies – Function/ Role and Advantages .</p> <p>Overview of Credit Rating Information Services of India Limited (CRISIL)</p> <p>Investment Information and Credit Rating Agency of India (ICRA) Limited</p> <p>Credit Analysis and Research (CARE) Limited.</p>	<p>information skills</p> <p>Technical Knowledge</p>
2	Financial Planning	<p>1.1 Financial Planning – Meaning, Nature and Characteristics , Scope , Importance, Advantages and Limitations ,</p> <p>1.2 Steps in Financial Planning</p> <p>1.3 Factors Influencing Financial Plan Formulation</p> <p>1.4 Methods of Estimating Financial Requirement</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Technical Knowledge</p>
3	Capitalization and Capital Structure	<p>1.1 Capitalization and Capital Structure</p> <p>1.2 Capitalization – Concept, Factors governing capitalization, Over and Under capitalization - Causes and effects, Fair Capitalization.</p> <p>1.3 Capital Structure- Meaning, Concept and Principles of capital structure, Factors</p>	<p>Conceptual Understanding</p> <p>Analytical Skills</p>

		<p>influencing the pattern of capital structure.</p> <p>1.4 Trading on equity- Concepts and effects.</p>	Technical skills
4	Sources of Corporate Finance	<p>1.1 Types of Capital – Fixed and Working, Owned and Borrowed, Short Term , Medium Term and Long Term</p> <p>1.2 Sources of Capital – Bank Overdraft, Trade Credit Accrual Accounts, Financial Lease , Operating Lease , Hire Purchase , Bank Loan , Merchant loan , Debentures , Equity Shares , Preference Shares Stock Dilution and Flotation</p> <p>1.3 Concept Cost of Capital and Concept of Risk and Return</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Accessing and analysing information</p>

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	PPT , Lectures by experts from Industry experts, Visit to Stock Exchange	Online Videos ,	Project Report on SEBI and Credit Rating Agencies	Conceptual understanding and Conceptual Clarity
2	12	PPT , Lectures by Finance Managers	Online Videos	---	Conceptual Clarity and Practical understanding

					Technical Knowledge
3	18	PPT	Online Videos	----	Conceptual Clarity and Practical understanding
4	08	PPT , Lectures Finance Experts, Case Study , Study of Capital Structure of organisations from Annual Reports	Online Videos	Project Report on Study of Capital Structure of organisations from Annual Reports of 3 companies	Analytical skills Decision making skills Technical skills

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ / Project	As per University norms	Certificate course of SEBI for Investor Awareness
Unit – II	MCQ, Assignments, PPT	As per University norms	Certificate course in Collaboration with Credit Rating Agencies for Financial Statement Analysis
Unit – III	MCQ, Project and Assignment	As per University norms	
Unit – IV	MCQ , Case study , Project Report	As per University norms	

References:

List of Books Recommended: -

- Capital Market and Financial System in India ,Asheesh Pandey (Author),Ingram short title

- CAPITAL MARKET ,S Gurusamy (Author),McGraw Hill Education
- Indian Financial System: Financial Markets, Institutions and Services,Siddhartha Sankar Saha (Author),McGraw Hill
- Capital Marketing and Securities Law ,Kumar Rajnish ,Commercial law Publication
- Investment Analysis and Portfolio Management ,Chandra Prosanna,Tata McGraw-Hill Education Private Limited
- An Introduction to International Capital Markets: Products, Strategies, Participants ,Andrew M. Chisholm,wiley
- Capital Markets in India ,Rajesh Chakrabarti (Author),SAGE Response
- Financial Accounting for Management (Author: N Ramchandra and published by Tata McGraw Hill).
- Industrial Finance (Author: R. Vishwanthan and published by Macmillian).
- Fundamentals Of Financial Management (Author: Vyuptakesh Sharan and published by Dorling).
- Financial Management (Author: Sheeba Kapil and published by Pearson).

Revised syllabi (2019 Pattern) for T.Y.B. Com Degree course (CBCS)
Semester – V
SPECIAL ELECTIVE COURSE (Special Course – III)
Banking and Finance-Special Paper III (Sem.V)
(Banking Law and Practices in India – I Course code: 356-B)

Total Credits: 04 (Theory 03 + Practical 01=04)

-----Objectives:

1. To familiarize the Banking Laws and Practice in correlation to the Banking System in India.
2. To understand the legal aspects of Banking transactions and its implication as a Banker and as a customer.
3. To familiarize the students with the Banking Laws and Practices in India.
4. To make students capable of understanding and applying the legal and practical aspects of banking to help them technically sound in banking parlance.

Unit No.	Topic and Contents	No. of Lectures	Teaching Method	Skills to be developed
1.	<p>Banking Regulation Act, 1949: Introduction the objectives and selective provisions :</p> <p>1.1 Definition of word Banking (Section 5B) and Bank (Section 5C)</p> <p>1.2 Management (Section. 10, 10A, 10B, 10BB), Capital (Section 11)- Reserve Fund (Section 17) - Bank Licensing (Section 22) - Branch Licensing (Section 23) - Liquid Assets (Section 24)</p> <p>1.3 Profit and Loss Account and Balance Sheet, Audit - (Section 29 and 30).</p> <p>1.4 Powers of Reserve Bank of India- (Section 35, 35A and 36)</p> <p>1.5 Voluntary Amalgamation (Section 44A) – Compulsory Amalgamation (Section 45)- Liquidation (Section 45 R)</p> <p>1.6 Banking Regulation Act, 1949 applicable to Cooperative Banks- The Banking Regulation (Amendment) Bill, 2020-Features.</p>	14	Lectures, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the Banking Regulation Act 1949 with Objectives and selective Provisions.
2.	<p>Negotiable Instruments Act, 1881:</p> <p>2.1 Introduction-Definition-Meaning- Features of Negotiable Instruments.</p>	12	Lectures, PPT, Group and Panel Discussion, Library Work,	Understanding the Provisions of Negotiable Instruments Act, 1881

	2.2 Types of Negotiable Instruments- Promissory Note, Bill of Exchange and Cheque 2.3 Parties in Negotiable Instruments 2.4 Negotiation-Presentment-Concepts of Dishonour of Negotiable Instruments 2.5 Noting and Protesting		Assignments	
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<p>3.</p>	<p>Insolvency and Bankruptcy Code, 2016</p> <p>3.1 Objectives and importance of IBC, 2016</p> <p>3.2 Applicability</p> <p>3.3 Important definitions: (Section 3) Board, Corporate Person, Corporate debtor, Creditor, default, Financial Information, Insolvency Professional, Corporate Applicant, Corporate Guarantor, Insolvency and Bankruptcy.</p> <p>3.4 Corporate Insolvency Resolution Process (Section 6,7, 12,13,14)</p> <p>3.5 Liquidation Process (Section 33. 34, 35)</p> <p>3.6 Voluntary Liquidation of Corporate Person (Section 59)</p> <p>3.7 Fast Track Corporate Insolvency Resolution Process (Section 55, 56, 57)</p> <p>3.8 Offence and Penalty regarding Corporate (Section 68 to 71)</p> <p>3.9 Bankruptcy Order for Individual and Partnership Firm (Section 121, 125, 126,128, 138, 139)</p> <p>3.10 Offence and Penalties regarding Individual (Section 184 to 187)</p> <p>3.11 The framework of Insolvency and Bankruptcy Board of India (Section 188, 196)</p>	<p>14</p>	<p>Lectures, PPT, Group and Panel Discussion, Library Work, Assignments</p>	<p>Understanding the Objectives, Importance, Selective Definitions and Provisions Insolvency and Bankruptcy</p>
<p>4</p>	<p>Banking Ombudsman Scheme-2006</p> <p>4.1 Objectives of Banking Ombudsman Scheme-2006</p> <p>4.2 Important Definitions: Banking Ombudsman, Appellate Authority, Authorised</p>	<p>8</p>	<p>Lectures, PPT, Group and Panel Discussion, Library Work, Assignments</p>	<p>Understanding the details Banking Ombudsman Scheme, 2006</p>

	Representative, Complaint, Secretariat 4.3 Appointment and Tenure of Ombudsman 4.4 Power and Duties of Ombudsman 4.5 Procedure for Redressal of Grievance			
	Total	48		

References:

1. Bangia R.K. (2015), 'Banking Law and Negotiable Instruments', Allahabad Law Agency
2. Banking Regulation Act- 1949, Universal Law Publishing
3. Banking Ombudsman Scheme, 2006 Reserve Bank of India, Mumbai.
4. Insolvency and Bankruptcy Code, 2016- The Gazette of India, New Delhi.
5. Kandasami K.P. (2010), 'Banking Law and Practice', S. Chand Publication
6. K. Natarajan , Yefim Gordon, (2007), 'Banking: Theory, Law and Practice' Himalaya Publishing House
7. Kothari Vinod (2017), 'Tannan's Banking Law and Practice in India' Lexis Nexis Publisher
8. Varshney P.N. (2014), "Banking Law and Practices", Sultan Chand and Sons

Syllabus for T.Y. B.Com
Semester-V, Paper-III
Subject Name: - Business Laws and Practice Paper III

Course Code – 356 (c)

Objectives of the Course: To develop an understanding of the significant provision of Custom Act & GST Act and gain the ability to address a basic and advanced application-oriented issue.

Depth of the program: Fundamental Knowledge

Objective of the Program:

- To understand the Basic Concepts of Customs Law& GST Law
- To familiar the students with applications of Custom Law & GST Law
- To educate the students on the recent trends in Customs Law& GST Law
- To develop practical knowledge and their implication in Business

Unit. No.	Unit Title	Contents	Purpose skills to be developments
1	Custom Act 1962.	1. Meaning object and scope, Definitions - Customs Area, Customs Port / Air Port / Station /Water - Prohibited goods - smuggling - Shipping Bill - Entry - Bill of Entry-Bill of Export - Costal Goods. 2. Levy and exemption from Custom duty - Valuation of goods for purpose of assessment.	<ul style="list-style-type: none"> • Have the understanding of the basic aspects of Customs Law • Understand various procedures involved in importation and exportation of goods

		3. Clearance of Imported and Exported goods - Confiscations of goods and conveyances and imposition of penalty.	
2	GST In India - An Introduction	<ol style="list-style-type: none"> 1. Constitutional Background & Introduction of Goods & Service tax in India (CGST Act, 2017 & IGST Act, 2017) 2. Important definitions & concepts under CGST Act, 2017 3. Types of GST 	<ul style="list-style-type: none"> • To Acquaint with Constitutional Background of GST Laws • Understand definitions & concepts under CGST Act, 2017
3	GST - Applicability, Registration Procedure & Administration of GST	<ol style="list-style-type: none"> 1. Applicability & Exemption under GST 2. Registration procedure under GST 3. Administration of GST & Role of GST Council 	<ul style="list-style-type: none"> • Understand Applicability & Registration under GST. • To learn the online Registration procedures under Goods & Service Tax Laws • Understand the Administration of GST
4	GST - Returns & Audit	<ol style="list-style-type: none"> 1. Various Returns and their due dates under GST Laws 2. Applicability of Audit under GST 3. Accounting & Books to be maintained under GST 4. Offences & Penal Provisions under GST Laws 	<ul style="list-style-type: none"> • To impart the knowledge of Accounting & Books to be maintained under GST • To understand applicability of Audit under GST • To learn the various

			Offences & Penal Provisions under GST Laws
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Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Pre Literature, Case Studies, Group Discussion, PPT Presentation,	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the Custom Act 1962 provided by UGC/University/MO OC etc. to be analyzed. 	Project report can be prepared on Levy and exemption from Custom duty	Equip students with the knowledge of Custom Law in India
2	12	Pre Literature, Moot court Lecture, Group Discussion, Prereading, Quiz Competition, Expert Lecture,	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the GST In India – An Introduction provided by UGC/University/M OOC etc. to be analyzed. 	Project report can be prepared on Types of GST	To Acquaint the students with basic knowledge about GST Law in India
3	12	Field visit, PPT Presentation, Interaction with the industry expert, Article Reviews	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the GST – Applicability, Registration Procedure & 	Project report can be prepared on Registration procedure under GST	To give Comprehensive insight about the GST – Applicability, Registration

			Administration of GST provided by UGC/University/M OOC etc. to be analyzed.		Procedure & Administration of GST
4	12	case studies, Group Discussion, Quiz Competition, Expert Lecture, Team exercise,	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the GST - Returns & Audit provided by UGC/University/M OOC etc. to be analyzed. 	Project report can be prepared on Accounting & Books to be maintained under GST	Equip students with the knowledge of GST - Returns & Audit

References

Sr. No.	Title of the Book	Author/s	Publication
1	Guide to The Customs Act- Law Practice And Procedures	B.N. Gururaj	Lexis Nexis
2	The Customs Act 1962 Bare Act with Amendments	Government of India	Educreation Publishing
3	Taxmann's GST & Customs Law	CA K.M. Bansal	Taxmann Publication Pvt. Ltd.
4	Taxmann's GST Practice Manual	Aditya Singhania	Taxmann Publication Pvt. Ltd.
5	Goods and Services Tax GST	H.C. Mehrotra, V.P. Agarwal	Sahitya Bhawan Publications
6	GST Made Simple	Awdhesh Singh	Centax Publication

Practical for Semester – V

Topic	Mode of Practical
Levy and exemption from Custom duty	Case Study / Library Assignment.
Constitutional Background of GST	Overview & Presentation can be taken.
Registration procedure under GST	Filled up the registration form.
Various Returns under GST Laws	Filled up the Various Returns form.

Revised Syllabi (2019 Pattern) for Three years B.Com Degree Course (CBCS)

Semester -V

Course Code- 356 (d)

Subject: --: Co-operation & Rural Development ((Special Paper-III)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Cooperative learning requires students to engage in group activities that increase learning and adds other important dimensions. The positive outcomes include academic gains, improved race relations and increased personal and social development. The purpose of this course is to impart knowledge of concept of Cooperative Management and its related dimensions.

Objectives of the Course:

- 1) To acquaint students with the Co-operative Management.
- 2) To study the Co-operative Organization and Management

Unit No.	Unit Title	Contents	Skills to be developed
1	Introduction to Co-operative Management	1.1 Meaning, Nature and Scope of Co-Operative Management 1.2 Objectives of Co-operative Management. 1.3 Principles of Co-operative Management. 1.4 Functions of Co-operative Management 1.5 Ethics in co-operative Management	1) Conceptual clarity and understanding the Meaning, Characteristics and Importance cooperative management 2) To understand the Principles and Process of management 3) To understand functions of cooperative management
2	Role of Co-operative Management	2.1 Evaluation of Co-operative Management 2.2 Levels of Management. 2.3 Board of Directors and Executives Duties, Responsibilities 2.4 Role in Co-operative Management. 2.5 Professionalization of Management- Need and Significance.	1) To understand the importance and role of co-operatives. 2) To understand need of professional management in co-operatives
3	Human Resource Management and Co-operative Organizations	3.1 Human Relationship in Co-operative. 3.2 Co-operative Philosophy and H.R.D. 3.4 Recruitment 3.4 Training and Managerial Development 3.5 Appraisal and Evaluation	1) To acquire the fundamental knowledge about human resource in co-operative institutions 2) To understand the Elements of Human resource management
4	Decision Making and Co-operative Management	4.1 Decision Making – Meaning and Importance 4.2 Decision Making Process, Steps Involved 4.3 Measures to overcome the defects in Co-	To understand elements of decision making, process of decision making in co-operative management

		Operative Management. 4.4 Trends in Co-operative Management in Global Scenario	
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Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources	Relevant You Tub Videos, Relevant slide show, online Video, Short Film Show	Individual assignment report	Understanding of basic knowledge of co-operation
2	12	Pre reading, Class discussion, internet resources, Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion, Library /Home Assignment ,Internal Assignment, case study	Relevant You Tub Videos, Short Film Show, A.V Application	Visit to Office	Understanding the importance and Essentials role of co- operation
3	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre	Relevant You Tub Videos PPT, AV Application,	Presentation	1) To acquire the fundamental knowledge about human resource in co-operative institutions

		reading, Class discussion , library visit , internet resources ,students Seminar/Workshop ,case study	online video		2) To understand the Elements of Human resource management
4	12	Guest Lectures of eminent Personalities , Group Discussion, Library visit ,Home Assignment, case study	Online Videos, Relevant slide show, Short Film Show	Individual Resume, Bio–Data Writing	To understand elements of decision making, process of decision making in co-operative management

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add-on Course
Unit- I	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	Certificate Course on Cooperation Management
Unit-II	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-III	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-IV	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	

References:

Sr. No	Title of Book	Author/s	Publication	Place
1	New Dimensions of Co-operative management	G.S.Kamat	Himalaya Publication House,	Mumbai
2	Co-operative Management principals and techniques	Dr.Nakkiran S.A.-	Himalaya Publication House,	Mumbai
3	Co-operative Management and Administration	Goel B.B	Deep and Deep Publication	New Delhi.
4	Co-operation and Rural Development	Principal Dr.Nitin Ghorpade	Success	Pune
5	Human Resource Management Practices in Co-operative sector	Principal Dr.Shaikh Aftab Anwar	Idea Publication	New Delhi
6	Theory & Practice of Co-operation,	Dr. Dhiraj Zalte &Others –	Prashant Publication	Jalgaon
7	C.A State and C-operative Movement			
8	https://www.bhagirathgram.org/			
9	Journal of Commerce and Management Thought(JCMT)			

T.Y. B.Com.

B.Com Degree Course Revised 2019 Pattern (CBCS)

Cost and Works Accounting Special Paper III

Name -: Techniques of Cost Accounting

Course Code -: 356 –E (SEM-V)

Objectives:

1. To prepare learners to understand the basic techniques in Cost Accounting
2. To understand the learner, application of Cost Accounting techniques in cost control and decision making.
3. To enable the learners to prepare various types of Budgets.
4. To learn the basic concept of Uniform Costing and Inter-firm comparison
5. To enhance the knowledge of students about MIS and Supply Chain Management.

Unit	Unit Title	Contents	Skills to be developed
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No.			
1	Marginal Costing	<p>1.1 Meaning and concepts- Fixed cost, Variable costs, Contribution, Profit-volume Ratio, Break-Even Point, Margin of Safety. and Angle of Incidence.</p> <p>1.2 Cost-Profit-Volume Analysis- Assumptions and limitations of cost-profit volume analysis</p> <p>1.3 Application of Marginal Costing Technique:- Make or buy decision, Acceptance of export order & Limiting factors.</p> <p>1.4 Ethical and Non-Financial Considerations relevant to decision making.</p> <p>(simple Practical Problems based on concepts excluding decision making)</p>	<p>a. Understanding of important concepts in Marginal Costing.</p> <p>b. It will develop the ability of a the learner to make short-term decisions with the help of Marginal Costing.</p> <p>c. Develop the mindset of the student for making ethical decisions.</p>
2	Budgetary Control	<p>2.1 Definition and Meaning of Budget & Budgetary control</p> <p>2.2 Objectives, essentials, and procedure of Budgetary control</p> <p>2.3 Advantages and Limitations of Budgetary control</p> <p>2.4 Types of Budgets</p> <p>2.5 Zero Base Budgeting</p> <p>(Simple practical problems based on cash and flexible</p>	<p>a. It will help the learner to understand the basics of Budget and Budgetary Control</p> <p>b. The learner will get an idea of how to prepare different types of Budgets</p>

		budget only)	
3	Uniform costing and Inter-firm Comparison	<p>3.1 Meaning, objectives, advantages, and disadvantages of Uniform Costing.</p> <p>3.2 Uniform Cost Manual</p> <p>3.3 Meaning, pre-requisite, advantages, and disadvantages of Inter-firm comparison.</p> <p>(Theory Only)</p>	a.It will acquaint the learner to understand essential concepts of Uniform Costing and Inter-Firm Comparison.
4	MIS and Supply Chain Management	<p>4.1 Management Information System- Introduction, features, and procedure, preparation.</p> <p>4.2 Supply Chain Management(SCM)- Meaning, features, and Models of SCM.</p> <p>(Theory Only)</p>	<p>a.The student will familiar with MIS and SCM</p> <p>b. The student will understand the basic concept of SCM</p>

Teaching Methodology

Unit No.	Total Lectures	Innovative Methods to be used	Films Shows and AV Applications	Project	Expected Outcome

1	16	Discussion of related Case studies	Classroom discussion	Visit to small industries for understanding the decision making with the help of Marginal costing	Development of overall outlook of Marginal Costing.
2.	16	Expert Lecture	Observation of annual Budget of Public and Private Companies	Visit small industries to get an idea about functional budgets.	Develop the knowledge about preparation of various types Budgets
3	08	Group Discussion	ICAI cloud campus videos on Uniform costing and Interfirm Comparison	Group discussion about the application of Uniform costing and Interfirm Comparison in industry.	Understand the implementation of Interfirm comparison
4	08	Expert Lecture of Cost Accountant or Industrialist	YouTube clippings on case studies of modern costing environment .	Discussion of various case studies.	Understand the implementation of modern costing

					environment
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Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add-On Course
Unit I	Multiple Choice Questions, Written Test, Internal Examination & PPT based presentation, Orals, Assignments, Tutorials, etc.	SPPU	Visit industries and make a report on the visit.
Unit II			
Unit III			
Unit IV			

References

Sr. No	Title of the Book	Author	Publisher	Place
1	Theory and Techniques of Cost Accounting.	B.L. Lall and G.L. Sharma	Himalaya Publishing House	New Delhi.

2	Strategic Cost Management and Performance Evaluation	Board of Studies, ICAI	ICAI	New Delhi
3	Advanced Cost Accounting	Dr. D. M. Gujrathi	Idol Publication	Pune
4	Advanced Cost Accounting	Dr.Kishor. M. Jagtap	Tech-Max Publication	Pune
5	Cost Accounting-Principles &Practices	Dr.M.N. Arora	Vikas Publishing House ,	New Delhi
6	Advanced Cost Accounting	S. P. Jain and K. L. Narang	Kalyani Publication	New Delhi
7	Cost Accounting-Principles & Practices	JawaharLal&SeemaShrivastawa	Tata Mcgraw Hill	New Delhi
8	Advanced Cost Accounting	N.K. Prasad	Book Syndicate Pvt. Ltd.	Kolkata

9	Cost Accounting	P. V. Rathnam and P. Lalitha	Kitab Mahal	Delhi
10	Practice in Advanced costing and Management Accounting.	Prof. Subhash Jagtap	Nirali Prakashan	Pune
11	Practical Costing.	R.K. Motwani	Pointer Publisher	Jaipur
12	Cost Accounting.	R.S.N. Pillai and V. Bhagavati	Sultan Chand and Sons	New Delhi.
13	Advanced Cost Accounting and Cost Systems	Ravi Kishor	Taxman's Allied Service Pvt. Ltd.	New Delhi
14	Cost Accounting, Theory and Problems,	S.N. Maheshwari and S.N. Mittal	Mahavir book Depot	New Delhi
15	Cost Accounting Principles and Practice.	S.P. Iyengar	Sultan Chand & Sons Accounting, Taxman's	New Delhi

16	Cost Audit and Management Audit.	V.K. Saxena and Vashista	Sultan Chand and Sons	New Delhi
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Web References

Sr. No	Lectures	Films	PPTs	Articles	Others
For all the units.	Guest Lectures by Field Persons such as working executives from industries and of Practicing Cost and Management Accountants. the	YouTube films showing working of different industries.	Relevant Power Point Presentations are available on all these topics.	Articles from the Professional Journals such as The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial Analyst of India	https://icmai.in www.globalcma.i <u>n</u> eclm.unpune.ac.i <u>n</u>

Notes: The breakup of marks in the Examination will be as follows:

- 50 % of the marks for Theory & 50 % of the marks for Practical Problems
Areas of practical problems:

1. Marginal Costing

2. Cash and Flexible Budget

Revised syllabi (2019 Pattern) for three years B. Com. Degree course (CBCS)

Syllabus for B. Com. Semester: - V

Subject Name: - Business Statistics - III

Course code: - 356(F)

Credit 3

Preamble to the syllabus:

Tools and techniques learned in Statistics give a precise way of formulating and analyzing a problem and to make logical conclusions. Concepts and tools introduced in this course are useful to students for higher studies and career in any branch of Economics, Commerce and Management. Professionals working in these fields, wishing to upgrade their knowledge, will also benefit. The stress of the course will be on building the concepts and their applications.

In modern times, Statistics is viewed not as a mere device for collecting numerical data but as a means of developing some techniques for their handling and analysis and drawing valid inferences from them. Statistics provides tools for making decisions when conditions of uncertainty prevail. So it is very useful in various fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc.

Depth of the Course – Basic Knowledge of Operations Research and Decision Theory

Objective of the Course

1. To understand and Master the concepts of Game Theory.
2. To understand and Master the concepts of Statistical Decision Theory.
3. To understand and Master the concepts of Replacement and Sequencing Problems
4. To understand and Master the concepts of Statistical Quality Control.

Unit No.	Unit Title	Contents	Purpose/Skills to be developed
1	Game Theory	Meaning, two person zero-sum game, pure and mix strategies, Pay off tables, saddle points, Minimax and Maximin principles, Dominance principles, Algebraic Method to solve 2×2 Game, Graphical Method, Examples and problems.	<ol style="list-style-type: none">1. To understand the concepts of game theory2. To apply the concepts of game theory to real life business problems.

2	Statistical Decision Theory	Introduction, acts, states of nature, pay off, regret, Decision Making Under Risk, Expected Opportunity Loss (EOL) Criterion and Expected Monetary Value (EMV) Criterion, Decision Making Under Uncertainty, Maximin Criterion, Maximax, Minimax Regret Criterion, Laplace Criterion, Hurwitz Criterion, Examples and problems.	<ol style="list-style-type: none"> 1. To learn different statistical methods of decision making. 2. To apply the different statistical methods to real world decision making problems.
3	Replacement and Sequencing problem	Replacement Problem - Introduction, replacement of Item that deteriorates with time when value of money remains same during the period. Sequencing Problem - Assumptions in sequencing model, Basic terminology, n-jobs through two machine problems.	<ol style="list-style-type: none"> 1. To understand the concepts of replacement and sequencing problems. 2. To apply the concepts of replacement and sequencing to real world problems.
4	Statistical Quality Control	Introduction, Chance and assignable Causes of variation, Uses of SQC, Control limits, specification limits, Tolerance limits Process and product control, Control charts for mean, range, P-Chart, C-Chart, Process Capability study, Interpretation of capability index C_p and C_{pk}	<ol style="list-style-type: none"> 1. To understand the concept of statistical quality control. 2. To understand different SQC techniques. 3. To apply SQC techniques to real world problems.

List of Practicals

Sr. No.	Name of Experiment
1	Game Theory

2	Statistical Decision Theory
3	Statistical Quality Control

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	ICT	NA	NA	Students will be able to understand and apply concepts game theory to real world business problems.
2	14	ICT	NA	NA	Students will be able to understand and apply concepts of statistical decision theory to real world business problems.
3	10	ICT	NA	NA	Students will be able to understand and apply concepts of replacement and sequencing problems to real world business problems.
4	14	ICT	NA	NA	Students will be able to understand and apply the concept of statistical quality control to real world business problems.

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Unit wise distribution of Marks (Final Examination)	Suggested Add on Course
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Unit – I	30%	70%		
Unit – II	30%	70%		
Unit – III	30%	70%		
Unit – IV	30%	70%		
Total				

Notes: -

1. Internal evaluation is continuous assessment.
2. Internal evaluation shall have following components: -
 - a. At least one test of 20 marks involving objective questions of following type: - multiple choice, true or false, state definitions/concepts, one line answer etc.
 - b. At least one assignment of 05 marks.
 - c. If time and resources permit then there can be power point presentation of group or individual (this component is not compulsory)
 - d. Final score will be average score of all components.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Operations Research	Harmdy A. Taha	Pearson India Ltd.	New Delhi
2	Operations Research	Kanti Swaroop,P. K. Gupta and Man Mohan	Sultan Chand and Sons	New Delhi
3	Business Mathematics	J. K. Sharma	Vikas Publishing House	New Delhi
4	Statistical Quality Control	D.C. Montgomery	John Wiley and Sons	New York
5	Fundamentals of Mathematical Statistics	S. C. Gupta and V. K. Kapoor	Sultan Chand and Sons	New Delhi
6	Fundamentals of Statistics	S. C. Gupta	Himalaya Publishing House	New Delhi
7	Operations Research	D. S. Hira and P. K. Gupta	S. Chand and Sons	New Delhi

Revised syllabi (2019Pattern) for three years B. Com. Degree course (CBCS)

Semester : - V (T. Y. B. Com)

Course Code : 356 (g)

Subject : - Business Entrepreneurship (Special Paper-III)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

The purpose of this course is to impart professional knowledge on the theories, models and basic principles of organizational behaviour in the field of entrepreneurship, and teach students how to apply them to entrepreneurial activities. After completing the course, students should improve their decision-making skills. , Leadership and entrepreneurship skills make meaningful contributions to the interests of stakeholders. This course enables students to acquire in-depth entrepreneurial knowledge.

Objectives of the course:

- 1) To acquaint students with knowledge and skills required for organizing and carrying out entrepreneurial activities.
- 2) To develop the ability of analyzing and understanding business situations.
- 3) To study the interdependent, fast-changing and diverse world of entrepreneurship and innovation.
- 4) To familiarize students with various concepts and processes involved in entrepreneurship and business formation and development.
- 5) To provide students with the knowledge, skills and motivation to encourage entrepreneurial approach in a variety of settings.
- 6) To study the application of group dynamics to counseling, personal growth and other psychologically-oriented groups.

Unit No.	Unit Title	Contents	Skills to be developed
1	Organizational Behavior for Entrepreneurship	Organization: Meaning, Definition, Goals, Approaches. Organizational Behavior for Entrepreneurship: Meaning, Definitions, Need, Nature, Importance & Scope, Characteristics, Types, Objectives, Merits and Demerits of Organizational Behavior for Entrepreneurship, Organizational Behavior Models. Developing Entrepreneurial Behavior in the	1. To understand the concept Organization. Students should be able to know the organizational behavior required for entrepreneurship. 2. To study the organization and how to balance work and life. 3. To equip the students with various aspects of organizational behavior with organizational models and the culture developed in the organizational

		Organization: Opportunity Identification, Opportunity Facilitation, Organizational Competencies, And Individual Competencies.	entrepreneurship.
2	Individual Behavior and Personality for Entrepreneurship	<p>Individual Behavior for Entrepreneurship: Characteristics, Determinants of individual behavior, Requisites for Individual Behavior in Entrepreneurship.</p> <p>Personality for Entrepreneurship: Meaning, Definitions, Characteristics, Determinants of Personality for Entrepreneurship. Personality Traits, Personality Development, Emotional Intelligence for Entrepreneurship, Entrepreneurial Personality, Difference between Individual Behavior and Group Behavior in Entrepreneurship, Factors of Personality, Role of Personality, Theories of Personality</p>	<ol style="list-style-type: none"> 1. Students will be able to learn how to establish work culture and patterns in an office space or a similar environment. 2. To equip the students with techniques of emotional interaction at work place. 3. To enhance students personal development through soft or technical skills. 4. To develop their competency in a way of learning, by self-analysis on necessary areas for improvement and necessary skills to advance in career or industry. 5. To focus on transferable skills that make one a competitive candidate for any job.
3	The Study of Autobiographies of Entrepreneurs	<p>Autobiographies of Entrepreneurs:</p> <ol style="list-style-type: none"> 1) Mr. Anand Mahindra (Chairman, Manindra & Mahindra) 2) Mr. Baba Kalyani (MD, Bharat Forge) 3) Mr. Shiv Nadar (Indian Industrialist) 4) Mr. Laxmi Niwas Mittal (CEO, Arcelor Mittal) 5) Mr. Adar Poonawala (CEO, Serum Institute of India, India's Vaccine King) 6) Women Entrepreneurs: Falguni Nayar (The founder of Nykaa) 7) Kiran Mazumdar Shaw (Founder of Biocon Ltd) 	<ol style="list-style-type: none"> 1. Students will able to develop and adopt some new values, and learn from their hardships, they will also get answers for their dilemmas. 2. Students will be able understand the role of attitude in entrepreneurship. 3. Students will be made aware and learn how the student entrepreneurs in India build their own ventures. 4. Students will also have an idea how these entrepreneurs have lived out their dreams with incredibly big, risks, trials, and tribulations and gone on to become the top in their businesses.

4	Group and Group Dynamics for Entrepreneurship	<p>Group: Meaning, Definition, Classification, Group Task, Group Size, Group formation process, Group Structure.</p> <p>Group Dynamics for Entrepreneurship: Influence in Group, Types, Principles and Functions of Group Dynamics in Entrepreneurship, Group Cohesion- Helping Behavior, Co-Operation and Competition, Improved Work Group. Role of Entrepreneur.</p>	<p>1. To understand the concept of group and group dynamics for Entrepreneurship.</p> <p>2. Students will be able to equip the knowledge of Organizing and Planning skills, Decision making skills, Students will get hands on Problem solving skills, Communication skills, Persuasion and influencing skills, feedback skills, skills in chairing meeting, conflict resolution skills for Entrepreneurship.</p>
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Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Group discussion and case studies	Related Videos and PPTs	Personal or group project on new business creation.	Capacity to: I. Analyze Individual and group behavior, and understand the implications of organizational behavior on the process of management. ii .Demonstrate the applicability of the concept of organizational behavior to understand the Behavior of people in the organization. iii) Analyze the complexities associated with management of the group behavior in the Organization.
2	12	Completing research or conceptual papers on topics	Related Videos and PPTs	To prepare a detailed report on new age entrepreneurship.	Capacity to: I. Analyze the complexities associated with management of the group behavior in the organization.

		appropriate for the course. Participation in classroom discussion and group exercises.			Ii. Develop the necessary managerial and personal skills which are essential to the current business environment.
3	12	Interactive teaching-learning methods- Process-oriented learning - Learning from mistakes - Interviewing entrepreneurs - Bilateral learning - Group discussion - Networking – Discussion - Problem-oriented learning - Active learning	Biographical videos or CDs of entrepreneurs	Assign small business models, product or project(s) to students to understand them with the 360 degree of the business.	Iii Understanding the new age entrepreneur and will learn each. Understanding to interpret their own business plan.
4	12	Small students group formation	Related Videos, PPTs	Assign small projects in group.	Capacity to- I. Demonstrate understanding of principles of group dynamics, including group process components. Ii. Become more conscious of his/her personal growth through participation as a group member.

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add-on Course
Unit- I	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	Certificate Course on: Business Fundamentals - Entrepreneurship
Unit-II	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-III	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-IV	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	

References:

- 1) Barringer B.R. and Ireland R.D., 2006. Entrepreneurship: Successfully Launching New Ventures. Pearson: New Jersey.
- 2) Bartlett C.A. and Ghoshal S., 2002. Managing Across Borders: The Transnational Solution. Harvard Business School Press: Boston.
- 3) Failing to succeed: The story of India's first e-commerce company by K.Vaitheeswaran
- 4) Entrepreneurship simplified from idea to IPO by Ashok Soota and S. R .Gopalan
- 5) Cut the crap and jargon by Shradha Sharma and T N Hari
- 6) A thought to million dollars by Salma Moosa and Vivek Srinivasan.
- 7) The manual for Indian Startups by Vijay Kumar Ivaturi, Meena Ganesh, Alok Mittal, Sriram Subramanya & Prof Sadagopan.
- 8) Entrepreneurship Development, Khanna S.S, S. Chand, New Delhi.
- 9) Entrepreneurship Development, Gupta, Shrinivasan, S. Chand, New Delhi

Revised Syllabi (2019Pattern) for T.Y. B. Com. Degree course (CBCS)

Semester - V

SPECIAL ELECTIVE COURSE (Special Course Paper - III)

Marketing Management _Course Code: 356(H)

Objectives of the Course:

1. To introduce the concept of advertising and advertising media.
2. To provide the students the knowledge about appeals and approaches in advertisement.
3. To acquaint the students to the economic ,social and regulatory aspects of advertising.
4. To make the student understand the role of Brand Management in marketing.
5. To enable the students to apply this knowledge in precisely enhancing their skills in the field of advertising.

Unit No	Unit Title	Contents	Proposed Skills to be developed
1	Introduction to Advertising.	Fundamentals of Advertising: Definition of Advertising, Objectives of Advertising, Functions of Advertising, Types of Advertising, Benefits and Limitations of Advertising, Role of Advertising in Modern Business, Role of Advertising in Marketing Mix. Advertising Media: Definition, Classifications and Characteristics of Different Advertising Media, Factors affecting Selection of Advertising Media, Media Mix, E-Advertising.	<ul style="list-style-type: none">● Conceptual clarity of the meaning of advertising.● To impart the knowledge about Advertising Media.
2	Appeals and Approaches in	Appeals: Introduction of Different Appeals and their Significance, Advertising Message, Direct and Indirect Appeal,	<ul style="list-style-type: none">● To impart knowledge about the appeals and approaches in Advertisement.

	Advertisement	Relation between Advertising Appeal and Buying Motive, Approaches: Positive and Negative Emotional Approaches to Advertisement.	<ul style="list-style-type: none"> ● To acquaint the students to direct and indirect appeals.
3	Economic, Social and Regulatory Aspects of Advertising	Economic Aspects -Effects of Advertising on Production Cost, Effects of Advertising on Distribution Costs, Effects of Advertising on Consumer Prices, Advertising and Monopoly, Wastes in Advertising, Social Aspects - Ethics in Advertising, “Truth” in Advertising, Regulatory Aspects -Role of Advertising Standards Council of India (ASCI).	<ul style="list-style-type: none"> ● To make students understand the Effects of Advertising on Production Cost, Distribution Costs and Consumer Prices. ● To help the students to develop the knowledge of Economic and Social and Regulatory Aspects of Advertising.
4	Brands and Brand Management	Meaning & definitions of brand, Characteristics of brands, Types of brands, Advertising and Branding, Brand Extension, Brand identity, Identity Sources – symbols, logos, trademarks, Brand loyalty. Brand Management Process, Challenges in New Branding.	<ul style="list-style-type: none"> ● Conceptual clarity of meaning of brand. ● To impart knowledge about Brand identity, Brand Extension and Brand loyalty.

Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Expected Outcome
1	14	Power Point Presentation, Survey Analysis	Short Film, AV Application Use of You Tube	<ul style="list-style-type: none"> ● Student will understand the concept of advertising and advertising media ● To enable them to analyze and interpret
2	10	Power Point Presentation, Group Discussion, Survey	Short Film, AV Application Use of You Tube	<ul style="list-style-type: none"> ● To enable the students to study the Appeals and Approaches in Advertisement

Methods of

		Analysis		
3	12	Power Point Presentation, Group Discussion, Survey Analysis Feld visit	Short Film, AV Application Use of You Tube	<ul style="list-style-type: none"> ● It will help the students to apply the various Economic and social aspects of advertising.
4	12	Group Discussion, Quiz, Poster Making	Short Film, AV Application Use of You Tube	<ul style="list-style-type: none"> ● It will help them to implement this knowledge in practical situations by enhancing their skills in the field of Marketing

Evaluation:

Topic No	Internal Evaluation	External Evaluation	Suggested Add on Course
1	Quiz, Project, Group Discussion	Practical, Descriptive Questions, Quiz	Certificate Course in Role of Advertising in Modern Business
2	Practical, Presentation	Practical, Descriptive Questions, Quiz	Short Course Advertising Appeal and Buying Motive.
3	Quiz, Group Discussion	Practical, Descriptive Questions, Quiz	Certificate Course in career options in Advertising.
4	Presentation, Group Discussion, Practical	Practical, Descriptive Questions, Quiz	Short Course in Branding.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Marketing Management	Philip Kotler	Pearson Publication	New Delhi
2	Marketing Management	Rajan Saxena	McGraw Hill Education	New Delhi
3	Principles of Marketing	Philip Kotler	Pearson Publication	New Delhi
4	Advertising Management	Rajiv Batra	Pearson Publication	New Delhi
5	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication	Noida

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Semester - V

Subject: Agricultural and Industrial Economics III

Paper- III

Course Code: 356 (i)

Total Credits: 4

Objectives:

1. To understand the Features, Role and Recent Trends in Rural Economy.
2. To impart adequate knowledge about the role, types, and Problems of Agricultural Credit.
3. To understand the new Industrial Policy.
4. To acquaint the learner with various aspects of Liberalisation.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Content	Purpose Skills to be Developed
1	Rural Economy of India	1.1 Meaning and Features of Rural Economy 1.2 Recent Trends in Rural Economy 1.3 Interdependence of Agriculture and Industry 1.4 Need of Coordination in Agricultural Development and Industrial Development 1.5 Sustainable Agriculture- Concept, Needs, factors leading to Sustainable Agriculture	<ul style="list-style-type: none"> ▪ To understand the meaning and Features of Rural Economy ▪ To make the students know about Role of Agriculture in Rural Development ▪ To impart knowledge about Concept, and Need of Sustainable Agriculture
2	Agricultural Credit	2.1 Role and Importance of Agricultural Credit 2.2 Types and Sources of Agricultural Credit 2.3 Cooperative Credit Organisations and Agricultural Credit	<ul style="list-style-type: none"> ▪ To understand the Role and Importance of Agricultural Finance, Types and Sources of Rural Credit,

		2.4 Financial Sector Reforms and Rural Credit 2.4.1 Micro Finance in Rural Credit- Emergence, Role and Challenges 2.4.1 Financial Sector Reforms and Cooperative Credit 2.5 Challenges of Rural and Agricultural Credit in India	<ul style="list-style-type: none"> To make the students know about Financial sector reforms and Challenges of Agricultural Credit in India.
3	Industrial Policy	3.1 Importance of Industrial Policy in Industrial Development 3.2 New Industrial Policy 1991- Broad Features 3.3 Impact of New Industrial Policy 1991 on Indian Economy 3.4. Shortcomings of the New Industrial Policy 1991	<ul style="list-style-type: none"> To understand the Importance of Industrial Policy in Industrial Development To make the students know about the Industrial Policy 1991
4	Towards Liberalisation	4.1 Concept and Role of Multinational Corporations (MNCs) 4.2 Concept and Role Foreign Direct Investment (FDI) and Foreign Institutional Investment (FII). 4.3 Special Economic Zones (SEZ)- Concept, Features, Role, Growth and Problems	<ul style="list-style-type: none"> To make the students know about the Concept and Role of Multinational Corporations, Foreign Direct Investment and Foreign Institutional Investment and SEZ

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome After completing this topic, the student will be able to understand
1	10	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> Impact of Recent Trends on Agriculture Economy 	<ul style="list-style-type: none"> Features of Rural Economy Recent Trends in Agriculture Economy Agriculture and Industry- Interrelations Sustainable Agriculture- Concept, Need and factors leading to leading to Sustainable Agriculture.
2	14	Lecture, PPT/ Group Discussion, Library, Problem-	Relevant videos, Consortium for Educational	<ul style="list-style-type: none"> Visit to Any Agricultural Credit Society and Make a small project on Functioning 	<ul style="list-style-type: none"> Role and Importance of Agricultural Credit Types and Sources of Rural Credit

		solving based learning, Case study, Jigsaw reading, Practical based learning	Communication-SWF E-Content	of Credit Society	<ul style="list-style-type: none"> ▪ Financial Sector Reforms and Rural Credit ▪ Micro Finance in Rural Finance – Emergence, Role, and Challenges ▪ Challenges to Rural and Agricultural Credit in India
3	10	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E-Content	<ul style="list-style-type: none"> ▪ Write a note on Importance of Industrial Policy in Economic Development 	<ul style="list-style-type: none"> ▪ Importance of Industrial Policy in Economic Development ▪ Industrial Policy 1991, ▪ Impact of Industrial Policy 1991 on Indian Economy, Shortcomings of the New Industrial Policy,
4	14	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E-Content	<ul style="list-style-type: none"> ▪ Make a short Project on Identify the role of MNCs, FDI and SEZ in Economic Development of India 	<ul style="list-style-type: none"> ▪ Concept and Role of Multinational Corporations ▪ Concept and Role Foreign Direct Investment and Foreign Institutional Investment. ▪ Concept and Role, Growth and Problems of Special Economic Zone

Recommended Books:

1. Ramesh Chand, S. K. Srivastava and Jaspal Singh, (2017), Changing Structure of Rural Economy of India Implications for Employment and Growth, NITI Ayog Discussion Paper.
2. Dabesh Roy, Gopakumaran Nair, Gynendra Mani, (2018) Rural India Perspective 2017, Oxford University Press, India.
3. Devonath Narzary, Phanindra Goyari, (2011), Institutional Agriculture Credit in India, LAP Lambert Academic Publishing
4. J. Satyanarayana, (1996), The New Industrial Policy and Its Impact on India's Industrial Economy, Booklinks Corporation,
5. Puri V.K., Misra S.K., Indian Economy (2019), 37th Edition, Himalaya Publishing House.
6. Gardner, B.L. and G.C. Rausser (2001), Handbook of Agricultural Economics, Vol. I., Elsevier.

7. Kavimandan Vijay, (2009) KrushiArthshastra, Shri Mangesh Prakashan, Nagpur.
9. Kavimandan Vijay, KrushiArthshastra.
6. Ramesh Singh, Indian Economy, Tata Mc-Graw Hill, Publication
7. Annual Reports, Department of Agriculture, Govt. of Indi
8. Agricultural Statistics at a Glance 2019, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.

Web reference

- 1) https://niti.gov.in/writereaddata/files/document_publication/Rural_Economy_DP.pdf
 - 2) <https://maitri.mahaonline.gov.in/PDF/Maharashtra%20New%20Industrial%20Policy-2019.pdf>
 - 3) <https://eands.dacnet.nic.in/PDF/At%20a%20Glance%202019%20Eng.pdf>
 - 4) <https://www.youtube.com/user/cecedusat5>
- <https://www.swayamprabha.gov.in/>
- [http://14.139.13.96:8080/lectures.aspx?pno=Paper05\(O\)](http://14.139.13.96:8080/lectures.aspx?pno=Paper05(O)) -UGC CEC E Contain on Agricultural Economics
- [http://14.139.13.96:8080/lectures.aspx?pno=Paper06\(O\)](http://14.139.13.96:8080/lectures.aspx?pno=Paper06(O)) -UGC CEC E Contain on Industrial Economics

T Y B Com (Semester V)
(Choice Based Credit System)
Revised Syllabus (2019 Pattern)

SPECIAL ELECTIVE COURSE – I

Subject: Defence budgeting finance and Management special paper - III

Total credits:

Course Code: 356 (j)

Objectives:

1. To understand the impacts of war & how the economic structure affects
2. To know the elements of war ability
3. To understand the challenges in 21st century against Defence.
4. To Understand the system of financial management in Defence

Unit No.	Topic	No 'of lectures	Teaching Method	Proposed Skill to be Developed
1	War Impact	12	Lecture group Discussion library	Understanding the Impact of war on

	A) Economic Structure B) Impact on Industry C) Post war Problem		work assignment field visit	economy & the post war problem
2	Determinates of war Ability A) Economic Determinates B) Natural Resources and raw Material C) Man power & its utility D) Industrial Capacity E) Foreign Aides contributory Element	12	Lecture group Discussion library work assignment field visit	Understanding the elements of war economy, natural resources, manpower & Industrials capacity and contribution of foreign aid.
3	Military power in 21st century An Analysis A) Sources of military power B) Elements of military power C) Equation to Measure military power D) Nuclear Weapons	12	Lecture group Discussion library work assignment field visit	Understanding the sources of military power the elements of national power and the importance of nuclear weapons
4	Latest contest in Defence & financial management A) System of financial management in defence B) Linkages between planning & Budget C) Arm Impact vs. Indigenisation, pitfans fans & Impact on Defence Budget	12	Lecture group Discussion library work assignment field visit	Understanding the financial management System in defence and the linkages between pit fans & defence Budget.

References

1. Deger s. & Sen S. (1986), 'Military Expenditure in the Third World countries: The Economic effects', Rout let & Kegan Paul.
2. Agarwal Rajesh K. (1978), 'Defence Production and Development', Gulab Vazirani for Arnold Heinemann publishers.

3. Thomas Raju G. C. (1988) 'Indian security policy', Princeton, New Jersey, University press.
4. Robert Loony and David winter ford (1995), 'Economic Causes and consequences of Defence Expenditure in the Middle East and South Asia', University press.
5. Shrinivas V.N. (2008), 'Budgeting for Indian Defence: Issues of contemporary Relevance', KW Publishers Pvt. Ltd. New Delhi.
6. Annual Report, Ministry of Defence, Government of India.
7. Report of the Finance Commission, Government of India

T.Y. B.Com. (Semester -V) (2019 Pattern)

Special Paper-III, Course Code - 356 (K)

Insurance, Transport & Tourism-I

(Insurance)

Objectives:

- To know the insurance customer and their behaviors.
- To understand the principles of underwriting and its process.
- To study the insurance market and its regulators.
- To review the insurance business, challenges and its prospects.

Unit No	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1	The Insurance Customer Customers are Different- Different Mind sets, Their Satisfactions-Ethical Behaviours- Risk Management-Avoidance or Prevention-Reduction- Retention-	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Visit to	Understanding the insurance customer and their behaviours.

	Transfer- The techniques, Separation- Duplication, Diversification- Retention and The Individual.		institutions etc.	
2	Underwriting – Origin, Definition, Objectives & principles of underwriting, Underwriting process- source of information concerning life insurance risk, special underwriting practices in areas such as non-medical insurance, guaranteed issue insurance, reinstatement & policy changes and highly impaired risk.	12	Lecture, PPT, Group Discussion, Library Work, Assignments, etc.	Understanding the principles of underwriting and its process.
3	The Insurance Market: Life and Non-life Insurers- Reinsurers- Individual and Corporate Agents-Brokers- Surveyors- Medical Examiners- Third Party Administrators- Regulator IRDA- Insurance Councils- Ombudsmen- Educational Institutes- Councils- Tariff Advisory Committee.	12	Lecture, PPT, Group Discussion, Library Work, Assignments, tests, etc.	Understanding the insurance market and its regulators.
4	Insurance Business Current Scenario & Future : Privatization, Foreign Direct Investment in India, Status of Indian Insurance Industry in the context of International Insurance Market, Challenges & Future of Insurance Business in India, Insurance Regulatory Systems in UK and USA. Right to Information Act and Insurance Business	12	Lecture, PPT, Group Discussion, Library Work, Assignment, Visit to institutions, tests, etc.	Understanding insurance business, challenges and its prospects.
	Total	48		

References-

1. M. N. Mishra & S.B. Mishra (2016), 'Insurance Principles and Practices', S. Chand & Company, New Delhi.
2. M. Arif Khan (2016), 'Theory and Practice of Insurance', Educational Book House, Aligarh.
3. S. Balachandran, 'Life Insurance – Insurance Institute of India', Mumbai,

4. G. S. Panda (2011), 'Principles and Practices of Insurances, Kalyani Publishers, Ludhiana.
5. Kothari & Bahal (2019), 'Principles and Practices of Insurance', Sahitya Bhavan , Agra.
6. Dr. Inderjit Singh, Katyal, Sanjay Arora, 'Insurance Principles & Practices', Kalyani Publishers, Ludhiyana,
7. K. C. Mishra & C. S. Kumar (2009), 'Life Insurance Principle & Practice' Cengage Learning India Pvt. Ltd, Delhi.
8. Insurance Regulatory Development Act 1999
9. Life Insurance Corporation of India Act, 1956
10. Insurance Act- 1938

Savitribai Phule Pune University, Pune

(T.Y. B.Com. Sem V)

Computer Programming and Application Special Paper III

Course Code -: **356 (L)**

Subject Name -: **Software Engineering- (I).**

Objective: To understand the different system concepts used in Software Engineering.
To learn the different types applications of Software Engineering.
To know the facts about Software Development.

Term-I

Unit No.	Name of the Topic	Number of lectures	Reference Book
1	Introduction to System Concepts Definition Elements of System, Characteristics of System, Types of System, System Concepts	10	Book1
2	Requirement Analysis Definition of System Analysis , Requirement Anticipation, Knowledge and Qualities of System Analyst, Role of a System Analyst, Feasibility Study And It's Types, Fact Gathering Techniques, SRS(System Requirement Specification)	14	Book1
3	Introduction to Software Engineering Definition, Need for software Engineering, Software Characteristics, Software Qualities (McCall's Quality Factors	10	Book2
4	Software Development Methodologies SDLC (System Development Life Cycle), Waterfall Model, Spiral Model, Prototyping Model, RAD MODEL. V-Model, Incremental Model, RUP Model, Agile Model Methodology	14	Book2
Total Lectures -		48	

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
Unit – I	10	Use ICT or presentation on System Concepts	U-tube Tutorial on System Concepts	-	Familiar with System Concepts
Unit – II	14	Use ICT or presentation on Requirement Analysis	U-tube Tutorial Requirement Analysis	One case study on Requirement Analysis	Familiar with Requirement Analysis
Unit – III	10	Use ICT or presentation on Software Engineering	U-tube Tutorial Software Engineering	-	Familiar with Software Engineering
Unit – IV	14	Use ICT or presentation on Software Development Methodologies	U-tube Tutorial Software Development Methodologies	-	Familiar with Software Development Methodologies

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30	70
Unit – II	30	70
Unit – III	30	70
Unit – IV	30	70

Guidelines for Examination:

- [1]. Term End Exam (30 Marks):
- [2]. To be conducted by college as per rules provided by University of Pune. Semester Exam 70 Marks):
- [3]. To be conducted by University of Pune at the end of the academic year.
- [4]. Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Semester Examination).

Recommended Book

1. Software Engineering: A Practitioner's Approach By Roger S. Pressman and Bruce Maxim McGraw-Hill Higher International; ISBN-10: 1259872971; ISBN-13: 978- 1259872976, 9 th Edition
2. Software Engineering (10th Edition) by Ian Sommerville Pearson; ISBN-10: 0133943038; ISBN-13: 978-0133943030 (04/15)
3. System Analysis, Design and Introduction to Software Engineering (SADSE) - S. Partharthy, B.W. Khalkar
4. Analysis and Design of Information Systems(Second Edition) - James A. Senn, McGraw Hill
5. System Analysis and Design- Elias Awad, Galgotia Publication, Second Edition
6. Fundamentals of Software Engineering- Rajib Mall, PHI Publication, Fourth Edition

Savitribai Phule Pune University, Pune
Revised syllabi (2019 Pattern) for three years B. Com. Degree course
Credit Base Choice System (CBCS)

Syllabus for T.Y.B. Com.

Course code: - 361

Semester –VI

Credit - 3

Subject Name: Business Regulatory Framework

Depth of the program – Fundamental Knowledge

Preamble

This Course is designed to acquaint the commerce Students with the Legal frame work applicable to business enter prison in the Country. The understanding of legal system is a prerequisite for better decision making. The objective of this course is to acquaint the students with basics of intellectual property rights with special reference to Indian law and practice. The students will be able to understand the consumer Protection and Negotiable instruments and Arbitrates Law. This course focuses on orientation of students to legal studies from the point of view of basic concepts of business law and legal system in India. The course will be useful to the commerce students to understand and apply the business laws in commercial situations.

Objectives of the Program

1. To develop general awareness of Business Law among the students.
2. To understand the various statutes containing regulatory mechanism of business and its relevant provisions including different types of partnerships.
3. To have a understanding about the landmark cases/decisions having impact on business laws
4. To create awareness among the students about legal environment relating to the business activities and new ways dispute resolutions provided under Arbitration Act.
5. To acquaint the students on relevant developments in business laws to keep them updated.
6. To enhance capacity of learners to seek the career opportunity in corporate sector and as a business person.

Table of Contents

Unit No	Unit Title	Contents	Purpose Skills to be developed
1	Negotiable Instruments Act,1881 (14 Lectures)	Concept of Negotiable Instruments: Characteristics, Meaning Important relevant definitions under the Act <ul style="list-style-type: none"> • Definitions, Essentials of promissory note, bill of exchange and cheque. Distinction between these instruments. Crossing of cheques – It’s meaning and types. • Holder and holder in due course, Privileges of holder in due course. • Negotiation, endorsement, kinds of endorsement. • Liabilities of parties to negotiable instruments. • Dishonor of N. I., kinds, law relating to notice of dishonor. 	To Equip the students with procedure and practices about negotiable instruments and liabilities of parties in case of dishonor of negotiable instruments.
2	E-Contracts (E-Transactions/E-Commerce.): (06 Lectures)	<ul style="list-style-type: none"> • Significance of E-Transactions /E-Commerce. Nature, Formation, Legality. Recognition. (Chapter 4.Sec.11-13 of I T Act,2000 relating to attribution, acknowledgement, dispatch of E-Records) • Digital Signatures –Meaning & functions, Digital Signature, certificates [Sections 35-39] • Legal issues involved in E-Contracts and personal data protection (Sec.43 A) 	Comprehensive understanding about the E-Contracts, E-Commerce and their legal aspects

3	The Consumer Protection Act,2019 (14 Lectures)	<p>The Consumer Protection Act, 2019</p> <ul style="list-style-type: none"> • Salient features of the C.P. Act,2019 • Definitions-Consumer, Complainant, Services, Defect & Deficiency, Complainant, unfair trade practice, restrictive trade practice, unfair contract. • Consumer Protection Councils. • Procedure to file complaint & Procedure to deal with complaint in commissions & Reliefs available to consumer.(Sec.39) • Consumer Disputes Redressal Commissions. (Composition, Jurisdiction, Powers and Functions.) 	<p>To acquaint students about regulatory mechanism of Consumer Protection and Procedural aspect of Redressal of Consumers' grievances.</p>
4.	Intellectual Property Rights (14 Lectures)	<p>Intellectual Property Rights : (IPRs)</p> <ul style="list-style-type: none"> • Meaning & importance of IPRs, International efforts in protection of IPR: WIPO (Objectives & activities) & TRIPS Agreement: Objectives • Definition and conceptual understanding of following IPRs under the relevant Indian current statutes. • Patent: Definition & concept, Rights & obligation of Patentee, its term. • Copyright: Characteristics & subject matter of copyright, Author & his Rights, term. • Trademark: Characteristics, functions, illustrations, various marks, term, internet domain name- Rights of trademark holder. • Design: Importance, characteristics, Rights of design holder. 	<p>To be able to appreciate the emerging developments in the area of intellectual property Laws and their impact on the Indian businesses.</p>

		<ul style="list-style-type: none"> • Geographical Indications, Confidential Information & Trade Secrets, <p>Traditional knowledge—Meaning & scope of these IPRs.</p>	
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[Note: Recent amendments in the Acts and relevant Landmark cases decided by courts are expected to be studied]

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Documentary making on Consumer Protection Act , Case Study, Narration, , Survey Analysis Article review.	You Tube about cases on negotiable instruments Act.	Report Review	To Equip the students with procedure and practices about negotiable instruments and liabilities of parties in case of dishonor of negotiable instruments.

2	06	Project making, Street play, slogan , Quiz Competition,	Use of You tube, Review case study	New Emerging Issues in the E-Contracts, E-Commerce.	To have Comprehensive understanding about the E-Contracts, E-Commerce and their legal aspects.
3	14	Case study, Poster making, Interview with Consumer Protection Court Lawyer, jingles,	Case Analysis, Mute court ,	Recent Laws and silent feature of Consumer Protection Act	To acquaint students about regulatory mechanism of Consumer Protection and Procedural aspect of Redressal of Consumers' grievances.
4	14	Virtual Learning, Group Discussion,	Film on procedure of intellectual property Laws	Project on of intellectual property Laws	To be able to appreciate the emerging developments in the area of intellectual property Laws and their impact on the Indian businesses

Methods of Evaluations

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	Continuous Evaluation, Quiz, MCQ, Assignment ,Oral,	As per University	Seminar New Negotiable instruments Act
Unit – II	Continuous Evaluation, Quiz, MCQ, Assignment ,Oral	As per University	Awareness program E-Contracts, E-Commerce and their legal aspects
Unit – III	Continuous Evaluation, Quiz, MCQ, Assignment ,Oral	As per University	Workshop on Consumer Protection and Procedural aspect of Redressal of Consumers' grievances.
Unit – IV	Continuous Evaluation, Quiz, MCQ, Assignment ,Oral	As per University	Awareness program on intellectual property Laws.

References

1. Negotiable Instruments Act :-Khergamwala , Lexis Nexis,(2017)
2. Intellectual Property Law:-Narayan, Eastern Law House, (2020)
3. The Consumer Protection Act 2019 Bare Act With Amendments 2020 Edition, Government of India,(2020)
4. Law Relating To Electronic Contracts, R. K.Sing, Lexis Nexis (2019)
5. Business regulatory framework, Chaudhari, Bhawari,Zalte,Dagade, Prashant Publication (2021)
6. Law Relating to Intellectual Property Rights,V.K.Sing, Lexis Nexis,(2017)
7. Introduction To Intellectual Property Rights, H.S. Chawala, Oxford & IBH Publishing (2020).
8. <https://legislative.gov.in/sites/default/files/A1881-26.pdf>
9. <https://egazette.nic.in/WriteReadData/2019/210422.pdf>
10. <https://ipindia.gov.in/acts-patents.htm>
11. <https://www.indiacode.nic.in/handle/123456789/1999>

Revised Syllabus (2019 Pattern) for three years B. Com. Degree Course (CBCS)

T. Y. B. Com. (Semester- VI)

Paper: ADVANCED ACCOUNTING – II

Code: 362

No. of lectures: 48

Preamble

In today's modern age, the Corporate as well as Co-operative sectors are the major contributors towards development of rural economy. In the last decade, these sectors have seen the largest and fastest growing sectors. Due to this growth various new trends are arisen. In this growth, accounting plays an energetic role and to ensure safeguard of the interest of the stakeholders and the society. It is, therefore, important to educate the students of commerce in the accounting practices adopted by different organizations. It helps stakeholders make better business decisions and deal with problems by providing them with accurate financial information. By studying the learning path in accounting – advance concepts will gain a deeper understanding of the accounting process.

Objectives of the course

1. To acquaint the student with knowledge about the legal provisions regarding preparation and presentation of final accounts of Co-operative Societies.
2. To empower to students about the branch accounting in simple.
3. To make aware the students about the conceptual aspects of various recent trends in the field of accounting especially forensic accounting, accounting of CSR activities, accounting of derivative contracts and Artificial Intelligence in Accounting.
4. To understand the procedure and methods of analysis of financial statements.

Objectives of the Program

1. To instill the knowledge about accounting procedures, methods and techniques.
2. To impart students' knowledge of various Advanced Accounting Concepts.

Depth of the program – Fundamental Knowledge

CONTENTS

Unit No.	Unit Name	Contents	Purpose skills to be developed
1	Final Accounts of Co-operative Societies	<ul style="list-style-type: none"> - Meaning and Introduction, - Allocation of Profit as per Maharashtra State Co-operative Societies Act. - Preparation of Final Accounts of Credit Co-op. Societies & Consumer Co-op. Societies 	<ul style="list-style-type: none"> - To upgrade regarding legal provisions of co-operative accounting. - To develop the skill regarding preparation & presentation of final accounts of Credit Co-op. Societies & Consumer Co-op. Societies.
2	Branch Accounting	<ul style="list-style-type: none"> - Concept of Branches & their Classification from accounting point of view. - Accounting treatment of dependent branches & independent branches. - Methods of charging goods to branches. 	<ul style="list-style-type: none"> - To develop conceptual understanding about accounting for different branches. - To ascertain whether the branch should be expanded or closed, to ascertain the requirement of cash and stock for each branch. - To develop the skill & upgrade the knowledge regarding methods of charging goods to branches.
3	Recent Trends in Accounting	<ul style="list-style-type: none"> - Forensic Accounting - Accounting for Corporate Social Responsibility - Accounting for Derivative Contracts - Artificial Intelligence in Accounting 	<ul style="list-style-type: none"> - To develop conceptual understanding about forensic accounting, corporate social responsibility, derivative contracts and artificial intelligence in accounting.
4	Analysis of Financial Statements	<ul style="list-style-type: none"> - Ratio Analysis: Meaning - Objectives - Nature of Ratio analysis, Types of Ratios – Profitability, Liquidity, Leverage etc. - Simple Problems on following Ratios: - Gross Profit, - Net Profit, - Operating, - Stock Turnover, - Debtors Turnover, - Creditors Turnover, - Current Ratio, Liquid Ratio, - Debt-Equity Ratio, - Working Capital to Net worth, Assets Turnover Ratio. 	<ul style="list-style-type: none"> - To understand the conceptual knowledge, objectives, methods & tools of analysis of financial statements. - To develop the analytical skill and decision-making skill of the students. - To diagnose the information contained in financial statements so as to judge the profitability, liquidity & solvency position of business organizations.

Teaching Methodology

Unit No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	14	Use of e- contents, online lectures, MCQ based Quiz and Presentations	Study of the Final Accounts of Co-operative Societies from its Annual Report	Individual assignment of solving practical problems	Practical understanding of preparation of final accounts of Co-operative Societies.
2	10	Use of e- contents, online lectures and PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	Individual assignment of solving practical problems	Knowledge about of the Accounting for Branches
3	12	Use of e- contents, online lectures, and PowerPoint Presentations	Lectures of experts available on YouTube and other digital platforms	Individual assignment report	Conceptual Clarity about new trends like forensic accounting, accounting for CSR activities, derivative contracts and artificial intelligence
4	12	Use of e- contents, online lectures, MCQ based Quiz and PowerPoint Presentations	Study of the Financial Statement Analysis from different Annual Reports	Individual assignment of solving practical problems	Analytical skills enhancement and Decision making skills of students will developed.

Method of Evaluation

Unit	Internal Evaluation	External Evaluation	Suggested Add on Course
1	MCQ / Practical Problem	As per University norms	--
2	Practical Problem	As per University norms	--
3	MCQ / Assignments/ Presentation	As per University norms	--
4	MCQ / Small Practical Problems	As per University norms	Certificate Course on Financial Statement Analysis

References:

❖ List of Books Recommended:

1. Advanced Accounts: By M.C. Shukla & S.P. Grewal (S.Chand & Co. Ltd.)
2. Advanced Accountancy: By S. P. Jain & K.N. Narang (Kalyani Publishers)
3. Advanced Accountancy: By R. L. Gupta & M. Radhaswamy (Sultan Chand & Sons)
4. Advanced Accounts: By Paul Sr.
5. Notes Issued by ICAI
6. Management Accounting: By I. M. Pandey
7. Principles of Management Accounting: By I. M. Pandey

❖ List of Videos Recommended:

Unit	Topic Name	Links
1	Final Accounts of Co-operative Societies	- https://youtu.be/Bt0sv9IZwIs - https://youtu.be/CCgR_pJg49c
2	Branch Accounting	- https://youtu.be/QnrqPiAEzac - https://youtu.be/aia6lxASh24
3	Recent Trends in Accounting	- https://youtu.be/L_Q9rXAFZeg
4	Analysis of Financial Statements	- https://youtu.be/76gMXQBnbps - https://youtu.be/1iYK6s5_Db0

Savitribai Phule Pune University, Pune
Third Year, B.Com. (Core Course)
Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - VI

Subject: Indian & Global Economic Development

Course Code: 363

Total Credits: 3

Preamble:

An approach to Indian and Global Economic Development is to examine the Indian economic development policies in context with global economies. This paper aims to provide knowledge about economic development of India, economic development policies that are applied for development of economy in general and development of various sectors in particular. It also aims to develop ability of the students to analyze the development of Indian economy as compared to global economies through the comparison of different sectors like agriculture, Industry, service and availability of resources and its quality.

Scope of the Programme –

Knowledge related to development policies of Indian Economy as compared to World Economies.

Objectives:

1. To develop ability of students to analyze economic development process of India.
2. To acquaint the students with the knowledge of recent trends in Human Development Index.
3. To acquaint students with the emerging issues in policies of India's foreign trade.
4. To update the students about International institutions and organizations.

Course Outcomes:-

1. Students will be able to understand the concept of Human Resource Development.
2. Students will be able to understand the role of foreign capital in Economic Development.
3. Students will be able to critically evaluate the Indian Foreign Trade Policy.
4. Students will be able to analyze the role of International Financial Institutions.
5. Students will be able to evaluate the success of Regional Economic Cooperation's.

Unit No.	Topic	Purpose & Skills to be Developed
Unit 1	Human Resources and Economic Development	<p>Purpose: To make the students aware of concepts related to Human Development and HDI</p> <p>Skills: Analyze & think critically, develop writing skills.</p>
	1.1 Role of Human Resources in Economic Development	
	1.2 Human Development Index and India	
	1.3 Concepts of Different Indexes in Quality of Life and Status of India	
	1.3.1 Gender Development Index	
	1.3.2 Gender Inequality Index	
Unit 2	Foreign Capital and Economic Development	<p>Purpose: To give the knowledge to students about Foreign Capital and issues related to Foreign capital in India.</p> <p>Skills: Analyze & think critically, develop writing skills.</p>
	2.1 Role of Foreign Capital in Economic Development	
	2.2 Types of Foreign Capital	
	2.3 Foreign Investment in India Since 2001	
	2.4 Limitations of Foreign Capital	
Unit 3	India's Foreign Trade and Balance of Payment	<p>Purpose: To make aware to students about the situation of Foreign Trade and Balance of Payments.</p> <p>Skills: Analyze & think critically, develop writing skills.</p>
	3.1 Role of Foreign Trade in Indian Economic Development	
	3.2 India's Foreign Trade Since 2001	
	3.3 India's Recent Foreign Trade Policy (EXIM Policy)	
	3.4 Meaning and Components of Balance of Payment	
	3.5 India's Balance of Payment Since 2001	
	3.6 Causes of Unfavorable Balance of Payment	
	3.7 Convertibility of Indian Rupee – Current and Capital Account	

Unit 4	International Financial Institutions & Regional Economic Cooperation	<p>Purpose: To give the knowledge to students about International Financial Institutions and Regional Economic Cooperation</p> <p>Skills: Analyze & think critically, develop writing skills.</p>
	4.1 International Bank for Reconstruction and Development (World Bank) - Objectives and Functions	
	4.2 International Monetary Fund (IMF) - Organization and Functions	
	4.3 World Trade Organization (WTO) - Introduction and Functions	
	4.4 South Asian Association for Regional Co-operation (SAARC) – Introduction and Functions	
	4.5 BRICS: Introduction and Functions	

Teaching methodology:

Unit No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	<ul style="list-style-type: none"> • Open Book discussion • Casestudies • Problem solvingbased learning 	<ul style="list-style-type: none"> • You tube lectures • Films 	<ul style="list-style-type: none"> • Implication of HDI • Policies of Indian Government for improving Human Quality 	<ul style="list-style-type: none"> • Students will understand concepts of Development • Will be able to critically evaluate status of India as compared to world
2	10	<ul style="list-style-type: none"> • Digital lectures • Project based learning 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Role of Foreign Capital in Developing Countries • Concepts of Foreign Capital 	<ul style="list-style-type: none"> • Will understand the concepts of Foreign Capital

3	14	<ul style="list-style-type: none"> • Pair learning • Group discussion 	<ul style="list-style-type: none"> • Films • You tube lectures • PPTs made by Teachers 	<ul style="list-style-type: none"> • Role of Foreign Trade in Development of Developing Countries • Trends of Trade in developed and developing countries • Concepts of Balance of Trade and Balance of Payments 	<ul style="list-style-type: none"> • Will understand the concepts of Balance of Trade and Balance of Payment • Will be able to make comparison of Indian trade with other countries
4	14	<ul style="list-style-type: none"> • Group discussion • Teacher driven power point presentation 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Role of International Financial Institutions In Development of Developing Countries • Importance of Economic Cooperation in Development 	<ul style="list-style-type: none"> • Will understand the importance of International Financial Institutions. • Will be able the Organization and Functions of International Cooperation Organizations

Recommended Books:

1. Misra S.K. and Puri V.K. Indian Economy, Himalaya Publishing House, Delhi.
2. Black and Sundaram, International Business Environment, Prentice Hall India.
3. TayebmonisH., The Global Business Environment, Sage Publication, New Delhi.
4. Charles Hill, International Business, Competing in the Global Market place, Arunkumar Jain, Tata McGraw Hill.
5. Jhingan M.L., International Economics, Vrinda Publications, Delhi.
6. RuddarDatta and K.P.M. Sundaram, Indian Economy, S. Chand and Co., New Delhi.
7. Agarwal A.N., Indian Economy, Problems of Development and Planning, New Age International Publishers.
8. Bhole, L.M., impacts of Monetary Policy, Himalaya Publishing House, New Delhi.
9. JaywantR.Bhadane, (2018) Foreign Policy of NarendraModi, International Publi.
10. Brics development bank launched, first president to be from India, Times of India July 16,2014
11. Ministry of Finance, Government of India (Oxford Press), Economic Survey 2020.
12. Arun Kumar, International Business- competing in the Global Marketplace- Charles Hill.
13. UNDP, Human Development Report.
14. World Bank, World Development Report
15. Magazines / Journals Reports,
16. Web sites:
 - [www.,mospi.gov.in/national-sample-survey-office-nssso](http://www.mospi.gov.in/national-sample-survey-office-nssso)- (Ministry of Statistics and Programme Implementation, GoI)

- <https://www.yourarticlelibrary.com/economics/foreign-capital-in-india-need-and-forms-of-foreign-capital/23565>
- <https://www.iedunote.com/foreign-trade>
- <https://www.vedantu.com/commerce/liberalisation>
- <https://ncert.nic.in/textbook/pdf/keec103.pdf>
- <http://hdr.undp.org/en/content/latest-human-development-index-ranking>
- <https://communitymedicine4all.com/2019/12/24/human-poverty-index-hpi-and-multidimensional-poverty-index-mpi/>
- <https://resourcewatch.org/data/explore/Gender-Development-Index>
- [https://en.wikipedia.org/wiki/Brexit#:~:text=Brexit%20\(%2F%CB%88br%C9%9B,\(00%3A00%20CET\).](https://en.wikipedia.org/wiki/Brexit#:~:text=Brexit%20(%2F%CB%88br%C9%9B,(00%3A00%20CET).)
- <https://www.sebi.gov.in>
- <https://www.rbi.org.in> – (Reserve Bank of India)

OR

Savitribai Phule Pune University, Pune
Third Year, B.Com. (Core Course)
Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - VI

Subject: International Economics II

Course Code: 363

Total Credits: 3

Preamble: International Economics is subject that is relevant in the current context. This provides an understanding of balance of payments, foreign exchange market and International factors mobility. The subject discusses Balance of Payments, Foreign Exchange, Currency Management as well as International capital flows. The subject discusses Free Trade, Barriers to Trade, Trade Agreements and Trade Organizations. Various issues are discussed and analyzed arising out of international trade and finance.

Objectives:

1. To acquaint the students with the concept of balance of payments, foreign exchange and international factors' mobility.
2. To help the students evaluate the working and functions of international organizations and institutions.
3. To develop a foundation in the subject that will help the students in their future academic and professional ventures.

Course outcomes:

1. Students will be able to comprehend the basic concepts of balance of payment and foreign exchange.
2. Students will be able to evaluate the working and functions of international organizations and institutions.
3. Students will be able to apply the knowledge while preparing for the competitive examinations and other future prospects.

Unit No.	Topic	Purpose & Skills to be Developed
1	Balance of Payment	<p>Purpose: To make the students aware of concepts balance of payments</p> <p>Skills: Analyze & think critically, developing writing skills.</p>
	1.1 Concept of Balance of Trade and Balance of Payments	
	1.2 Balance of Payment on Current Account and Capital Account	
	1.3 Causes of Disequilibrium in Balance of Payment	
	1.4 Measures to Correct Disequilibrium in Balance of Payment	
	1.5 Convertibility of Rupee on Current and Capital Account	
2	Foreign Exchange	<p>Purpose: To understand the concepts of foreign exchange market, foreign exchange rate, euro market etc.</p> <p>Skills: Analyze & think critically, developing writing skills.</p>
	2.1 Foreign Exchange Market <ul style="list-style-type: none"> 2.1.1 Meaning 2.1.2 Functions 2.1.3 Structure 2.1.4 Euro Dollar Market 	
	2.2. Foreign Exchange Rate	
	2.2.1 Meaning of Foreign Exchange Rate	
	2.2.2 Fixed and Flexible Exchange Rate- Merits and Demerits	
	2.2.3 Determination of Foreign Exchange Rate: Purchasing	

	Power Parity Theory	
3	International Factor Mobility	<p>Purpose: To understand the concept of international factor mobility and its effects on economy</p> <p>Skills: Analyze & think critically, developing writing skills.</p>
	3.1 Labor Migration- Meaning, Causes and Effects	
	3.2 Brain Drain- Concept, Causes and Effects	
	3.3 Types of Foreign Capital	
	3.3.1 Foreign Direct Investment	
	3.3.2 Foreign Institutional Investments	
3.4 Problems of Foreign Capital		
3.5 Role of Multinational Corporations (MNC's)		
4	International Economic Institutions and Regional Cooperation	<p>Purpose: To make the students aware about different organizations working for international finance and trade development</p> <p>Skills: Analyze & think critically, developing writing skills.</p>
	4.1 World Trade Organization (WTO): Objectives and Functions	
	4.2 International Monetary Fund (IMF): Organization and Functions	
	4.3 World Bank: Objectives and Functions	
	4.4 South Asian Association for Regional Cooperation (SAARC): Objectives and Functions	
	4.5 BRICS- Introduction and Functions	

Teaching Methodology:

Unit No.	No. of Lectures	Innovative methods to be used	Film Shows and AV Applications	Project	Expected Outcome
1	12	<ul style="list-style-type: none"> • Open book discussion • Digital lectures • Reading • Projects 	You tube lectures on balance of payments, Teacher oriented PPTs	<ul style="list-style-type: none"> • Difference in Balance of Trade and Balance of Payments • Comparison between current Account and Capital Account 	<ul style="list-style-type: none"> • Students will understand basic concepts of Balance of Trade and Balance of Payments • Account Will be able to analyze and current Account and Capital Account
2	12	<ul style="list-style-type: none"> • Group discussion • Case studies • Problem solving based learning 	You tube lectures, Lectures on SWAYAM Portal	<ul style="list-style-type: none"> • Role of foreign exchange market in the economy. • Methods of foreign exchange determination 	<ul style="list-style-type: none"> • Will know Meaning of Foreign exchange market • Will know the methods of foreign exchange determination

3	12	<ul style="list-style-type: none"> • Pair learning • Group discussion • Open book discussion 	<ul style="list-style-type: none"> • Teacher oriented PPTs. • You tube lectures 	<ul style="list-style-type: none"> • Problems of Foreign Capital • Role of Multinational Corporations (MNC's) 	<ul style="list-style-type: none"> • Will understand the concept of international factors mobility • Will understand Causes and Effects of Labor migration and Brain Drain • Able to interpret Role of Multinational Corporations (MNC's)
4	12	<ul style="list-style-type: none"> • Group discussion • Teacher driven power point presentation • You tube videos and presentations 	<ul style="list-style-type: none"> • You tube lectures • Online PPTs 	<ul style="list-style-type: none"> • Role and Functions of WTO • Comparison World Bank and IMF • Study of the regional coopertions 	<ul style="list-style-type: none"> • Will understand role of international institutions in development of economies • Will know the effect of regional cooperation on trade and development

Recommended Books:

1. Dr.D.M.Mithani – International Economics (Himalaya Publishing house ltd)
2. Bo Sodersten, Geoffirey Reed, International Economics (3rd Edition) Publisher Red Globe Press
3. Kenan, P.B. (1994), The International Economy, Cambridge University Press, London.
4. Kindlberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
5. Krugman, P.R. and M. Obstgeld (1994), International Economics: Theory and Policy, Glenview, Foresman.
6. Salvatore, D.L. (1997), International Economics, Prentice-Hall, Upper Saddle River, N.J.
7. Sodersten, Bo (1991), International Economics, Macmillan Press Ltd., London.
8. International Economics , M.L. Jhingan
9. Z.M.Jhingan : International Economics (Vrinda Publication)
10. Robert Feenstra, Alan M Taylor, International Trade (5th Edition) Publisher Worth
11. Dr.Mrs.NirmalBhalerao&S.S.M.Desai – International Economics (Himalaya Publishing house ltd)
12. DeminicSalvatove – International Economics

13. Francis Cherunilam – International Economics, McGraw Hill publications
14. Francis Cherulliom - International Economics (Prentice hall)
15. Panchmukhi, V.R. (1978), Trade Policies of India: A Quantitative Analysis, Concept Publishing Company, New Delhi.
16. Patel, S.J. (1995), Indian Economy towards the 21st Century, University Press Ltd., India.
17. L.M.Bhole – Financial Institutions Markets (Tata McGraw Hill)
18. H.R.Macharaju – International Financial Markets and India (Wheeler Publication)
19. <https://www.economicdiscussion.net/international-economics/international-economics-its-concept-parts/4205>
20. <https://www.emerald.com/insight/content/doi/10.1108/00251749710160214/full/html>
21. https://www.economicsonline.co.uk/Global_economics/Terms_of_trade.html
22. https://en.wikipedia.org/wiki/Main_Page
23. <https://openknowledge.worldbank.org/handle/10986/2140>
24. <https://infobrics.org/>
25. <https://economictimes.indiatimes.com/definition/Brexit>
26. https://europa.eu/european-union/index_en

Savitribai Phule Pune University
Faculty of Commerce & Management
 T Y B Com (Semester VI)
 (Choice Based Credit System)
Revised Syllabus (2021-22)

CORE COURSE – I

Subject: Auditing & Taxation - II

Course Code: 364

Total Credits: 04 (Theory 03 + Practical 01=04)

1. To understand the basic concepts of Income Tax Act, 1961 and create awareness of direct taxation among the students.
2. To understand the income tax rules and regulations and its provisions.
3. To have a comprehensive knowledge of calculation various types of income.
4. To know the recent changes made by the finance bill (Act) every year and its impact on taxation of person.
5. To acquaint the students on Income tax department portal (ITD), e-filing and e-services mechanism relating to Assessee.

Unit No	Unit Title	Contents	Skills to be developed
1.	Income Tax Act-1961- Important Definitions and Concepts.	<p>Introduction- Features of Income Tax, Scope of Income Tax Act, and Importance of Income Tax payment for development of country.</p> <p>Definitions-Income, Person, Assessee, Deemed Assessee, Assessment year, Pervious year, Agricultural Income, Exempted Income, Gross Total Income (GTI) , Total Taxable Income (TTI), Residential Status of an Assessee, PAN, TAN</p> <p>Concept of Capital receipts, revenue receipts and capital expenditure, revenue expenditure.</p>	<p>Understanding the concept of Income and tax on Income.</p> <p>Acquaint the students of income tax provision and tax payable for the development of the country</p>
2.	Sources and Computation of	<p>1. Income from Salary – Meaning of salary, Salient features of salary Allowances and tax Liability-</p>	<p>Know the procedure of computation of income under</p>

	Taxable Income under the various Heads of Income	<p>Perquisites and their Valuation, Treatment of provident fund, Deductions from salary. (Theory and Problems)</p> <p>2. Income from House Property -Basis of Chargeability, Types of property, Annual Value Self occupied and let out property, Deductions allowed (Theory and Problems)</p> <p>3. Income from Profits and Gains of Business and Professions –Definition of Business , profession, vocation, speculative business, Methods of accounting, Deductions expressly allowed and disallowed (Theory And Problems)</p> <p>4. Income from Capital Gains – Meaning, Chargeability-definitions- Capital assets, transfer, cost of acquisition, Cost of Improvement, Short term and long term capital assets and Capital gains, cost inflation Index, Deductions allowed. (Theory only)</p> <p>5. Income from other sources- Chargeability Method of accounting, deductions, Amounts not deductible. (Theory And Problems)</p>	different heads of income and tax payable on the income.
3.	Computation of Total Taxable Income (TTI)and tax liability	Gross total Income -Deductions u/s-80C, 80CCC to 80 U – Total Taxable Income, Income Tax calculation of Individual - (Rates applicable for respective Assessment year), Education cess and higher education cess, surcharge, etc.(calculation of tax payable as per old regime and new regime)	Understanding the calculation of total income and tax payable by individual person.
4.	E-Filing and E-provisions	Due dates of filing return, E-filing of income tax return and forms used, advance tax , TDS (Tax deducted at source),Assessment, AIR (Annual information return), SFT (Specified financial transactions).	Know the e-filing due dates, recent changes in income tax provisions.

(Note- Recent amendments made by finance bill every previous year and changes made before six months of examination will also be applicable.)

Teaching Methodology:

Unit No	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Applications	Projects / Practical's	Expected Outcome
1	08	The Income Tax Act, 1961 Documents, PPT, Article review, research paper	You Tube clips about The Income Tax Act, 1961	Report Review	Acquaint with knowledge and maturity to understand The Income Tax Act, 1961.
2	24	Use of e- contents, online lectures and quiz, PowerPoint Presentations, Article review, research paper	Lectures of experts available on YouTube and other digital platforms.	Individual assignment of solving practical problems, report review	Conceptual Clarity and Practical understanding of sources of income
3	08	Use of e- contents, online lectures and quiz, PowerPoint Presentations, Article review, research paper	Lectures of experts available on YouTube and other digital platforms.	Individual assignment of solving practical problems, report review	To understand the calculation of total income and tax payable for individual assessee
4	08	Use of e- contents, online lectures and quiz, PowerPoint Presentations, Article review, research paper, online income tax website view	Lectures of experts available on YouTube and other digital platforms.web site review	Individual assignment of solving practical problems, report review	Understanding latest amendment of the act and impact on the person

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ / Written test	As per University norms	--
Unit – II	Practical Problems/ MCQ / Written test	As per University norms	--
Unit – III	Practical Problems/ written Test / MCQ	As per University norms	--
Unit – IV	Written Test / MCQ	As per University norms	E-filing of Income Tax Return of Individual

List of Practical's

S.N.	Title of the practical	Objective of the Practical	Outcomes	Methodology
1	The basic concepts of Income Tax Act,1961	To make the students understand the basic concepts, definitions and terms related to direct taxation.	Students will be able to identify the technical terms related to income tax	Report based on various reference books
2	Income from salary	Understanding the provisions of salary income and its taxability	Application of correct provision of salary and determination of tax liability and its impact on his annual income	Report based on visit to Individual assessee and collection of documents

3	Income from house property	Understanding the provisions of House property income and its taxability	Students should be able to compute income from House property	Report based on Guest lecture /seminar/ workshop organized by the college
4	Income from Business or profession	To make students understand the procedure of computation of income from business or profession	Students should be able to compute income from Business or profession	Report based on visit to a Businessman or professionals and documents collected
5	Computation of total income	To make the students determine the net total taxable income of an assessee after reducing the deductions from the gross total income earned from all or either of the five heads of income and also to compute tax based on slab rates.	Students will be able to compute the net total income and the total tax liability of an individual assessee considering the income from all heads of income and the deduction under Chap VI- A of the Income tax Act, 1961.	Practical example in Guest Lecture /seminar / workshop and report based on this .

Guidelines for completion of Practical's:

- 1) For each semester minimum three practical's should be completed.
- 2) Two Practical are compulsory from the given list.
- 3) Teachers are allowed to choose one practical according to the situation in their local area.

Reference books:

Sr. No	Title of Book	Author/s	Publication	Place
1	Indian Income Tax	Dr.Vinod Singhanian	Taxmann Publication . www. Taxmann.com	New Delhi
2	Income Tax	Dr. Girish Ahuja and Dr. Ravi Gupta	Wolters kluwer	New Delhi
3	Income Tax Act	Shri.R.N.Lakhotia	Vision books	New Delhi
4	Indian Income Tax Act	Dr. H.C. Melhrotra , Dr. S.P Goyal	Sahitya Bhavan publication	Agra
5	Income Tax	T.N. Manoharn and G R. Hari	Snow white	New Delhi
6	Student guide to Income Tax	Dr.Vinod Singhanian	Taxmann Publication www. Taxmann.com	New Delhi

Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - VI (T.Y.B.Com)

Subject Code :- PR- 365 (a)

Subject : - Business Administration – II (Marketing)

Preamble

Business Administration describes a set of activities necessary to maintain the level of operations within business organizations and is a key element associated with a high level of productivity and efficiency. Business administration is a field of study that focuses on the planning, analyzing, management, and organizing of various business activities and financial needs of an organization . the knowledge of which opens the path to a high possibility of advancing to management or leadership positions in reputed organisation and contributing to the growth of the organisation, industry and the Nation at large.

Marketing is one of the most essential factors/areas to achieve the business objectives and also provides a wide range of career opportunities to the aspiring students. Marketing Knowledge prepares students for more than just a career in business. Marketing is a thorough exploration of customer perceptions, buyer personas, messaging, communication, data, and much more. Marketing Knowledge, equips students to act as well-rounded, critical thinkers. Not only do marketers present impeccable skills in data interpretation, but they also offer the higher-level thinking that turns analytics into strategy. Foundational knowledge in Marketing makes savvier professionals — no matter what the industry.

Objectives of the course

1. To acquaint the student with knowledge about Marketing, Marketing Concepts identification on various types of markets.
2. To develop understanding among the students on the various elements of Marketing Mix and Market Segmentation

3. To update the students with knowledge on varied dimensions of Product Management , Branding and Pricing Management
4. To update the students with the knowledge on various aspects of Promotion and Distribution and to update them on the recent trends in the field of Marketing.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Skills to be developed
1	Introduction to Marketing	1.1 Marketing – Introduction, Meaning , Scope , Objectives , Features, Functions and Importance 1.2 Types of Markets – Regulated Market , Organised Market & Unorganised Market ,Virtual/ Internet Market, Industrial Market , Consumer Market, Financial Market , Auction Market and Black Market 1.3 Difference between Selling & Marketing 1.4 Evolution of Marketing Concepts – Exchange Concept, Production Concept , Product Concept, Selling Concept Marketing Concept, Societal Concept, Relationship Marketing Concept, Holistic Concept and Pace Concept	Conceptual Understanding Critical thinking skills Accessing and analyzing information skills Imaginative thinking

2	Marketing Mix & Market Segmentation	<p>1.1 Marketing Mix – Meaning , Features , 7 P’s of Marketing (Product , Price , Place, People, Promotion , Processes and Physical Evidence) , Environmental Factors affecting Marketing Mix – Consumers, Competitors , Trade Factors, Political & Legal , Economic , Social , Technological , Global.</p> <p>1.2 Market Segmentation – Meaning , Advantages and Limitations , Essentials of Effective Market Segmentation, Methods /Basis of Market Segmentation : Geographic, Demographic , Sociographic, Psychographic and Behavioural. , Steps in Market Segmentation</p> <p>1.3 Mass Marketing, Multi Segment Marketing and Niche Marketing – Meaning, Advantages and Limitations</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Accessing and analyzing information</p> <p>Imaginative thinking</p>
3	Product Management, Pricing Management,	<p>1.1 Product Levels – Core Product, Basic Product, Expected, Augmented Product and Potential Product</p> <p>1.2 Product Life Cycle</p> <p>1.3 Branding - Meaning , Types of Brands, Brand Equity & Brand Loyalty and Brand Extension – Meaning Advantages and Limitations</p> <p>1.4 Pricing – Meaning, Objectives</p> <p>1.5 Factors affecting Pricing – Internal Factors – Cost, Objectives of Firm, Product, Image of Firm, Product Life Cycle Product Line and Credit Policy External Factors – Competition, Demand, Consumers, Channel intermediaries, Economic Conditions,</p>	<p>Conceptual Understanding</p> <p>Analytical Skills</p> <p>Technical skills</p> <p>Critical thinking</p>

		<p>Government Control.</p> <p>1.6 Pricing Methods – Cost Plus Pricing, Mark up Pricing, Brake Even Pricing, Target Return Pricing , Marginal Cost Pricing , Early Cash Recovery Pricing , Perceived Value Pricing , Going Rate Pricing , Sealed Bid Pricing , Differentiated Pricing , 2 Part Pricing and Demand Backward Pricing</p>	
4	Promotion and Distribution and Recent Trends in Marketing	<p>1.1 Promotion Mix – Meaning , Objectives , Elements of Promotion Mix – Advertising , Publicity , Sales Promotion, Personal Selling , Public Relations, Packaging , Direct Marketing , Trade Fairs and Exhibitions</p> <p>1.2 Advertising – Meaning, Importance , Scope , Advantages of Advertising</p> <p>1.3 Types of Advertising Media – Radio , News Paper , Print Media , Social Media Advertising , Online Advertising</p> <p>1.4 Difference between Advertising , Publicity and Sales Promotion</p> <p>1.5 Recent Trends in Marketing - Visualization , Voice Search ,Live Video and Video marketing, Integrated Online-Offline Customer Experience , The Internet of Everything ,Content marketing ,Search Engine Optimization /Semantic keyword research , Browser push notifications ,Social Media Marketing ,Virtual / Internet Marketing , Green Marketing , Social Marketing</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Accessing and analyzing information</p> <p>Imaginative thinking</p> <p>Awareness on the latest in the trends</p>

Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	PPT , Visit to various types of Markets , Role Play, Demonstrations	Online Videos of various types of markets in India and at Global Levels	Individual assignment report on comparative analysis of types of Markets	Developing understanding about Marketing , Learning the difference between Marketing and Selling. Understanding the various markets in operation
2	12	PPT , Lectures by Marketing Managers/Executives , Case Study of various Products and services	Online Videos	Interview with Marketing Managers and various business owners from different segments of the Market	Conceptual Clarity and Practical understanding
3	18	PPT, Videos of Various Products and its life cycle , Demonstration	Videos of various Multi Product Line Manufacturers	Creation of Short Video of Innovative Product Development, Pricing , Market Launch Strategy	Conceptual Clarity and Practical understanding Creative and Imaginative Skills Innovation
4	08	PPT , Lectures by Experts from the field of Media and Advertising Agencies	Analysis of Advertisements on various Media	Group Activity – Creation of Videos , Charts , Posters , Message for advertisement and promotion of Products on various types of Media	Analytical skills Decision making skills Creative and Imaginative Skills Innovation

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ, Field Visit Report	As per University norms	
Unit – II	MCQ, Assignments, PPT	As per University norms	Certificate course in Soft Skills
Unit – III	MCQ, Interview Report with Manufacturers/distributors / Retailers etc. , Assignments , Case Study	As per University norms	Certificate Course in Photoshop, Corel Draw
Unit – IV	MCQ , Charts/Posters/Video , Market Survey , Case Study	As per University norms	Certificate courses Digital Marketing, Retail Marketing

References:

List of Books Recommended: -

- Basics of Marketing- Cannon
- Marketing Management, Philips, Kotler
- Marketing – Gandhi 9
- Principles of Marketing – Sherlekar S.A.
- International Marketing- P. Saravanavel (Himalaya Publishing House)
- Modern Marketing Management- R.S. Davar
- Epic Content Marketing by Joe Pullizzi
- Social Media ROI by Olivier Blanchard
- The Anatomy of Buzz by Emanuel Rosen
- Selling the invisible by Harry Beckwith
- Permission Marketing by Seth Godin

- Principles of Marketing , Philip Kotler, Gary Armstrong
- Marketing Management , Philip Kotler, Kevin Lane Keller, Mairead Brady, Malcolm Goodman, Torben Hansen
- Ultimate Guide to Google AdWords: How to Access 100 Million People in 10 Minutes by Perry Marshall and Bryan Todd
- The New Rules Of Marketing And PR: How to Use Social Media, Online Video, Mobile Applications, Blogs, News Releases, and Viral Marketing to Reach Buyers Directly by David Meerman Scott
- Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity by Avinash Kaushik

Revised syllabi (2019 Pattern) for T.Y.B. Com Degree course (CBCS)
Semester – VI
SPECIAL ELECTIVE COURSE (Special Course – II)
Banking & Finance-Special Paper II) Semester-VI(
) Financial Markets and Institutions in India – II Course code :365-B
Total Credits :04 (Theory 03 +Practical 01=04)

Objectives :

- 1 .To familiarize students about various basic concepts of stock market.
- 2 .To analyse the types and process of stock trading.
- 3 .To enable the students to understand the functions and working of Non -Banking Financial Institutions in India .
- 4 .To enable the students to acquire sound knowledge of Regulatory Bodies in India.

Unit No.	Topic	Number of Lectures	Teaching Method	Proposed skills to be developed
01	Basic Concepts of Stock Market: 1 Primary & Secondary Market . Merchant Banking, IPO,FPO 2 .Selective Stock Exchanges .Concept of Stock market 2.1 BSE - Bombay Stock Exchange 2.2 NSE- National Stock Exchange 2.3 Broker &Sub.broker, Demat Account, broker account, IPO Price band, Stock Listing, IPO Stock allotment 2.5 Small Cap, Mid Cap & Large Cap Companies 2.6 .Selective Market Index. Sensex, Nifty, Bank Nifty, Nifty future & Option 2.7 Bear & Bull Market	10	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the basic concept of stock market.

02	Stock Trading: 2.1. Cash Market, Future &Option Market 2.2 Types of Stock Trading A. Day Trading)Intra.day Trading (B. Delivery Trading C. Future & Option Trading 2.3 Types of Orders A. Buy B. Sell C. Stop loss . 2.4 Premium amount, Lot size 2.5. Lower & Upper Circuit. 2.6 Trade Settlement, Stock Oxen 2.7 Carrier opportunities in Stock Market	14	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the basic concept and types of stock trading.
03	Non-Banking Financial Institutions (NBFIs): 3.1 Meaning and definitions Of NBFIs 3.2 Distinction between Bank and NBFIs 3.3 Functions and workings of. i) Lease Financing ii) Mutual Fund iii) Housing Finance Companies iv) Life Insurance Company)LIC (v) General Insurance Company) GIC(3.4 carrier opportunities in Insurance Sector	12	Lecture, PPT, Group Discussion, Library Work Book Assignment, Use of internet	Understanding the functions and working of Non -Banking Financial Institutions in India .
04	Regulatory Bodies 4.1 SEBI -Security Exchange Board of India 4.2 IRDA -Insurance Regulatory & Development Authority.	12	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the role of SEBI in financial Market and Understanding the role of IRDA in Insurance Sector
Total		48		

References:

- 1 . Financial Institution and Market: L .M .Bhole
- 2 . Prasanna Chandra, “Investment analysis & Portfolio Management”, New-Delhi, The McGraw Hill Company Ltd.
3. V. K. Bhalla, “Portfolio Analysis & Management”, New-Delhi, Sultanchand & Sons Publication.
4. Panithavathy Pandian, “Securities Analysis and Portfolio Management”, New-Delhi, Vikash Publishing House Pvt. Ltd.
5. M. Ranganathan & R. Madhumahi, “Investment Analysis and Portfolio Management”. Pearson Education [India]
- 6 .Indian Financial System: Dr .M .Y .Khan
- 7 .Investment and Securities Markets in India: V .A .Avadhani
- 8 .Economic Reforms and Capital Markets in India: Anand Mittal
9. Financial Market and Institutions in India: Dr .Sunil Shete, Success Publication.

SYLLABUS FOR T.Y.B.COM UNDER CBCS PATTERN 2019
SEMESTER-VI
PAPER- II
SUBJECT NAME: - BUSINESS LAWS AND PRACTICE PAPER II (BLP-II)
COURSE CODE – 365 (c)

Objectives of the course:

To develop an understanding of the significant compliances under various Laws.

To gain the ability of students to address a basic business legal application-oriented issues.

Depth of the program:

Basic to application based

Objectives of the Subject:

- To impart the students with the fundamental understanding of rules & regulations under various business laws.
- To study & acquaint students an application & overview based knowledge of Laws.
- To make the students aware about legal Business Environment of India.

Unit . No.	Unit Title	Contents	Purpose skills to be developments
1	Historical Development of Company Law in India :	1.1 Historical Overview, Development of various concepts and trends in company law, Social responsibilities of companies, Development of	Understanding the historical development of Company law.

		company law administration. 1.2 Need based (Major) amendments from inception to till the date.	
2	Prevention of Oppression and Mismanagement.	2.1 Meaning of oppression, who can apply to court, Rule of Majority, protection of minority interest, remedies and rights of minority shareholders, 2.2 Prevention of oppression and mismanagement, powers of the court	It will help the students to gain insights of prevention of oppression & mismanagement.
3	Inspection, Investigations, Compromise and Arrangement:	3.1 Inspection and investigation suo-moto - Investigation by Government. 3.2 Rights and duties of Inspector - Report by an Inspector. 4.1 Schemes for Compromise and Arrangement - Persons entitled to apply for sanction of court. 4.2 Powers of court - Conditions for sanction of compromise - Effect of sanction	To create awareness among the students about Inspection and Investigations. To study & understand the Compromise and Arrangement in detail.
4	Rules of Corporate Governance :	5.1 Meaning & Concept of corporate Governance, History of Corporate Governance – Cadbury Committee Report 5.2 Principles of Morality and business ethics –Code of conduct for professionals.	Understand the rules of Corporate Governance in detail.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	<ul style="list-style-type: none"> ➤ Internet Sources. 	<ul style="list-style-type: none"> ➤ You tube videos on Historical Development of Company Law in India ➤ E-Content provided by UGC/University/MOOC /You tube etc. to be studied. 	Project report should be prepared on Historical Development of Company Law in India	Understanding the Historical Development of Company Law in India
2	12	<ul style="list-style-type: none"> ➤ Group Discussion. ➤ Internet Sources. 	<ul style="list-style-type: none"> ➤ E-Content on Prevention of Oppression and Mismanagement provided by UGC/University/MOOC etc. to be studied & analyzed. 	Project report can be prepared on overview of Prevention of Oppression and Mismanagement.	Understanding in detail Prevention of Oppression and Mismanagement.
3	12	<ul style="list-style-type: none"> ➤ Internet Sources. ➤ Presentation can be taken. 	<ul style="list-style-type: none"> ➤ E-Content on Inspection and investigation provided by UGC/University/MOOC/ You Tube etc. to be Watched & analyzed. 	Project report can be prepared on Inspection, Investigations, Compromise and Arrangement	Understanding the Inspection, Investigations, Compromise and Arrangement

4	12	<ul style="list-style-type: none"> ➤ Internet Sources. ➤ Presentation can be taken. 	E-Content on Corporate Governance provided by UGC/University/MOOC/YouTube etc. to be Studied & analyzed.	Project report can be prepared on benefits of Corporate Governance.	Understanding the Corporate Governance in detail.
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References

Sr. No.	Title of the Book	Author/s	Publication
1	Company Law	Dr. Avtar Singh	Eastern Book Co. (EBC)
2	Lexis Nexis's Guide to the Companies Act	RAMAIYA	Generic book
3	Taxmann's Companies Act with Rules	Taxmann	Taxmann
4	The Companies Act 2013 Bare Act	Government of India	Educreation Publishing
5	Adjudication of Companies Act matters under NCLT	Rajender Kumar	Urmila Publication House
6	Taxmann's Company Law Ready Reckoner	Taxmann	Taxmann

Practical for Semester – VI

Topic	Mode of Practical
Historical Overview, Development of various concepts and trends in company law	Library Assignment
Prevention of Oppression and Mismanagement	Applications with library & Online sources.
Inspection, Investigations, Compromise and Arrangement:	Library Assignment.
Corporate Governance	Review of Research Papers/Articles, News Paper Articles etc.

References

Sr. No.	Title of the Book	Author/s	Publication
1	Company Law	Dr. Avtar Singh	Eastern Book Co. (EBC)
2	Lexis Nexis's Guide to the Companies Act	RAMAIYA	Generic book
3	Taxmann's Companies Act with Rules	Taxmann	Taxmann
4	The Companies Act 2013 Bare Act	Government of India	Educreation Publishing
5	Adjudication of Companies Act matters under NCLT	Rajender Kumar	Urmila Publication House
6	Taxmann's Company Law Ready Reckoner	Taxmann	Taxmann

Revised Syllabi (2019 Pattern) for Three years B.Com Degree Course (CBCS)

Semester -VI Subject: --: Co-operation & Rural Development (Special Paper-II) Course Code- 365 (d)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Cooperative learning requires students to engage in group activities that increase learning and adds other important dimensions. The positive outcomes include academic gains, improved race relations and increased personal and social development. The purpose of this course is to impart knowledge of concept of cooperative agricultural marketing and its relative dimensions. This course enables students to acquire in-depth knowledge of agricultural cooperative marketing.

Objectives of the Course:

- 1) To create awareness among students about co-operative marketing
- 2) To develop the capability of students for knowing different types Marketing.
- 3) To create awareness about the role of National Agricultural Co-operative Marketing Federation (NAFED)

Unit No.	Unit Title	Contents	Skills to be developed
1.	Marketing Strategy for Co-operatives	1.1 Meaning and definition of marketing Strategy 1.2 Importance of marketing strategy in co-operatives 1.3 Factors influencing marketing strategy of co-operatives 1.4 Marketing strategy followed by co-operatives 1.5 Agricultural Cooperative Processing. 1.6 Co-operative produces Marketing. 1.7 Co-operative Service Marketing. 1.8 Strategy for Exporting Agricultural Produce.	Understanding about co-operative marketing strategies

2.	National Agricultural Co-operative Marketing Federation of India Ltd. (NAFED)	2.1 Objectives 2.2 Organizational Set-up 2.3 Functions 2.4 Performance and evaluation of NAFED. 2.5 Problems and challenges for NAFED	Understanding about function, objectives and organizational set-up of NAFED
3.	Agricultural Produce Market Committee	3.1 Organizational Set-up 3.2 Functions 3.3 Importance & scope 3.4 Progress, Problems and challenges	Awareness about agricultural marketing committee.
4.	The Agricultural Produce Marketing (Development & Regulation) Act, 2003 (Model Act)	4.5 Objectives 4.6 Basic features. 4.7 Main provisions 4.8 Impact on Agricultural Marketing	Understanding about Agri. Produce Marketing Act, 2003.

Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources	Relevant You Tub Videos, Relevant slide show, online Video, Short Film Show	Individual assignment report	Understanding of basic knowledge of Marketing strategies for co-operatives
2	12	Pre reading, Class discussion, internet resources, Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion, Library /Home Assignment ,Internal Assignment, case study	Relevant You Tub Videos , Short Film Show, A.V Application	Visit to Office of NAFED Presentations	Understanding the importance and Essentials NAFED

3	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources ,students Seminar/Workshop ,case study	Relevant You Tub Videos. PPT, AV Application, online video	Visit to Agricultural produce marketing committee office. Report writing	To acquire the fundamental knowledge Agricultural produce marketing committee
4	12	Guest Lectures of eminent Personalities , Group Discussion, Library visit ,Home Assignment, case study	Online Videos, Relevant slide show, Short Film Show	Guest Lecture	To understand elements of agricultural produce marketing Act..

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add-on Course
Unit- I	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	Certificate Course on Agricultural Cooperative Marketing
Unit-II	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-III	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-IV	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	

References:

Sr. No	Title of Book	Author/s	Publication	Place
1	New Dimensions of Co-operative management	G.S.Kamat	Himalaya Publication House,	Mumbai
2	Co-operative Management principals and techniques	Dr.Nakkiran S.A.-	Himalaya Publication House,	Mumbai
3	Co-operative Management and Administration	Goel B.B	Deep and Deep Publication	New Delhi.
4	Co-operation and Rural Development	Principal Dr.Nitin Ghorpade	Success	Pune
5	Human Resource Management Practices in Co-operative sector	Principal Dr.Shaikh Aftab Anwar	Idea Publication	New Delhi
6	Theory & Practice of Co-operation,	Dr. Dhiraj Zalte &Others –	Prashant Publication	Jalgaon
7	C.A State and C-operative Movement			
8	https://www.bhagirathgram.org/			
9	Journal of Commerce and Management Thought(JCMT)			

SPPU, Pune
Revised Syllabi (2019pattern) for three years B.Com. **T.Y. B.Com.**

Degree Course CBCS

Semester VI

Subject Name -: Cost and Works Accounting. Special Paper II

Course Code -: 365 – E

Subject Title -: Methods of Costing

Objectives:

1. To provide knowledge about the various methods of costing.
2. To understand the applications of different methods of costing in manufacturing and service industries.
3. To enable students to prepare cost statements under different types of manufacturing industries and Service Industries
4. To build the applicability of cost accounting standards in the method of costing.

Unit No.	Unit Title	Contents	Skills to be developed
1	Methods of Costing	1.1. Introduction to Methods of Costing. 1.2 Job Costing Meaning, Features, Advantages and Limitations (Simple problems Only) 1.3 Introduction of Batch costing- (theory Only)	a. Lerner will understand the various methods of costing b. Develop the ability to prepare a job cost sheet

2	Contract Costing	<p>2.1 Meaning and Features of Contract Costing</p> <p>2.2 Work-Certified and Uncertified, Escalation clause, Retention Money, Cost Plus contract, work-in-progress</p> <p>2.3 Profit on incomplete contract</p>	<p>a.It will help the learner to understand the concept of contract costing</p> <p>b. learners will understand the process of calculation of profit on incomplete contracts</p>
3	Process Costing	<p>3.1 Meaning and features of process costing</p> <p>3.2 Preparation of process accounts including normal and abnormal loss/gain</p> <p>3.3 Joint Products and By Products [Theory and Simple problems]</p> <p>3.4 Cost Accounting Standard 19: Joint Cost</p>	<p>a. Students will get an idea of how to prepare process accounts.</p> <p>b. Understand the basic concept of CAS 19: Joint cost</p>
4	Service Costing	<p>4.1 Meaning, Features and Applications of service costing</p> <p>4.2 Cost Unit-Simple and Composite</p> <p>4.3 Cost Sheet for Transportation Service</p> <p>4.4 Cost Statement for Hospital and Hotel Organization</p> <p>4.5 Cost Accounting Standard 13: Cost of service cost center</p>	<p>a. The student will be enabled to understand the concept of service costing</p> <p>b. Learners will be able to prepare a cost sheet for transportation services, hospital and hotel organisation.</p> <p>c. Understand the basic concept of CAS13:service cost center</p>

Teaching Methodology

Unit No.	Total Lectures	Innovative Methods to be used	Films Shows and AV Applications	Practical	Expected Outcome
1	10	Powerpoint Presentations,	Relevant Youtube Links	Group Discussion	Understand the basic methods of costing.
2.	14	Quiz		PPT	Develop the ability to calculate the profit of an incomplete contract.
3	12	Group Discussion		Study of process costing by visiting various process industries	The student will be able to prepare Process Account
4	12	Invite the tour operators, accountants of hotels & hospitals to provide practical exposure for ascertaining the cost thereof.		Visit transportation, hospital & hotel undertakings to find out the methodology applied in cost ascertainment.	Development of knowledge about cost sheets in service Industries.

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add-On Course
Unit I	Multiple Choice Questions, Written Test, Internal Examination, Powerpoint Presentations, Orals, Assignments, Tutorials etc.	SPPU	Two industrial visits and subsequent reports on the visits.
Unit II			
Unit III			
Unit IV			

References

Sr. No	Title of the Book	Author	Publisher	Place
01	Practice in Advanced costing and Management Accounting.	Prof. Subhash Jagtap	Nirali Prakashan	Pune
02	Advanced Cost Accounting and Cost Systems	Ravi Kishor	Taxman's Allied Service Pvt. Ltd.	New Delhi
03	Cost Accounting Principles and Practice.	S.P. Iyengar	Sultan Chand & Sons Accounting, Taxman's	New Delhi
04	Students Guide to Cost	Ravi Kishor	Taxman's, New Delhi.	New Delhi

	Accounting			
05.	Cost Accounting Principles and Practice	M.N. Arora	Vikas Publishing House Pvt. Ltd.	New Delhi.
06	Cost Accounting, Theory and Problems,	S.N. Maheshwari and S.N. Mittal	Mahavir book Depot	New Delhi
07	Theory and Techniques of Cost Accounting.	B.L. Lall and G.L. Sharma	Himalaya Publishing House	New Delhi.
08	Cost Accounting – Textbook.	V.K. Saxena and Vashista	Sultan Chand and Sons	New Delhi.
09	Cost Audit and Management Audit.	V.K. Saxena and Vashista	Sultan Chand and Sons	New Delhi
10	Cost Accounting Principles and Practice.	Jain and Narang	Kalyani Publishers	Kolkata
11	Principles and Practice of Cost Accounting	N.K. Prasad	Book Syndicate Pvt. Ltd.	Kolkata
12	Advanced Cost Accounting	N.K. Prasad	Book Syndicate Pvt. Ltd.	Kolkata

	Syndicate Pvt Ltd., Calcutta.			
13	Practical Costing.	R.K. Motwani	Pointer Publisher	Jaipur
14	Cost Accounting.	R.S.N. Pillai and V. Bhagavati	Sultan Chand and Sons	New Delhi.
15	Advanced Cost Accounting	Dr. D. M. Gujarathi	Idol Publication	Pune

Web References

Sr. No	Lectures	Films	PPTs	Articles	Others
For all the units.	Guest Lectures by Field Personnel such as working executives from industries and of practising Cost and Management Accountants.	YouTube films showing the working of different industries.	Relevant PowerPoint presentations are available on all these topics.	Articles from professional Journals such as The Management Accountant, The Chartered Accountant, The Chartered Secretary, The Institute of Chartered Financial Analyst of India	https://icmai.in www.globalcma.in eclm.unpune.ac.in

Notes: The breakup of marks in the Examination will be as follows:

- 50 % of the marks for Theory & 50 % of the marks for Practical Problems (Simple Problem Only)

Areas of practical problems

- ▶ Job Costing - Preparation of job cost sheet
- ▶ Contract Costing - Preparation of Contract Account & Contractee Account [without B/s] Simple Problem without an Escalation clause
- ▶ Process Costing Simple Problems on Process Costing, Joint Products and By Products [Where there is no work in process].
- ▶ Service Costing - Cost Sheet for Transportation, Hotel and Hospital Service.

Syllabus for **B. Com. Semester: - VI**
 Subject Name: - **Business Statistics II**
 Course code: - **365(F)**
 Credit 3

Preamble to the syllabus:

Tools and techniques learned in Statistics give a precise way of formulating and analyzing a problem and to make logical conclusions. Concepts and tools introduced in this course are useful to students for higher studies and career in any branch of Economics, Commerce and Management. Professionals working in these fields, wishing to upgrade their knowledge, will also benefit. The stress of the course will be on building the concepts and their applications.

In modern times, Statistics is viewed not as a mere device for collecting numerical data but as a means of developing some techniques for their handling and analysis and drawing valid inferences from them. Statistics provides tools for making decisions when conditions of uncertainty prevail. So it is very useful in various fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc.

Depth of the Course – Basic Knowledge of Elementary Statistics

Objective of the Course

1. To understand and Master the concepts, techniques & applications of Sampling Methods.
2. To understand and Master the concepts, techniques & applications of Hypothesis Testing.

Unit No.	Unit Title	Contents	Purpose/Skills to be developed
1	Sampling Methods	Meaning of census and sampling. Advantages of sampling over census; Methods of Sampling: - Simple random sampling with replacement (SRSWR), Simple random sampling without replacement (SRSWOR), Stratified sampling, Systematic sampling; Meanings of the terms: - Estimator and estimate, Statistic, Sampling distribution of statistic, Standard error of statistic; Examples and problems - Numerical problems to estimate population mean, population total, standard error of unbiased estimator of population mean in case of SRSWR and SRSWOR, Numerical problems to estimate population mean and population total in case of stratified sampling.	<ol style="list-style-type: none"> 1. To understand the concept sampling. 2. To understand different methods of sampling. 3. To apply sampling methods to real life business problems.

2	Normal Distribution	Probability density function of - Normal distribution with mean μ and variance σ^2 , Standard normal variate (SNV); Properties of normal distribution (without proof); Additive property of two independent normal variates (without proof); Problems to evaluate probabilities and to find mean and variance.	<ol style="list-style-type: none"> 1. To understand the concept of normal distribution and its relevance. 2. To understand the relation of normal distribution with other standard distributions.
3	Large and Small Sample Tests	<p>Large Sample Tests Concept of hypothesis, statistical hypothesis, null hypothesis, alternative hypothesis, critical region, two types of errors, level of significance, P-Value; Large sample test for testing $H_0 : \mu = \mu_0$ v/s $H_1 : \mu \neq \mu_0$ (μ : Mean) $H_0 : \mu_1 = \mu_2$ v/s $H_1 : \mu_1 \neq \mu_2$ $H_0 : P = P_0$ v/s $H_1 : P \neq P_0$ $H_0 : P_1 = P_2$ v/s $H_1 : P_1 \neq P_2$ Examples and problems related to business</p> <p>Small sample tests χ^2 test of goodness of fit for proportions. χ^2 test of independence of two attributes - 2×2 contingency table, $m \times n$ contingency table t-test for $H_0 : \mu = \mu_0$ v/s $H_1 : \mu \neq \mu_0$ t-test for $H_0 : \mu_1 = \mu_2$ v/s $H_1 : \mu_1 \neq \mu_2$ Paired t test $H_0 : \mu_d = 0$ v/s $H_1 : \mu_d \neq 0$ t-test for $H_0 : \rho = 0$ v/s $H_1 : \rho \neq 0$ (Test of significance of correlation coefficient.) F-test for $H_0 : \sigma_1^2 = \sigma_2^2$ v/s $H_1 : \sigma_1^2 \neq \sigma_2^2$ Examples and problems related to business</p>	<ol style="list-style-type: none"> 1. To understand the concept large sample tests for hypothesis testing. 2. To understand the concept of small sample tests for hypothesis testing. 3. To apply the concepts of large sample tests and small sample test to real world business problems.
4	Analysis of variance	Meaning; One way classification; Two way classification; Basic hypothesis and preparation of ANOVA table and F test for the hypothesis; Examples and problems related to business.	<ol style="list-style-type: none"> 1. To understand the concept of ANOVA 2. To apply the concept of ANOVA to real world business problems.

List of practical's

Sr. No	Name of the experiment
1.	Sampling methods
2.	Applications of normal distribution
3.	Project/Case study based on testing of hypothesis

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	ICT	NA	NA	Students will be able to apply the concept sampling and different sampling methods to real world business problems.
2	10	ICT	NA	NA	Students will be able to apply the concept of normal distribution to solve real world business problems.
3	18	ICT	NA	Yes	Students will be able to apply the concept large sample tests and small sample tests for hypothesis testing. Students will be able to apply the concepts of large sample tests and small sample test to real world business problems.
4	08	ICT	NA	NA	Students will be able to apply the concept of ANOVA to real world business problems.

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Unit wise distribution of Marks (Final Examination)	Suggested Add on Course
Unit – I	30%	70%		
Unit – II	30%	70%		
Unit – III	30%	70%		
Unit – IV	30%	70%		
Total				

Notes: -

1. Internal evaluation is continuous assessment.
2. Internal evaluation shall have following components: -
 - a. At least one test of 20 marks involving objective questions of following type: - multiple choice, true or false, state definitions/concepts, one line answer etc.
 - b. At least one assignment of 05 marks.
 - c. If time and resources permit then there can be power point presentation of group or individual (this component is not compulsory).
 - d. Final score will be average score of all components.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Business Mathematics and Statistics	N.G. Das & Dr. J.K. Das	McFraw Hill	New Delhi
2	Fundamentals of Business Mathematics	M. K. Bhowal	Asian Books Pvt. Ltd	New Delhi

3	Mathematics for Economics and Finance: Methods and Modeling	Martin Anthony and Norman Biggs	Cambridge University Press	Cambridge
4	Statistical Methods	Gupta S. P.	Sultan Chand and Sons	New Delhi
5	Applied Statistics	Mukhopadhyaya Parimal	New Central Book Agency Pvt. Ltd.	Calcutta.
6	Fundamentals of Statistics	Goon A. M., Gupta, M. K. and Dasgupta, B.	World Press	Calcutta.
7	Fundamentals of Applied Statistics	Gupta S. C. and Kapoor V. K.	Sultan Chand and Sons	New Delhi
8	Statistics for Business and Financial Economics	Cheng-Few Lee, John C. Lee and Alice C. Lee	Springer	New York
9	Fundamentals of Statistics	S. C. Gupta	Himalaya Publishing House	New Delhi
10	Statistics for Business and Economics	J. S. Chandan	Vikas Publishing House	New Delhi
11	Business Statistics	S. P. Gupta and M. P. Gupta	Sultan Chand and Sons	New Delhi
12	Quantitative Techniques	N. D. Vohra	McGraw Hill Education	New Delhi
13	Business Statistics	S. C. Gupta and Indra Gupta	Himalaya publishing House	New Delhi
14	Complete Business Statistics	Amir Aczel, J. Sounderpandian, and P. Saravanan	McGraw Hill Education	New Delhi
15	Fundamentals of Statistics	D. N. Elhance	Kitab Mahal	New Delhi

Revised Syllabi (2019 Pattern) for Three years B.Com Degree Course (CBCS)

Semester VI (T.Y.B.Com)

Subject code -: 365 (g)

Subject -: Business Entrepreneurship (Special Paper II)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Entrepreneurs create jobs, increase innovation, raise competition and are responsive to changing economic opportunities and trends. Youth entrepreneurship is also attractive to policy makers because of the high rates of latent entrepreneurship amongst young people. Entrepreneurship education aids students from all socioeconomic backgrounds to think outside the box and nurture unconventional talents and skills. It creates opportunities, ensures social justice, instills confidence and stimulates the economy. Entrepreneurship is the capacity to not only start companies, but also to think creatively and ambitiously. Hence it is very important to be included in curriculum.

Objectives:

- 1) To Develop understanding of MSME and its formation
- 2) To Develop Knowledge and understanding in creating and managing new venture.
- 3) To Equip students with necessary tools and techniques to set up their own business venture
- 4) To help students to bring out their own business plan.
- 5) To make students aware about business crises and sickness.

Depth of Programme: - Basic knowledge of Business Entrepreneurship

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	BUSINESS PLAN (BP) IMPLEMENTATION	Meaning - importance - preparation of Business Plan, Financial aspects, Marketing aspects, Human Resource aspects, Technical aspects, Social aspects of Business Plan. Common pitfalls to be avoided in preparation of a Business Plan., Steps in Business Plan, Implementation, Objectives, Ideas, Guidelines in Business Plan	<ol style="list-style-type: none"> 1) To understand the concept, Importance and various aspects of Business Plan 2) To study the steps, Ideas, Guidelines in implementation of Business Plan
2	MSME MANAGEMENT :	<p>(As Distinct from corporate sector management)</p> <p>Functional v/s Integrated Approach</p> <p>Structured v/s Flexible Approach</p> <p>Logical v/s Creative Approach</p> <p>Start up phase Management: Difference of opinion with in promoting team -</p> <p>Avoiding failure – Problem-Solving, Creativity and Innovation, Stability Phase Management, Growth phase Management,</p> <p>MSME Registration, Consultants, Udyog Adhar Registration Consultancy, Enterprise Risk Management (ERM), Challenges in implementation of Enterprise Risk Management (ERM)</p>	<ol style="list-style-type: none"> 1) To study various approaches of MSME management 2) To study the MSME Registration, Consultancy Services related to MSME Registration

3	BUSINESS CRISES AND SICKNESS :	Types of Business Crises, Starting crises, Cash crises, Delegation Crisis, Leadership Crises, Financial Crises, Prosperity Crises, Succession Crises, Crises Management and Business Continuity: Meaning, Crises under Covid-19 Sickness : Meaning and Definition, Symptoms, Causes, Turnaround Strategies, Revival Schemes of Sickness,	1) To understand various types of Business Crises including Crises under Covid-19 2) To study the concept of industrial sickness, its Causes, Turnaround Strategies and Revival Schemes of Sickness
4	INTRODUCTION TO START UP INDIA SCHEME:	Aim of Startup- Significance of Startup- Advantages of Startup-Significance of Startup-Advantages of Startup- Eligibility for Startup India-Do's and Don'ts for Startup – Examples of Startup-Wow! Mome— Cabs- Zomoto-Paytm-Digit Insurance-Vedantu-Dailyhunt-Sharechat-Topper-Urban Ladder	1) To study the concept of Start up India Scheme and its related aspects 2) To study some typical examples of Startup

Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Expected Outcome
1	12	Group Discussion, Quiz	Related Videos and PPTs	Understanding the concept Importance and various aspects of Business Plan
2	12	Power Point Presentation, Practical based learning	Related Videos and PPTs	Gaining practical knowledge related to Registration of MSME and various approaches of MSME management
3	12	Power Point Presentation, Case study	Project Reports of Companies, Related Videos and PPTs	Students will be able to understand various types of Crises including Covid 19 Crisis
4	12	Power Point Presentation, Case study	Annual Reports of Companies Related Videos and PPTs	Understanding the role and Functioning of Startup India Scheme

Method of Evaluation:

Topic No.	Internal Evaluation	External Evaluation	Suggested Add On Course
1	MCQ, Assignment	As per University Norms	1) Startup Entrepreneurship
2	Project, Presentation	As per University Norms	2) Global Entrepreneurship: Design Thinking and Start ups
3	Project, Quiz, Tutorials	As per University Norms	3) Entrepreneurship and Leadership Development Programme
4	MCQ, Assignment	As per University Norms	

References:

- 1) Pandey G.N. - 'A Complete Guide to Successful Entrepreneurship' Vikas Publishing House Pvt Ltd.
- 2) Maharashtra Centre for Entrepreneurship Development - 'Project Profile', 'Profile for SSI Projects.'
- 3) Edward D. Boao - 'Opportunities'.
- 4) Prof. John Mullins - 'The New Business Road Tests' - Pearson.
- 5) Prof. Rajeev Roy - 'Entrepreneurship' Oxford University Press.
- 6) Rashmi Bansal - 'Stay Hungry Stay Foolish' - CIIFIM, Ahmedabad.
- 7) Dr. Patel V.G. - 'When The Going Gets Tough' - Tata McGraw Hill, New Delhi.
- 8) Mark. J. Dollinger, Entrepreneurship - Strategies and Resources, Pearson Edition.
- 9) Udai Pareek and T.V. Rao, Developing Entrepreneurship
- 10) S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems
- 11) Srivastava, A Practical Guide to Industrial Entrepreneurs

- 12) Anil Kumar: Small Business and Entrepreneurship I.K. International Publishers
- 13) Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975
- 14) Bharusali, Entrepreneur Development
- 15) 23 Vidya Hattangadi : Entrepreneurial**
- 16) Dr. Venkataramanappa : : Entrepreneurship Development
- 17) B. Janakiraman , Rizwana M: Entrepreneurship Development
- 18) N.V.R Naidu : Entrepreneurship Development, I.K. International Publishers
- 19) Business Entrepreneurship – Dr. M. B. Sonawane
- 20) Business Entrepreneurship –Dr. S. L. Shirgave.

Web References:

- 1) <https://msme.gov.in/>
- 2) <https://www.startupindia.gov.in/>

T.Y. B.Com. (Semester -VI) (2019 Pattern)

Special Paper-II, Course Code - 365(h)

Marketing Management-II

Objectives:

- The primary purpose of this course is to brief students about agricultural marketing, various marketing regulations, importance of global marketing and various measures used by cyber security marketers in today's digital world.

Unit No	Topic	No. of Lectures	Teaching Method	Proposed skills to be developed
1	<u>Agricultural Marketing</u> Meaning of Agricultural Marketing Types of Agri-Products Features of Agri-Products Various Functions in Agricultural Marketing System Problems of Agriculture Marketing and its Solutions	12	Conceptual Learning, Library Work, Assignment.	To understand meaning of agricultural marketing, identify its problems and find solutions for the same.
2	<u>Marketing Regulations</u> Importance of Marketing Regulations in Marketing Relevance and importance of following acts in the context of Marketing Regulations: Consumer Protection Act.1986 Trade Mark Acts,1999 Competition Act,2002	12	Conceptual Learning ,Power Point Presentation, Library Work, Assignments, Case Study.	Familiarizing the students with the different marketing regulations in India.

	Indian Patent (Amendment) Acts.2005 Bureau of Indian Standard Act			
3	<u>Global Marketing.</u> Meaning and Definition of Global Marketing Features of Global Market Elements of the Global Marketing Factors Affecting Global Marketing Global Marketing Strategies Issues, Examples Global Vs. International Marketing	12	Conceptual Learning, Library Work.	To provide an understanding of the factors that has led to the growth of global marketing.
4	<u>Cyber Security Marketing</u> Meaning of Cyber Security Marketing Emergence of Cyber Security Marketing Essentials to develop cyber security marketing strategy Need and Importance of Cyber Security Marketing Various Tactics used by Cyber Security Marketers Advantages and Challenges	12	Conceptual Learning, Power Point Presentation Group Discussion, Assignment.	To provide an insight on cyber security marketing in today's digital world.
	Total	48		

References

Sr.No	Title of the Book	Author/s	Publication
1	Marketing Management	Philip Kotler	Pearson Publication
2	Marketing Management	Rajan Saxena	McGraw Hill Education
3	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication
4	Strategic Brand Management, Buiding, Measuring and Managing Brand Equity.	Keller .K	Pearson Publication
5	Marketing Management	Dr.K.Karunakaran	Himalaya Publishing House
6	Agriculture Marketing	J.W.Barker	Oxford University Press
7	Sales Forecasting Management: A Demand Management Approach	John T.Mentzer & Mark A. Moon	Sage Publications
8	Global Marketing	Carlyle Farrell	Sage Publications

Savitribai Phule Pune University, Pune
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Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - VI Subject: Agricultural and Industrial Economics II Paper-II Course Code: 365 (i)
Total Credits: 4

Objectives:

1. To understand the meaning, types and Problems of Agricultural Labour.
2. To get acquainted with Recent Trends in Agriculture
2. To impart adequate knowledge about Industrial Relations
3. To understand the recent Industrial Policies in India.

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Content	Purpose Skills to be Developed
1	Agricultural Labour	1.1 Meaning, Types, Status and Magnitude of Agricultural Labour 1.2 Socio-Economic Characteristics of Agricultural Labour 1.3 Problems of Agricultural Labour 1.4 Causes of Increasing Agricultural Labour in India 1.5 Remedial Measures for Solving the Problems of Agricultural Labour	<ul style="list-style-type: none"> ▪ To understand the types and status of Agricultural labour. ▪ To understand the Characteristics of Agricultural labour. ▪ To get acquainted with the Problem of Agricultural labour.
2	Recent Trends in Agriculture	2.1 Diversification of Agriculture 2.2 Water Management Initiatives 2.3 Increasing Trends in Horticultural & Floricultural Output 2.4 Farmers Producer Organizations(FPO)- Need of	<ul style="list-style-type: none"> ▪ To understand the various recent trends in Agricultural

		Leveraging 2.5 Impact of Climate Resilience on Agriculture 2.6 Farm Bill 2020. 2.7 Impact of Covid-19 Pandemic on Agricultural Sector	
3	Industrial Relations	3.1 Meaning, Scope, Historical Background of Industrial Relations 3.2 Conflict, Disputes and Co-ordination in Industrial Relation 3.2.1 Grievance Handling and Disciplinary Action, Code of Conduct 3.3 Steps Taken from the Employer Side 3.4 Industrial Relations in Changing Scenario	<ul style="list-style-type: none"> ▪ To understand Concept, Scope, Evolution of Industrial Relations ▪ To understand the Conflict, Disputes and cooperation in Industrial Relation ▪ To understand the importance of sound Industrial Relations.
4	Recent Industrial Policies	4.1 National Manufacturing Policy 2011 4.2 Make in India 4.3 Start-Up India 4.4 National Intellectual Property Rights Policy 2016 4.5 Maharashtra Industrial Policy 2019	<ul style="list-style-type: none"> ▪ To understand the National Manufacturing Policy 2011, Make in India, Start-Up India and National Intellectual Property Rights 2016.

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ Identify the Problems of Agricultural Labour in India. 	<p>After completing this topic, the student will be able to understand</p> <ul style="list-style-type: none"> ▪ Meaning, Types, Status and Magnitude of Agricultural Labour ▪ Socio-Economic Characteristics of Agricultural labour Problems of Agricultural Labour ▪ Unemployment, Migration- Causes and Remedies, Discussed unemployment

2	12	Lecture, PPT/ Group Discussion, Library, Problem- solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ Visit Farmer Producer Organisation to understand the Function the FPOs. 	<ul style="list-style-type: none"> ▪ Diversification of Agriculture, Increasing Trend in Horticultural & Floricultural Output, ▪ Leveraging the Farmer Producer Organizations, Water management initiatives, Impact of Climate Resilience on Agriculture ▪ Farm Bill 2020
3	12	Lecture, PPT/ Group Discussion, Library, Problem- solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ List the importance the Industrial Legislation. 	<ul style="list-style-type: none"> ▪ Concept, Scope, Evolution of Industrial Relations ▪ Conflict, Disputes and cooperation in Industrial Relation ▪ Collective Bargaining, Workers' Participation in Management ▪ Grievance Handling and Disciplinary Action, Code of Conduct ▪ Employers' organisations. ▪ Industrial Relations in changing scenario
4	12	Lecture, PPT/ Group Discussion, Library, Problem- solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication- SWF E-Content	<ul style="list-style-type: none"> ▪ Importance of recent Industrial Policy. 	<ul style="list-style-type: none"> ▪ National Manufacturing Policy 2011, Make in India, Start-Up India and National Intellectual Property Rights 2016

Recommended Books:

1. Datt, G (1996), Bargaining Power, Wages and Employment: An Analysis of Agricultural, Labour: Markets in India: Sage Publications, New Delhi.
2. McConnell, C.R. And S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.
3. T.N.Srinivasan (Eds) The Handbook of Development Economics North-Holland, New York.
4. Datt, G (1996), Bargaining Power, Wages and Employment: An Analysis of Agricultural, Labour: Markets in India: Sage Publications, New Delhi.
5. Misra S.K. & V.K.Puri, (2017) Indian Economy, Himalaya Publication house Mumbai.
6. Kavimandan Vijay, (2009) Krushi Arthshastra, Shri Mangesh Prakashan, Nagpur.
7. Barthwal R.R. (1985), Industrial Economics, Wiley Eastern Ltd., New Delhi.
8. Barthwal R.R (2004) Industrial Economics Introductory Text Book, New Age International Limited, Kanpur.
9. W. Stewart Howe, Industrial Economics An Applied Approach, Springer Link, Switzerland.
10. Singh, A and A.N. Sandhu (1988), Industrial Economics, Himalaya Publishing House, Bombay.
11. Jain S.C. Industrial Economics, (Edition: First, 2019), Publisher: Kailash PustakSadan, 30 Shah Building, Hamidia Road, Bhopal.

Web reference

- 1) [https://www.meity.gov.in/writereaddata/files/National%20Manufacturing%20Policy%20\(2011\)%20\(167%20KB\).pdf](https://www.meity.gov.in/writereaddata/files/National%20Manufacturing%20Policy%20(2011)%20(167%20KB).pdf)
- 2) http://164.100.47.4/BillsTexts/LSBillTexts/PassedLoksabha/113_2020_LS_Eng.pdf
- 3) https://dipp.gov.in/sites/default/files/National_IPR_Policy_English.pdf
- 4) <https://maitri.mahaonline.gov.in/PDF/Maharashtra%20New%20Industrial%20Policy-2019.pdf>
- 5) <https://www.youtube.com/user/cecedusat>
- 6) <https://www.swayamprabha.gov.in/>
- 7) <http://14.139.13.96:8080/> -UGC CEC E Contain on Agricultural Economics
- 8) <http://14.139.13.96:8080/> -UGC CEC E Contain on Industrial Economics

Savitribai Phule Pune University
Faculty of Commerce & Management
T Y B Com (Semester VI)
(Choice Based Credit System)
Revised Syllabus (2019 Pattern)

SPECIAL ELECTIVE COURSE – I

Course Code: 365(j)

Subject: Defence budgeting finance and Management special paper - II

Total credits:

Objectives:

1. To know concept of defence, Development.
2. To understand Economic & political aspect of defence production in India.
3. To understand the significance of selfrelient strategy in defence production.

Unit No.	Topic	No. of lectures	Teaching Method	Proposed Skill to be Developed
1	Defense Development A) Concept of Defence & Development B) Evaluation of the debate C) Future prospects of the debate	12	Lecture, Group discussion, Library work, Assignment, Field visit	To know how the defence & development are equally related with each other, the evolution & future prespects of defence and development.
2	Fundamentals of Defence production in India A) Economic aspects of defence production	12	Lecture, Group discussion, Library work, Assignment, Field visit field visit	Understanding the Defence production strategy from economic & political point of view.

	B) Political aspects of Defence production			
3	India's selfrelient strategy in Defence production India A) Status of Indigenous arms production in India. B) From self – sufficiency to self-Reliance	12	Lecture, Group discussion, Library work, Assignment, Field visit	Understanding the status of Indigenous arms production in India the need of selfrelient in defence production
4	Mobilization of Resources A) Pattern of Resources Mobilization in India. B) Principles of war finance	12	Lecture, Group discussion, Library work, Assignment, Field visit	Understanding the concept of resources mobilization in India the principles of war finance.

References:

1. S. Sandeep (col retd), 'Funding for Defence & Development', Sumit Enterprises, New Delhi.
2. Dutta Meena and Sharma Jai Narayan, 'Defence Economics', Deep and Deep Publication, New Delhi.
3. Deger s. & Sen S. (1986), 'Military Expenditure in the Third World countries: The Economic effects', Routlet & Kegan Paul.
4. Thomas Raju G. C. (1988), 'Indian security policy', Princeton, New Jersey, University Press.
5. Robert Loony and David Winter Ford (1995), 'Economic Causes and consequences of Defence Expenditure in the Middle East and South Asia', University Press.

TYBCOM
SPECIAL ELECTIVE COURSE – VI
Subject: INSURANCE, TRANSPORT AND TOURISM - II (TOURISM)-Special Paper-II
Course Code: 365 (k)

Objectives:

1. To acquaint students with the concepts of tourism transport.
2. To create awareness about different types of tour operator.
3. To make the students aware of career opportunities in the field of tourism.
4. To aware the students about the tourism organizations

Unit No.	Topic	No. of Lectures	Teaching Methods	Proposed skills to be developed
1.	Transport and Tourism 1.1 Transport – Element, Types and Linkages 1.2 Tourism and Transport – the interrelationship 1.3 Tourism Transport – Nature and Types 1.4 Factors influencing Tourist Transport Selection 1.5 Tourism Demand and Transport	12	Lecture, PPT, Group Discussion, Library Work, Assignments	Understanding the the interrelationship between transport and tourism
2.	Tour Operator 2.1 Meaning and Definitions of Tour Operator 2.2 Types of Tour Operators 2.3 Functions of Tour Operator 2.4 Importance of Tour Operators 2.5 Difference between Travel Agent and Tour Operator 2.6 Career in Tourism Business in India	12	Lecture, PPT, Group Discussion, Library Work, Panel Discussion, Study Visit to Travel Agency	Understanding the tour operator and Career in Tourism Business in India
3.	Tourist Accommodation 3.1 Meaning 3.2 Types of Accommodation 3.3 Role of Accommodation sector in Tourism	12	Lecture, PPT, Group Discussion, Library Work,	Understanding the Concept of tourism accommodation

4.	Tourism Organization and their role in Tourism Development 1. Indian Association of Tour Operators (IATO) 2. Travel Agents Association of India (TAAI) 3. India Tourism Development Corporation (ITDC) 4. United Nations World Tourism Organization (UNWTO) 5. IATA International Air Transport Association (IATA) 6. International Civil Aviation Organization (ICAO)	12	Lecture, PPT, Group Discussion, Library Work, Assignments	Understanding the important tourism organizations and its role in tourism development
		48		

References:

1. Bezbaruah, M.P. (1999), 'Indian Tourism beyond the Millennium', Gyan Publication, New Delhi,
2. Bhatia A.K., (2012), 'Travel Agency and Tour Operations', Sterling Publications, New Delhi.
3. Bull, A. (2095), 'The Economics of Travel and Tourism', Longman: UK.
4. Chand, M., (2007), 'Travel Agency Management: An Introductory Text', Anmol Publication Pvt. Ltd., New Delhi.
5. Dileep M.R., (2019), 'Tourism, Transport and Travel Management', Routledge New York
6. Goeldner, R and Ritchie. B., (2011), 'Tourism: Practises, Principles and Philosphies', John
7. Holloway, J.C.,and Claire Humphreys (2016), 'The Business of Tourism', Pearson.
8. Jagmohan Negi (2005), 'Travel Agency Operations and Concepts and Principles', Kanishka, New Delhi.
9. Mill and Morrison- (2002), 'The Tourism System' Kendall/Hunt Pub.
10. Murphy G. J.(1972,) 'Transport and Distribution', Random House Business Books
11. Negi J., (2006), 'Travel Agency and Tour Operations: Concepts and Principles' Kanishka, New Delhi.
12. Singh S. P. (2006), 'Travel Tourism Management' , ABD Publishers;

Savitribai Phule Pune University, Pune (T.Y. B.Com.)

Computer Programming and Application Special Paper II

Subject Name: **Computer Networking and E-Commerce-II.**

Course Code: **365(L).**

Term-II

Unit No.	Topic	No. of Lectures	Ref. Books
5.	Information Security Concepts Information Security Overview: Background and Current Scenario Types of Attacks Goals for Security E-commerce Security Computer Forensics Steganography	12	Book No. 1,2,3
6.	Security Threats and Vulnerabilities Overview of Security threats Weak / Strong Passwords and Password Cracking Insecure Network connections Malicious Code :-Programming Bugs Components of wireless networks Security issues in wireless	12	Book No. 1,2,3

7	Applications of Networks in E Commerce Framework of E-Commerce: Application Services – Interface Layers - Secure Messaging - Middleware Services and Network Infrastructure - Site Security - Firewalls & Network Security - TCP/IP – HTTP - Secured HTTP – SMTP - SSL. 2 Applications of Ecommerce: E-Commerce Organization Applications - E- Marketing - E-Advertising - E-Banking - Mobile Commerce - E-Trading - E-Learning - E- Shopping.	14	Book No 4,5
8.	E-MARKETING TECHNIQUES: II Introduction - New Age of Information - Based Marketing - Influence on Marketing - Search Engines & Directory Services - Charting the On-Line Marketing Process - Chain Letters - Applications of 5P's (Product, Price, Place, Promotion, People) E-Advertisement - Virtual Reality & Consumer Experience - Role of Digital Marketing.	10	Book No 4,5
Total No. Lectures		48	

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
Unit – I	10	Use ICT or presentation on Information Security Concepts	U–tube Tutorial on Information Security Concepts	-	Familiar with Information Security Concepts

Unit – II	14	Use ICT or presentation on Security Threats and Vulnerabilities	U–tube Tutorial Security Threats and Vulnerabilities	-	Familiar with Security Threats and Vulnerabilities
Unit – III	10	Use ICT or presentation on Applications of Networks in E Commerce	U–tube Tutorial Applications of Networks in E Commerce	-	Familiar with Applications of Networks in E Commerce
Unit – IV	14	Use ICT or presentation on E-MARKETING TECHNIQUES	U–tube Tutorial E-MARKETING TECHNIQUES	-	Familiar with E-marketing techniques

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30	70
Unit – II	30	70
Unit – III	30	70
Unit – IV	30	70

Guidelines for Examination:

- [1]. Term End Exam (30 Marks):
- [2]. To be conducted by college as per rules provided by University of Pune. Semester Exam 70 Marks):
- [3]. To be conducted by University of Pune at the end of the academic year.
- [4]. Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Semester Examination).

Recommended Books:

1. Computer Networks – Andrew Tanenbaum (III Edition)
2. Data Communications & Networking - Behrouz Ferouzan (III Edition)
3. Complete Guide to Networking - Peter Norton
4. E-Commerce, Strategy, Technologies And Applications : David Whiteley, Tata Mcgraw Hill
5. E-Commerce & Mobile Commerce Technologies: Pandey, Saurabh Shukla, S. Chand

Revised syllabi (2019 Pattern) for three years B.Com. Degree course (CBCS)

Semester : - VI (T.Y.B.Com)

Subject Code :- PR- 366 (a)

Subject : - Business Administration – III (Production and Operations Management)

Preamble

The very essence of any business is to cater needs of customer by providing services and goods, and in process create value for customers and solve their problems. Production and operations management talks about applying business organization and management concepts in creation of goods and services. Production is a scientific process which involves transformation of raw material (input) into desired product or service (output) by adding economic value. Production can broadly categorize into following based on technique: Operations management is the process that generally plans, controls and supervises manufacturing and production processes and service delivery. Operations management is important in a business organization because it helps effectively manage, control and supervise goods, services and

people. Production and Operations Management have a great utility in diverse fields. Businesses Houses seek executives that have a holistic understanding of the business, which includes Production and Operations Management.

Objectives of the course

5. To acquaint the student with knowledge of Production Management and Production Functions
6. To equip the students with knowledge for efficient Inventory Management and the recent development in the area Inventory Management

7. To introduce the students to the concept of Quality Management and to motivate to adopt quality management even in the regular lifestyle
8. To update the students with the knowledge of Logistics Management

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Contents	Skills to be developed
1	Production Management Functions	1.5 1.1 Meaning, Definition, Functions of Production Management, Responsibilities of Production Manager. 1.6 Production Planning - Objectives, Importance, levels of planning. 1.7 Routing & Scheduling - Meaning, Route Sheets, Scheduling, Master and sequential scheduling, scheduling devices. 1.8 Production control- Definition and meaning, Necessity, objectives, factors and techniques of production control	Conceptual Understanding Accessing and analysing information skills Technical Knowledge Analytical Skills

2	Plant Location and Plant Layout	<p>1.4 Introduction, importance, factors responsible for plant location.</p> <p>1.5 Plant Layout- Meaning, Definition, Importance of good layout, factors relevant for choice of layout, Line, Process and Product layout.</p> <p>1.6 Plant Layout - Advantages, disadvantages and techniques.</p>	<p>Conceptual Understanding</p> <p>Technical Knowledge</p> <p>Analytical Skills</p>
3	Inventory management & Quality Management	<p>1.7 Inventory management -Introduction, methods, Economic Order Quantity , Use of Computers in Inventory Management, Material Requisition Planning (MRP) , Just In Time (JIT),ABC Analysis</p> <p>1.8 Recent trends in Inventory Management - Radio Frequency Identification (RFID), Automated guided vehicles (AGVs) and automated mobile robots (AMRs), Artificial intelligence (AI) and Machine learning (ML), Distributed inventory management, Cloud-based solutions Predictive picking</p> <p>1.9 Quality Management – Features, Techniques of Quality Control</p> <p>1.10 Total Quality Management, Six Sigma, International Organisation for Standardisation (ISO)</p>	<p>Conceptual Understanding</p> <p>Analytical Skills</p> <p>Technical skills</p> <p>Awareness on the latest in the trends</p>

4	Supply Chain Management and Logistics management	<p>1.6 Supply Chain Concepts: Objectives of a Supply Chain, Stages of Supply chain, Value Chain Process, Cycle view of Supply Chain Process, Key issues in Supply Chain Management, Difference between Supply Chain Management and Logistics.</p> <p>1.7 Logistics: Evolution, Objectives, Components and Functions of Logistics Management, Distribution related Issues and Challenges, Transportation- Functions, Costs, and Mode; Network and Decision, Containerization, Cross docking.</p>	<p>Conceptual Understanding</p> <p>Analytical skills</p> <p>Accessing and analysing information</p> <p>Imaginative thinking</p> <p>Awareness on the latest in the trends</p>
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Teaching Methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	10	PPT , Lectures by Industry Exerts	Online Videos	----	Conceptual Understanding
2	12	PPT , Visit to Factories to understand Plant Layout	Online Videos on functioning of Factories of reputed organisations	-----	Conceptual Clarity and Practical understanding

3	18	PPT, Lectures from experts of Industry, Visit to organisations to study Inventory Management, Establishment of Quality Circles among Students	-----	Project Report on Innovative Inventory Management Techniques	Conceptual Clarity and Practical understanding Technical Understanding Awareness on Latest Trends
4	08	PPT , Lectures by Experts from the field Logistics Management , Case study of organisations such as Amazon Flipkart etc.	Online references of E-Commerce companies and their Logistics Management Practices	Project Report on any Logistics Management Organisation	Analytical skills Practical understanding Technical Understanding Awareness on Latest Trends n

Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add on Course
Unit – I	MCQ, Field Visit Report	As per University norms	
Unit – II	MCQ, Assignments, PPT	As per University norms	Certificate Course in Cloud Computing
Unit – III	MCQ, Field Visit Report, Case Study	As per University norms	Certificate Course in Logistics Management
Unit – IV	MCQ , Assignment , Field Visit Report Case Study	As per University norms	

References:

List of Books Recommended: -

- Modern Production and Operation Management ,Buffa Elwood S,Wiley India Ltd
- Production and Operation Management ,Sexena J.P.,Tata McGraw-Hill Education Private Limited
- Production and Operation Management ,Madan Pankaj,Global Vision Publishing House
- Production and Operation Management ,Nair N.G.,Tata McGraw-Hill Education Private Limited
- Production (Operation) Management ,Jhamb L.C.,Everest Publishing House
- Production and Operations Management ,Adam and Ebert, Prentice-Hall
- Operations Management : Theory and Practice , B Mahadevan,Pearson
- Production and Operations Management , Panneerselvam,Prentice Hall India Learning Private Limited
- **Operations Management (McGraw-Hill Series in Operations and Decision Sciences)**
- Supply Chain Management: Strategy, Planning and Operation Chopra, Sunil, Meindl, Peter and Kalra, D. V. ,Pearson Education;;
- Supply Chain Management: Concepts and Cases Altekar, Rahul V , PHI Learning Reference.
- Supply Chain Management , Ballou, Ronald H ,Pearson Education.
- Supply Chain Management , Sahay, B.S. ,Macmillan;; 6. Business Logistics Management , Ballou, R.H. , Prentice-Hall Inc..
- Logistical Management, Bowersox D.J. ,Closs D.J., McGraw-Hill, 1996
- Fundamentals of Business Finance- Dr. R. M. Shrivastav
- Production, Operations Management - Dr.B.S. Goel (Pragati Prakashan Meerut) 7. Operations Management- Norman Gaither, Greg Frazaier (Sengage Learning) 8. Production Management - Chunawalla

Revised syllabi (2019 Pattern) for T.Y.B. Com Degree course (CBCS)
Semester – VI
SPECIAL ELECTIVE COURSE (Special Course – III)
Banking & Finance-Special Paper III) Sem.VI
Banking Law and Practices in India – II Course code :366-B
Total Credits :04)Theory 03 +Practical 01=04(

Objectives:

1. To familiarize students about concept and types cybercrimes in banking.
2. To understand the aspects of paying and collecting banker.
3. To analyse the banker and customers relationship.
4. To enable the students to apply the legal and practical aspects of bank advances.

Unit No.	Topic and Contents	No. of Lectures	Teaching Method	Skills to be developed
1.	<p>Cyber Crimes in Banking:</p> <p>1.1 Meaning and Definition of Cyber Crimes</p> <p>1.2 Types of Cyber Crimes</p> <p>1.3 Types of Cyber Crimes in Banking-</p> <p style="margin-left: 20px;">a) Virus attack</p> <p style="margin-left: 20px;">b) Hacking</p> <p style="margin-left: 20px;">c) Phishing</p> <p style="margin-left: 20px;">d) Vising</p> <p style="margin-left: 20px;">e) Spamming</p> <p style="margin-left: 20px;">f) ATM skimming</p> <p style="margin-left: 20px;">g) E-mail spoofing</p> <p>1.4 Reasons of Cyber Crimes in Banking</p> <p>1.5 Impact of Cyber Crimes on Banking</p> <p>1.6 Measures to control Cyber Crimes in Banking:</p>	14	Lectures, PPT, Group and Panel Discussion, Library Work, Assignments Guest Lectures	Understanding the concept and types of cyber-crimes in banking

	A) Legal Measures: i) IPC-420 ii) IT Act (2000) SEC 66C,66D B) Non-legal Measures			
2.	Paying and Collecting Banker: 2.1 Meaning and Definition of Paying Banker 2.2 Precautions to be taken while doing payment of cheques 2.3 Duties and Rights of Paying Banks 2.4 Meaning and Definition of Collecting Bank 2.5 Precautions to be taken while collecting payment of cheques 2.6 Duties and Rights of collecting Banker	12	Lectures, PPT, Group and Panel Discussion, Library Work, Assignments,	Understanding the the concept of paying and aspects of paying and collecting banker.
3.	Banker and Customer Relationship: 3.1 Definition of Banker and Customer - Relationship as Debtor and Creditor 3.2 Banker as Trustee Banker as Agent 3.3 Banker's Obligation of Secrecy of Accounts 3.4 Banker's Lien Right of Set Off 3.5 Garnishee Order 3.6 Termination of Relationship	12	Lectures, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the relationship between banker and customers
4	Bank Advances: 4.1 Secured and Unsecured loans 4.2 Types of loan schemes in Banks 4.3 Securities for Loans 4.4 Mode of creating Charges: Lien, Pledge, Hypothecation and Mortgage 4.5 Causes of loan recovery problems 4.6 Recovery Measures: a) Legal measures b) Non-legal measures	10	Lectures, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the legal aspects of bank advances
	Total	48		

References:

1. Practice and Law of Banking: G.S. Gill
2. Banking Law and Practices: P. N. Varshney
3. Banking Law, Theory and Practices: S. N. Gupta
4. Law and Practices of Banking: V. M. Mugali
5. IT Act, 2000
6. Cyber-attack in banking industry, Adharsh Manivannan.
7. Prevention of cyber-crime and fraud Management, Indian Institution of Banking and finance.
8. Fundamentals of Banking Theory and Practices: A.K.Basu

Syllabus for T.Y.B. Com
Semester- VI, Paper-III
Subject Name: - Business Laws and Practice Paper III
Course Code – 366 (c)

Objectives of the Course :

To impart Basic and Advanced knowledge of the various provisions of the Companies Act, its schedules, rules, notifications, circulars, guidance note including case laws.

Depth of the program:

Fundamental and Advanced Knowledge

Objective of the Program:

- To understand the Companies Act, 2013 and its provisions.
- To develop general awareness among the students about the Company Law.
- To create awareness among the students about the legal environment relating to the Company Law.
- To enhance the capacity of learners to seek career opportunities in the Corporate Sector.

Unit. No.	Unit Title	Contents	Purpose skills to be developments
1	Declaration and Payment of Dividend[Sections 123-127]	1. Meaning of Dividend [Sec. 2(35)] 2. Types of Dividend (Interim Dividend & Final Dividend) 3. Declaration of Dividend [Sec. 123 & Companies (Declaration and Payment of Dividend) Rules, 2014] 4. Unpaid/ Unclaimed Dividend	<ul style="list-style-type: none"> • Understand the legal provisions relating to declaration and payment of dividend • Learn about the conditions which need to be fulfilled before declaring dividend out of accumulated

		<p>[Sec. 124]</p> <p>5. Investor Education and Protection Fund[Sec. 125]</p> <p>6. Punishment for failure to distribute dividend within 30 days [Sec.127]</p>	reserves.
2	Accounts of Companies[Sections 128-134, 136-138]	<ol style="list-style-type: none"> 1. Types of accounts to be maintained (section 128 and 129) 2. Reopening and recasting of accounts on Court's or Tribunal's Orders (Section 130) 3. Voluntary revision of accounts (section 131) 4. Constitution of NFRA & power of CG to prescribe accounting standards(Section 132- 133) 5. Financial Statements, Board reports, etc (Section 134) 6. Right of members & Filing of Financial statement with Registrar (Section 136- 137) 7. Internal Audit (Section 138) 	<ul style="list-style-type: none"> • To acquaint with preparation and maintenance of books of account etc. to be kept by company. • Understand the various concepts related to National Financial Reporting Authority (NFRA). • Learn procedure related to internal audit of companies
3	Audit and Auditors[Sections 139-148]	<ol style="list-style-type: none"> 1. Appointment of Auditors, Removal, resignation of auditor and giving of special notice 2. Eligibility, Qualification & Disqualification, Remuneration of Auditor 3. Powers & Duties of auditors and auditing standards 4. Segment of Audit Reports, 	<ul style="list-style-type: none"> • Understand the procedure for appointment of auditors, their removal, resignation, eligibility, qualifications, disqualifications and remuneration. • Know the powers and duties of auditors.

		<p>Prohibited Services, Signing of Audit Reports</p> <p>5. Auditor to attend AGM, Punishment Provisions, Cost Auditor</p>	<ul style="list-style-type: none"> • Know about auditing services and certain services which an auditor cannot render
4	Appointment and Qualifications of Directors [Sections 149-172]	<ol style="list-style-type: none"> 1. Company to have Board of Directors, Manner of selection of independent directors, Appointment of directors. 2. Application, Allotment, Prohibition of Director Identification Number, Punishment for contravention. 3. Right of persons other than retiring directors to stand for directorship, additional director, alternate director and nominee director., Appointment of directors to be voted individually. Number of directorships. 4. Disqualifications, Duties, Vacation of office, Resignation, Removal, Register of directors and key managerial personnel and their shareholding. Members right to inspect. Punishment. 	<ul style="list-style-type: none"> • To Know the provisions relating to the appointment of directors, number of directors, resident director, appointment of woman director and others. • Understand about the Director Identification Number (DIN), its allotment and other matters relating to DIN. • Understand the concept of disqualifications, duties, vacation of office, resignation, removal of director, etc.

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Pre Literature, case studies, Group Discussion, Expert Lecture, Team exercise,	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the Declaration and Payment of Dividend provided by UGC/University/MOOC etc. to be analyzed. 	Project report can be prepared on Declaration of Dividend	To understand the concept of Declaration of Dividend
2	12	Case studies, Moot court Lecture, Group Discussion, Article Reviews	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the Accounts of Companies provided by UGC/University/MOOC etc. to be analyzed. 	Project report can be prepared on Types of accounts to be maintained	To gain the knowledge about the different kinds of account to be maintained by company
3	12	Expert Lecture, Team exercise, Field visit, PPT Presentation, Interaction with the industry expert, Article Reviews	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the Audit and Auditors provided by UGC/University/MOOC etc. to be analyzed. 	Project report can be prepared on Eligibility, Qualification & Disqualification, Remuneration of Auditor	To be able to discuss the various provisions relating to the Auditors of a company
4	12	Case studies, Moot court Lecture, Group	<ul style="list-style-type: none"> You tube E-Content Sources. E-Content on the Appointment and 	Project report can be prepared on Director Identification	To be able to discuss the various provisions relating to the Directors of

		Discussion, , Quiz Competition, Team exercise, Field visit, PPT Presentation	Qualifications of Directors by UGC/University/MOOC etc. to be analyzed.	Number	a company
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References

Sr. No.	Title of the Book	Author/s	Publication
1	Company Law	Dr. Avtar Singh	Eastern Book Co. (EBC)
2	Lexis Nexis's Guide to the Companies Act	RAMAIYA	Generic book
3	Taxmann's Companies Act with Rules	Taxmann	Taxmann
4	The Companies Act 2013 Bare Act	Government of India	Educreation Publishing
5	Adjudication of Companies Act matters under NCLT	Rajender Kumar	Urmila Publication House
6	Taxmann's Company Law Ready Reckoner	Taxmann	Taxmann

Practical for Semester – VI

Topic	Mode of Practical
Types of Dividend	Library Assignment.
Constitution of NFRA	Overview & Presentation can be taken.
Eligibility, Qualification & Disqualification, Remuneration of Auditor	Problem or case-based Assignment
Manner of selection of independent directors	Group Discussions

Revised Syllabi (2019 Pattern) for Three years B.Com Degree Course (CBCS)

Semester -VI

Course Code- 366 (d)

Subject: --: Co-operation & Rural Development (Special Paper-III)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Cooperative learning requires students to engage in group activities that increase learning and adds other important dimensions. The positive outcomes include academic gains, improved race relations and increased personal and social development. The purpose of this course is to impart knowledge of financial management of Co-operatives.

Objectives of the Course:

- 1) To acquaint students with the financial management of Co-operatives
- 2) To study the Co-operative Organization and Management

Unit No.	Unit Title	Contents	Skills to be developed
1	Financial Management of Co-operatives	1.1 Meaning, Nature and Importance of Financial Management 1.2 Sources of Finance to Co-operative 1.3 Distinction between Corporate Finance and Co-operative Finance 1.4 Significance of financial Management in Co-operatives	1) To understand the meaning , nature and significance of financial management of co-operatives 2) To understand distinction between corporate finance and co-operative financial management
2	Financial Planning	2.1 Meaning and Characteristics 2.2 Estimation of Financial Requirement 2.3 Capital and Funds of Co-operatives and their raising	To understand the Recent Trends and financial requirement of cooperatives.

		2.4 Budget and Accounting of Co-operatives	
3	Financial Control	3.1 Meaning and Need 3.2 Proper utilization of Funds and Capital. 3.3 Investment Policy- Profitability and Security 3.4 Operating Expenditure and Cost Control	To acquire the fundamental knowledge financial controls for co-operatives
4	Co-operative Audit	4.1 Meaning, Definition and Nature of Co-operative Audit 4.2 Objectives and Significance of Co-operative Audit 4.3 Provisions of co-operative law related to Audit. 4.4 Types of Audit – Statutory Audit, Re-Audit, Test Audit and Internal Audit 4.5 Co-operative Auditor 4.6 Powers and Duties of Auditor 4.7 Audit Report and Rectification 4.8 Importance of Audit Report	1) To understand the co-operative audits, its process, powers rights of co-operative auditor. 2) To understand Audit reports and its importance

Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film Shows and A.V. Application	Project	Expected Outcome
1	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources, case study	Relevant You Tub Videos ,Relevant slide show, online Video Short Film Show	Report writing of students meeting	Understanding of basic knowledge financial management of co-operatives.
2	12	Pre reading, Class discussion, internet resources, Lecture, Expert Lecture, PPT / Poster Presentation, Group Discussion, Library /Home Assignment ,Internal Assignment, students Seminar/Workshop	Relevant You Tub Videos , Short Film Show, A.V Application , online Video	Project Report on types of Social Media	Learning the Recent Trends in co-operative financial planning and its need in present competitive markets.

3	12	Lecture, PPT Presentation Poster Presentation, Group Discussion, Library visit ,Home Assignment ,Pre reading, Class discussion , library visit , internet resources ,case study	Relevant You Tub Videos, PPT ,AV Application , Short Film Show , Online Videos	Writing of any one Business letter	To acquire the fundamental knowledge financial controls for co-operatives
4	12	Guest Lectures of eminent Personalities , Group Discussion, Library visit ,Home Assignment, case study	Online Videos, Relevant slide show	Blog writing	1) To understand the co- operative audits, its process, powers rights of co- operative auditor. 2) To understand Audit reports and its importance

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add-on Course
Unit- I	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	Certificate Course on Financial Planning and Management of Cooperatives
Unit-II	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-III	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-IV	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	

References:

Sr. No	Title of Book	Author/s	Publication	Place
1	New Dimensions of Co-operative management	G.S.Kamat	Himalaya Publication House,	Mumbai
2	Co-operative Management principals and techniques	Dr.Nakkiran S.A.-	Himalaya Publication House,	Mumbai
3	Co-operative Management and Administration	Goel B.B	Deep and Deep Publication	New Delhi.
4	Co-operation and Rural Development	Principal Dr.Nitin Ghorpade	Success	Pune
5	Human Resource Management Practices in Co-operative sector	Principal Dr.Shaikh Aftab Anwar	Idea Publication	New Delhi
6	Theory & Practice of Co-operation,	Dr. Dhiraj Zalte &Others –	Prashant Publication	Jalgaon
7	C.A State and C-operative Movement			
8	https://www.bhagirathgram.org/			
	Journal of Commerce and Management Thought(JCMT)			

List of Industries/Institutions for Internship Programme:

Co-operation & Rural Development (Special Paper-II and Special Paper III)

- 1) Any Co-operative stores, student's Co-operative stores etc.
- 2) Any Co-operative credit society
- 3) Co-operative bank
- 4) Employee's Co-operative credit society
- 5) Co-operative auditor's offices, CA establishments auditing Co-operative.
- 6) Entities like Amul, or Milk producer's Co-operatives etc.
- 7) Any other industry in consultation with subject teacher

For more details of Internship please refer Internship [Programme](#) Manual

T.Y. B.Com.
B.Com Degree Course Revised 2019 Pattern (CBCS)

Cost and Works Accounting Special Paper III

Name -: Techniques of Cost Accounting and Cost Audit

Course Code -: 366 – E (SEM-VI)

Objectives:

1. To impart knowledge about Standard Costing and Variance Analysis
2. To learn about pricing policy and its implementation.
3. To know the related Cost Accounting Standards and Cost Management practices in specific sectors
4. To provide a conceptual understanding of procedures and Provisions of Cost Audit.

Unit No.	Unit Title	Contents	Skills to be developed
1	Standard Costing	1.1 Definition and meaning of standard cost and Standard Costing. 1.2 Types of standards, setting up of Material, Labour Standards 1.3 Difference between Standard Costing & Budgetary Control. 1.4 Advantages and Limitations of standard costing	1.The student will develop the ability to understand the basic concepts of Standard Costing 2.The learner will be able to calculate variances (Material and Labour)

		<p>1.5 Variance Analysis & its Significance</p> <p>1.6. Meaning, types, and causes of material & labour variances.</p> <p>1.7. Problems on Material & Labour variances.</p>	
2	Pricing Decisions	<p>2.1 Principles of Product Pricing</p> <p>2.2 Pricing Policy</p> <p>2.3 Pricing of New Products and Finished Products</p> <p>2.4 Target Costing. Meaning ,Importance in Pricing decision</p> <p>2.3 Pricing Methods</p> <ul style="list-style-type: none"> a. Competition based b. Cost-based c. Value-based <p>(Simple Problems Only)</p>	<p>1. Students will be able to understand the Principles of product Pricing and Pricing Policy.</p> <p>2. Students will learn to calculate the Selling price under different pricing methods.</p>

3	Cost Accounting Standards and Cost Management for Specific Sector	<p>3.1 Cost Accounting Standards</p> <ul style="list-style-type: none"> a. CAS-6 Material Cost b. CAS-7 Employee Cost <p>3.2 Cost Management for Specific Sector</p> <ul style="list-style-type: none"> a. Agricultural Sector b. Information Technology (IT) Sector 	<p>1. Students will be able to understand the application of Cost Accounting Standards.</p> <p>2. Learners will be able to understand Cost Management practices in the Agricultural and IT sectors</p>
4	Cost Accounting Record Rules & Cost Audit:	<p>4.1 Introduction to cost accounting record u/s 148 of the companies Act 2013.</p> <p>4.2 Cost records and Verification of Cost Records</p> <p>4.3 Cost Audit – History, Meaning, applicability, Scope, objectives & advantages of Cost Audit</p> <p>4.4 Cost auditor – Qualification, disqualification, rights, and duties.</p> <p>4.5 Preparation and Submission (XBRL) Cost Audit Report.</p>	<p>1. Learners will be able to understand the compliance about the preparation of Cost Accounting records U/S 148 of Companies Act 2013.</p> <p>2. Students will get exposure to details of Cost Audit and Role of a Cost Auditor</p>

Teaching Methodology

Unit No.	Total Lectures	Innovative Methods to be used	Films Shows and AV Applications	Project	Expected Outcome
1	16	Variance analysis problems discussion.	PPT	The practice of problem-solving	Development of overall outlook of Standard Costing.
2.	12	Case Study	Videos	Group Discussion	Develop knowledge about Pricing and pricing strategies
3	10	Expert Lecture	YouTube clippings of	Discussion about recent changes in Cost Management in specific sectors.	Understand the basics of Cost Accounting Standards and recent changes in Cost Management

4.	10	Preparation of Charts	Collection and analysis of published Cost Audit Reports	Group discussion and Project-based learning	Conceptual understanding of Cost Records and Cost Audit Reports.
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Method of Evaluation

Subject	Internal Evaluation	External Evaluation	Suggested Add-On Course
Unit I	Multiple Choice Questions, Written Test, Internal Examination & PPT based presentation, Orals, Assignments, Tutorials, etc.	SPPU	Visit industries and make a report on the visit.
Unit II			
Unit III			
Unit IV			

References

Sr. No	Title of the Book	Author	Publisher	Place
1	Theory and Techniques of Cost Accounting.	B.L. Lall and G.L. Sharma	Himalaya Publishing House	New Delhi.
2	Strategic Cost Management and Performance Evaluation	Board of Studies, ICAI	ICAI	New Delhi
3	Advanced Cost Accounting	Dr. D. M. Gujrathi	Idol Publication	Pune
4	Advanced Cost Accounting	Dr.Kishor. M. Jagtap	Tech-Max Publication	Pune
5	Cost Accounting-Principles &Practices	Dr.M.N. Arora	Vikas Publishing House ,	New Delhi
6	Advanced Cost Accounting	S. P. Jain and K. L. Narang	Kalyani Publication	New Delhi

7	Cost Accounting-Principles & Practices	JawaharLal&SeemaShrivastawa	Tata Mcgraw Hill	New Delhi
8	Advanced Cost Accounting	N.K. Prasad	Book Syndicate Pvt. Ltd.	Kolkata
9	Cost Accounting	P. V. Rathnam and P. Lalitha	Kitab Mahal	Delhi
10	Practice in Advanced costing and Management Accounting.	Prof. Subhash Jagtap	Nirali Prakashan	Pune
11	Practical Costing.	R.K. Motwani	Pointer Publisher	Jaipur
12	Cost Accounting.	R.S.N. Pillai and V. Bhagavati	Sultan Chand and Sons	New Delhi.
13	Advanced Cost Accounting and Cost Systems	Ravi Kishor	Taxman's Allied Service Pvt. Ltd.	New Delhi

14	Cost Accounting, Theory and Problems,	S.N. Maheshwari and S.N. Mittal	Mahavir book Depot	New Delhi
15	Cost Accounting Principles and Practice.	S.P. Iyengar	Sultan Chand & Sons Accounting, Taxman's	New Delhi
16	Cost Audit and Management Audit.	V.K. Saxena and Vashista	Sultan Chand and Sons	New Delhi

Web References

Sr. No	Lectures	Films	PPTs	Articles	Others
For all the units.	Guest Lectures by Field Persons such as working executives from industries and of Practicing Cost and Management	YouTube films showing working of different industries.	Relevant Power Point Presentations are available on all these topics.	Articles from the Professional Journals such as , The Management Accountant, The Chartered Accountant, The Chartered Secretary, The	https://icmai.in www.globalcma.in eclm.unpune.ac.in

	Accountants.			Institute of Chartered Financial Analyst of India	<u>n</u>
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Notes: The breakup of marks in the Examination will be as follows:

- 50 % of the marks for Theory & 50 % of the marks for Practical Problems
- 1. Problems on Material and Labour Variances
- 2. Problems on Pricing decisions

SUGGESTED AREAS FOR INTERNSHIP

Duration: 60 hours

Total Credits: 4

Nature of Internship: Compulsory

Guidelines: As per INTERNSHIP MANUAL of SPPU

Sr.No	Suggested areas for Internship
1.	Inventory Management
2.	Printing Press.
3.	Food Processing.
4.	Travel and tourism Industry.
5.	Hospitals.
6.	Dairy Technology.
7.	Practicing Cost Accountant or Chartered Accountant.

8.	Courier Services.
9.	Real estate developers / contractors.
10.	Cost management in Educational Institution
11.	LPG cylinder distribution
12.	Supply chain IT sector
13.	Software Companies / Professionals
14	MSME micro, small, medium enterprise
15	Cargo Industry, Logistics,
16	Hotels(Lodging and Boarding)
17	Job Costing (Engineering workshop, Interior decorators, painting etc)
18	Service centers (automobile, electronics, home appliances etc.)
19	Agriculture industry.
20	Agro tourism.
21	Sugar Industry.
22	MIS /SAP/ ERP maintenance of material and employee records through software
23	Preparation and presentation of Budget.
24	Purchase procedure and documentation.
25	Mess/ Canteen / Catering
26	Entertainment and Mass Media Industry
27	Departmental stores (Big Bazar, More, Reliance fresh, D Mart etc)
28	Bakery /Confectionery

Subject teacher may initiate Internship Program in any of the above areas or any other appropriate area.

Syllabus for **B. Com. Semester: - VI**
 Subject Name: - **Business Statistics - III**
 Course code: - **366(F)**
 Credit 3

Preamble to the syllabus:

Tools and techniques learned in Statistics give a precise way of formulating and analyzing a problem and to make logical conclusions. Concepts and tools introduced in this course are useful to students for higher studies and career in any branch of Economics, Commerce and Management. Professionals working in these fields, wishing to upgrade their knowledge, will also benefit. The stress of the course will be on building the concepts and their applications.

In modern times, Statistics is viewed not as a mere device for collecting numerical data but as a means of developing some techniques for their handling and analysis and drawing valid inferences from them. Statistics provides tools for making decisions when conditions of uncertainty prevail. So it is very useful in various fields like agriculture, business, management, economics, finance, insurance, education, biotechnology and medical science etc.

Depth of the Course – Basic Knowledge of Elementary Statistics

Objective of the Course

1. To understand and Master the concepts, techniques & applications of Statistical Methods Operations Research.
2. To develop the skills of solving real life problems using Statistical Methods and Operations Research.
3. To make students to understand the art of applying statistical techniques to solve some real life problems.
4. To gain knowledge of Statistical Computations.

Unit No.	Unit Title	Contents	Purpose Skills to be developed
1	CPM/PERT	Meaning and scope, activity, event, node, network, path, critical path, slack, float (total, free, independent), forward pass and backward pass methods. Pessimistic, Most likely and Optimistic times in PERT, mean and variance for each activity, expected duration of project, probability of completion of project, Examples and problems.	1. To understand the concept CPM/PERT. 2. To apply techniques CPM/PERT methods to real life business problems.
2	Simulation	Meaning and scope, Advantages and disadvantages of simulations, Monte-Carlo Simulation, Examples and problems.	1. To understand the concept of simulation.

			2. To apply concept of simulation to real world problems.
3	Queuing Theory	Meaning, calling population, queue discipline, inter arrival rate, service rate, traffic intensity, single channel Poisson arrival with exponential service rate, average waiting time in i) queue and ii) system, average length of i) queue and ii) system, Examples and problems.	1. To understand the concept queuing theory. 2. To apply concept of queuing theory to real world problems.
4	Application of Derivative in Business	Algebraic Function: Demand function, Supply function, Cost function, Profit function, and Revenue function. Derivative and double derivative of some simple algebraic functions and its meaning in computation of maxima and minima of a function. Concept of average cost, marginal cost, variable cost and fixed cost, Market Equilibrium, Tax and Market Equilibrium. Concept of elasticity, elasticity of supply, elasticity of demand, cost elasticity. Maximization of revenue, minimization of cost, maximization of profit, effect of taxes and subsidies on profit, Examples and problems.	1. To understand the concept of derivatives. 2. To apply the concept of derivative to real world problems.

List of Practicals:

Sr. No.	Name of Experiment
1	CPM/PERT
2	Simulation Using Excel
3	Queuing Theory

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Expected Outcome
1	14	ICT	Students will be able to understand and apply the concept CPM/PERT to real life business problems.
2	10	ICT	Students will be able to understand and apply the concept of simulation solve real world business problems.
3	10	ICT	Students will be able to understand and apply the concept queuing theory to real world problems.
4	14	ICT	Students will be able to understand and apply the concept of derivatives to real world problems.

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30%	70%
Unit – II	30%	70%
Unit – III	30%	70%
Unit – IV	30%	70%
Total		

Notes: -

1. Internal evaluation is continuous assessment.
2. Internal evaluation shall have following components: -
 - a. At least one test of 20 marks involving objective questions of following type: - multiple choice, true or false, state definitions/concepts, one line answer etc.
 - b. At least one assignment of 05 marks.
 - c. If time and resources permit then there can be power point presentation of group or individual (this component is not compulsory).
 - d. Final score will be average score of all components.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	Operations Research	Harmdy A. Taha	Pearson India Ltd.	New Delhi
2	Operations Research	Kanti Swaroop, P. K. Gupta and Man Mohan	Sultan Chand and Sons	New Delhi
3	Business Mathematics	J. K. Sharma	Vikas Publishing House	New Delhi
4	Statistical Quality Control	D.C. Montgomery	John Wiley and Sons	New York
5	Fundamentals of Mathematical Statistics	S. C. Gupta and V. K. Kapoor	Sultan Chand and Sons	New Delhi
6	Fundamentals of Statistics	S. C. Gupta	Himalaya Publishing House	New Delhi
7	Operations Research	D. S. Hira and P. K. Gupta	S. Chand and Sons	New Delhi

Web reference for Semester V & VI

1. www.freestatistics.tk(National Statistical Agencies)
2. www.psychstat.smsu.edu/sbk00.htm(Onlinebook)
3. www.bmj.bmjournals.com/collections/statsbk/index.shtml
4. www.statweb.calpoly.edu/bchance/stat-stuff.html
5. www.amstat.org/publications/jse/jse-data-archive.html(International journal on teaching and learning of statistics)
6. www.amstat.org/publications/chance(Chancemagazine)
7. www.statsci.org/datasets.html(Datasets)
8. www.math.uah.edu/stat(Virtual laboratories in Statistics)
9. www.amstat.org/publications/stats(STATS : the magazine for students of Statistics)
10. www.stat.ucla.edu/cases(Case studies in Statistics).
11. www.statsoft.com

12. www.statistics.com
13. www.indiastat.com
14. www.unstat.un.org
15. www.stat.stanford.edu
16. www.statpages.net
17. www.wto.org
18. www.censusindia.gov.in
19. www.mospi.nic.in
20. www.statisticsofindia.in
21. <https://swayam.gov.in/>
22. <https://www.coursera.org/in>

Revised syllabi (2019Pattern) for three years B. Com. Degree course (CBCS)

Semester : VI (T. Y. B. Com)

Course Code : 366 (g)

Subject : Business Entrepreneurship (Special Paper-III)

Total Credits: - 04 (Theory 03 Internship 01=04)

Preamble:

Its goal is to teach students how to think like entrepreneurs or how to establish their own business in the future. Social Entrepreneurship, MSME and Family Business, and Innovation and Creativity are just a few of the disciplines covered in this curriculum. The programme examines a variety of viewpoints on entrepreneurship.

Objectives of the Course:

- 1) To acquaint students how to establish connections, encourage communication and teamwork, foster innovation and creativity and building team bonds.
- 2) To develop the ability in students to tap personal strengths for preventing stress and achieving meaningful goals.
- 3) To develop the ability in students how to accept the responsibility of taking charge of your own levels of stress.
- 4) To identify theories of motivation and evaluate their applicability.
- 5) To study the students how design thinking is made for a digital world.

Unit No.	Unit Title	Contents	Skills to be developed
1	Team Building in Entrepreneurship	Team in Entrepreneurship: Meaning, Definition, Activities, Skills, Virtual Learning, Corporate Training, Digital Team, Challenges and Application to Team Building.	1. To understand the concept Team and significance of team in achievement of organizational objectives. 2. To understand the concept of digital team and how it saves the resources of organization in entrepreneurship. 3. To explain the concept team building and how it is essential

		Team V/s Group, Types of Team, Creating High Performance Team, Managing Team	<p>in performing task in entrepreneurship.</p> <p>4. To equip the students with the difference between team and group, and how team enhances its performance w.r.t. achieving organizational objectives.</p> <p>5. To identify ambiguities and confusions festering in each other and take proactive steps to overcome them.</p>
2	Stress and Conflict Management in Entrepreneurship	<p>Stress in Entrepreneurship: Introduction, Meaning, Definition, Nature, Characteristics, Types, Causes of Stress in Entrepreneurship. Sources and Consequences of Stress, Stress Management- Personal and Organizational Approach Entrepreneurship. Measures to reduce stress in the workplace.</p> <p>Conflict Management in Entrepreneurship: Meaning, Definition, Nature, Characteristics, Types of Conflict Management in Entrepreneurship, Causes of Conflicts in Entrepreneurship, Stress Factors Influencing on Conflict Management in Entrepreneurship, Strategies of Conflict Management in Entrepreneurship, Theories of Conflict Management.</p>	<p>1. To understand and to recognize the stressors and signs or causes of stress in work place.</p> <p>2. To recognize the cognitive components of stress, especially the effects of one's automatic thoughts and internal dialogue on appraisal of stressors.</p> <p>3. To learn various relaxation methods to reduce stress.</p> <p>4. To understand the theoretical and practical elements on organizational culture, business communication, the main characteristics and reasons of conflicts in organizations, and stress management.</p> <p>5. To recognize the nature of conflict and its impact on interpersonal relationships and organizations.</p> <p>6. To demonstrate the role of communication in generating productive conflict outcomes and to use communication skills effectively in a range of specific conflict situations.</p> <p>7. To effectively utilize and apply conflict intervention strategies such as coaching, negotiation, mediation, and system design in the management and resolution of conflict.</p> <p>8. To integrate and appropriately apply a broad range of theoretical concepts, processes and methodologies in analyzing, managing and resolving conflicts relevant to their study.</p>

3	Motivation for Entrepreneurs	Motivation: Motivation at Work Place- Meaning, Definition, Need and Types of Motivation For Entrepreneurs, Techniques of Motivation, Motivational Theories, Motivation In Covid-19 Crises For Entrepreneurs. Job Description, Job Analysis, Management By Objectives (MBO), Job Rotation, Job Enrichment, Job Enlargement, Employee Involvement Programme In Entrepreneurship.	<ol style="list-style-type: none"> 1. To understand the term motivation in entrepreneurship and appreciate different views of how people are motivated. 2. To understand how to apply different theories to an individual's motivation. 3. To initiate and accomplish entrepreneurial goals in order to become successful business managers. 4. To familiarize students about the different motivation theories. 5. To understand how employee motivation is key to company success during Covid crises. 6. To familiarize with the new concepts in motivation.
4	Digital Marketing for Entrepreneurship	Digital Marketing: Concept, Meaning, Definition, Significance For Entrepreneurs, Types Of Digital Marketing, Role Of Digital Marketing In Entrepreneurship, Issues In Digital Marketing, The New 4 P's Of Digital Marketing, Key Elements Of Digital Marketing, Ways To Become The Best Digital Marketer, Future Scope For Digital Marketing, Role Of Covid-19 In Digital Marketing For Enhancing Entrepreneurship.	<ol style="list-style-type: none"> 1. To analyze the convergence of marketing, operations, and human resources in real-time delivery. 2. To have an idea of how to demonstrate cognitive knowledge of the skills required in conducting online research and research on online markets, as well as in identifying, assessing and selecting digital market opportunities. 3. To explain emerging trends in digital marketing and critically assess the use of digital marketing tools by applying relevant marketing theories and frameworks. 4. To investigate and evaluate issues in adapting to globalize markets those are constantly changing and increasingly networked. 5. To understand the importance of conversion and working with digital relationship marketing. 6. To analyze cross-cultural and ethical issues in globalised digital markets.

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
1	12	Team building games, exercises, activities and quizzes also warm up meetings, improve training, and liven up conferences.	Related Videos and PPTs	Asked students to participate in activities and prepare detailed report with case studies.	To Recognize Strengths and Weaknesses, Problem Solving Skills. To Enhances Creativity, Increased Confidence, Team work.
2	12	Actually teach the students how to recognize and effectively manage stress.	Related Videos and PPTs	Assign small projects (Stress & Conflict Specific) to students in individual or group research.	To understand the list and describe common stressors, stress and conflict, types of business conflict, managing conflict, consequences of conflict.
3	12	Interactive/participative, content-focused, learner-centered methods to be used to teach motivation	Motivational videos or CDs of entrepreneurs and enterprises	Allow students to choose specific tasks or assignments for themselves, where possible, because their choices are more likely than usual to reflect prior personal interests, and hence be motivated more intrinsically than usual.	To identify different motivational theories and evaluate motivational strategies used in a variety of organizational settings.
4	12	To show students the creative possibilities of content marketing. Experiential learning through digital marketing simulations.	Interviews of consumers, customers, PPTs	Assign small projects in individual or in group.	To practically experience and study the digital marketing.

Method of Evaluation:

Subject	Internal Evaluation	External Evaluation	Suggested Add-on Course
Unit- I	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	Certificate Course on: Innovation, Management and Entrepreneurship
Unit-II	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-III	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	
Unit-IV	Attendance, Continuous Assessment Test, Assignment /Quiz/Course project, Seminar and Discussion	As per University norms.	

References:

- 1) Business Environment, Francis Cherunilam, Himalaya Publishing House, New Delhi.
- 2) Entrepreneurship Development, Khanna S.S, S. Chand, New Delhi.
- 3) Entrepreneurship Development, Gupta, Shrinivasan, S. Chand, New Delhi
- 4) Dynamics of Entrepreneurship, Desai Vasant, Himalaya Publishing House, New Delhi
- 5) Indian Economy, Ruddar Datt, K.P.M. Sundharam, S. Chand, New Delhi
- 6) THE ENTREPRENEUR MIND, KEVIN D. JOHNSON, JOHNSON MEDIA INC.
- 7) THE BEGINNER ENTREPRENEUR, ANGELA JENKINS, INNOVATIVE THINKING PUBLISHING
- 8) The Lean Startup, ERIC RIES, Random House Audio
- 9) Udyog, Udyog Sanchalaya, Mumbai
- 10) Vyawasaya Udyojagata, Dr. S. L. Shiragave, Success Publication, Pune

List of Industries/Institutions for Internship Programme:

Business Entrepreneurship Special Paper (Special Paper-II AND Special Paper III)

- 1) Retail Trade
- 2) Corporate sector- Local Units in nearby MIDC/ Industrial Area.
- 3) Banking Sector
- 4) Insurance Sector
- 5) Financial Institutions
- 6) Public Sectors Organization e.g. MSEB, Railway, Bus etc
- 7) Agro Tourism Industry
- 8) Hospitality Industry
- 9) Textile Industry
- 10) Automobile Industry
- 11) Pharmaceutical Industry
- 12) Cement Industry
- 13) Steel Industry
- 14) Process Industries
- 15) Telecommunication Industry
- 16) Engineering and Capital Goods Industry
- 17) Logistics
- 18) Print media
- 19) Social Media Consultant

- 20) Project Management Services
- 21) Event or Party Planning Firm
- 22) Catering Services
- 23) Crafts Seller Firms
- 24) Local Tour Consultant Firms
- 25) Interior Designer Services
- 26) Makeup artist services
- 27) Repair computers or phones firms
- 28) Digital marketing
- 29) Hotels and restaurants
- 30) Placement and Management Consultancy Services.
- 31) Healthcare Industry
- 32) Auto Repair, Services and Garages
- 33) Industrial Testing Labs
- 34) Small Workshop
- 35) Assembling Business under SEZ project
- 36) Press tools
- 37) Businesses Registered under MSME
- 38) Any other industry in consultation with subject teacher

For more details of Internship please refer Internship [Programme Manual](#)

Revised Syllabi (2019Pattern) for T.Y. B. Com. Degree course (CBCS)
Semester - VI
SPECIAL ELECTIVE COURSE (Special Course Paper – III)
Marketing Management _Course Code: 366(H)

Objectives of the Course:

1. To introduce the concept of Marketing of Service.
2. To provide the students the knowledge of Creative Advertisements.
3. To acquaint the students to various social media marketing.
4. To make the student understand the technique and process of Marketing Control and Audit.
5. To enable the students to apply this knowledge in practicality by enhancing their skills in the field of advertising.

Unit No	Unit Title	Contents	Proposed Skills to be developed
1	Service Marketing	Introduction - Meaning, Definition, Characteristics, Components, B2B Services and B2C Services, Importance of Services, 7P's concept of Service Marketing, Challenges of Service Marketing.	<ul style="list-style-type: none"> ● To impart knowledge about the concept Service Marketing.
2	Creative Advertisements	Introduction to Typography, Principles of Design, Setting Advertising, Developing Advertising Strategy, Introduction to copy writing, Message, Making Radio Commercials, Television Advertising	<ul style="list-style-type: none"> ● The objective is to make students understand the art and craft of creating advertisements for various media.
3	Introduction to Social Media Marketing	Introduction -Meaning , Importance , Myths about Social Media Marketing, Brief History, Characteristics of Social Media Marketer, Various Social Media Marketing Careers in Social media marketing	<ul style="list-style-type: none"> ● The objective is to introduce various Social Media Marketing.

4	Marketing Control and Audit	Marketing Control -Meaning and Definition, objectives of Marketing Control, Benefits of Marketing Control, essential of an effective Marketing Control System, Techniques of Marketing Control, Process of Marketing Control, Marketing Audit – Meaning, characteristics, objectives, process of Marketing Audit.	<ul style="list-style-type: none"> ● Conceptual Clarity of Marketing Control. ● To impart knowledge about Marketing Audit.
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Teaching Methodology:

Topic No.	Total Lectures	Innovative Methods to be used	Film shows and AV Applications	Expected Outcome
1	12	Power Point Presentation, Survey Analysis, Problem-solving based learning.	Short Film, AVA Relevant videos, Consortium for Educational Communication (CEC) E-Content	Student will understand the challenges of Service Marketing.
2	12	Power Point Presentation, Group Discussion, Survey Analysis	Short Film, AVA Relevant videos, Consortium for Educational Communication (CEC) E-Content	Students will understand various Creative Advertisements.
3	12	Power Point Presentation, Group Discussion, Survey	Short Film, AVA Relevant videos, Consortium for	Students will understand changing role of advertisement.

		Analysis Feld visit	Educational Communication (CEC) E-Content	
4	12	Group Discussion, Quiz, Poster Presentation	Short Film, AVA Relevant videos, Consortium for Educational Communication (CEC) E-Content	Students will understand Marketing Control Technique and Audit Process.

Methods of Evaluation:

Topic No	Internal Evaluation	External Evaluation	Suggested Add on Course
1	Quiz, Project, Group Discussion	Practical, Descriptive Questions, Quiz	Certificate Course in Role of Service Marketing.
2	Quiz, Practical, Presentation	Practical, Descriptive Questions, Quiz	Short Course in Creative Advertisements.
3	Quiz, Group Discussion, Project.	Practical, Descriptive Questions, Quiz	Certificate Course in any Social Media Marketing.
4	Quiz, Presentation, Group Discussion, Practical	Practical, Descriptive Questions, Quiz	Short Course in Marketing Audit.

References:

Sr. No.	Title of the Book	Author/s	Publication	Place
1	A framework for marketing management	Philip Kotler	Pearson Publication	New Delhi
2	Marketing Management	Rajan Saxena	McGraw Hill Education	New Delhi
3	Principles of Marketing	Philip Kotler	Pearson Publication	New Delhi
4	Advertising Management	Rajiv Batra	Pearson Publication	New Delhi
5	Marketing Management	V. S. Ramaswamy & S. Namakumari	Macmillan Publication	Noida

Savitribai Phule Pune University, Pune
Third Year, B.Com.
Revised Syllabi for Three Years B. Com. Degree Course
(CBCS-2019 Pattern) (w.e.f. 2021-22)

Semester - VI Subject: Agricultural and Industrial Economics III Paper- III

Course Code: 366 (i)

Total Credits: 4

Objectives:

1. To understand the Agricultural Policy Framework in India
2. To impart adequate knowledge about the Agricultural Price Policy in India.
3. To understand the concept of Industrial Imbalance.
4. To acquaint the learner with various Industrial Legislations

Depth of the program – Fundamental Knowledge

Unit No.	Unit Title	Content	Purpose Skills to be Developed
1	Agricultural Policy Framework in India	1.1 Need for Sound Agricultural Policies 1.2 Agricultural Policy and Programmes under Planning Periods 1.3 Need for Policy Intervention – Productivity, Equity and Sustainability	<ul style="list-style-type: none"> ▪ To understand the need for sound Agricultural policy in India. ▪ To understand the Policy on Agrarian Reforms. ▪ To understand the policy on Agrarian Reforms.
2	Agricultural Price Policy	2.1 Introduction and Need of Agricultural Price Policy 2.2 Concept of Minimum Support Price and Procurement Price. 2.3 Cost Concepts of Commission for Agricultural Cost and Price 2.4 Role of CACP in Agricultural Cost and Price determination	<ul style="list-style-type: none"> ▪ To understand the need and role of Agricultural Price policy ▪ To understand the Policy on Agrarian Reforms. ▪ To understand the policy on Agrarian Reforms. ▪ To make the students know about

		2.5 Critical Evaluation of Market Intervention Schemes	various reforms in Agricultural Produce Marketing Committee.
3	Industrial Imbalance	3.1 Meaning of Regional Industrial Imbalance. 3.2 Need for balanced the Regional Industrial Development 3.3 Causes of Regional Industrial Imbalance 3.4 Remedial Measures for balanced regional development	<ul style="list-style-type: none"> ▪ To understand the meaning of Industrial Imbalance and the Need for balanced regional Industrial Development. ▪ To make the students know about causes of Industrial Imbalance.
4	Industrial Legislations	4.1 Need of Industrial Legislations 4.2 Legislations Relating to Wages and Benefits (Only broad features) 4.2.1 Payment of Wages Act, 1936. 4.2.2 Minimum Wages Act, 1948, 4.2.3. Payment of Bonus Act, 1965 4.3 Legislations Concerning with Industrial Relations (only broad features) 4.3.1 Industrial Disputes Act, 1947, 4.3.2 The Trade Unions (Amendments) Act, 2001, 4.3.3 The Sexual Harassment at the Workplace (Prevention, Prohibition and Redressal) Act, 2013 4.4.Legislations Relating to Environment and Safety (Only broad features) 4.4.1 The National Green Tribunal Act, 2010 4.4.2 The Air (Prevention and Control of Pollution) Act, 1981 4.4.3The Water (Prevention and Control of Pollution) Act, 1974.	<ul style="list-style-type: none"> ▪ To understand the various industrial Legislations regarding Employment, Wage and Benefits, Industrial Relations, Environment and Safety.

Teaching Methodology:

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome After completing this topic, the student will be able to understand
1	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E-Content	<ul style="list-style-type: none"> ▪ Make a project on Important Agricultural Policies in India. 	<ul style="list-style-type: none"> ▪ Need for sound Agricultural Policies ▪ Agricultural Policy and Programmes under Planning Periods ▪ Policy on Agrarian Reforms: Tenancy Reform, Ceiling of Agricultural Landholdings, Impact of Land Reforms on Farming Community, ▪ Need for Policy Intervention – Productivity, Equity and Sustainability,
2	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E-Content	<ul style="list-style-type: none"> ▪ Understand Fixation of Minimum Support Price in India. 	<ul style="list-style-type: none"> ▪ Introduction and Need of Agricultural Price Policy ▪ Concept of MSP & Cost Concepts of Commission for Agricultural Cost and Price ▪ Role of CACP in Agricultural Cost and Price determination ▪ Market Intervention Schemes and Governments
3	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E-Content	<ul style="list-style-type: none"> ▪ Identify the Less developed Areas in District and Find the causes of less Development 	<p>3.1 Meaning of Industrial Imbalance.</p> <p>3.2 Need for balanced the Regional Industrial Development</p> <p>3.3 Causes of Industrial Imbalance and Remedial Measures</p>
4	12	Lecture, PPT/ Group Discussion, Library, Problem-solving based learning, Case study, Jigsaw reading, Practical based learning	Relevant videos, Consortium for Educational Communication-SWF E-Content	<ul style="list-style-type: none"> ▪ List the benefits and Need of Industrial Legislation in India. 	<p>4.1 Need of Industrial Legislations</p> <p>4.1 Industrial Employment Legislations</p> <p>4.2 Legislations Relating to Wages and Benefits</p> <p>4.3 Legislations Concerning Industrial Relations</p> <p>4.4. Legislations Relating to Environment and Safety</p>

Recommended Books:

1. Acharya and Agarwal, 1987, Agricultural Marketing in India, Oxford & IBH Publishing Company.
2. Gardner, B.L. and G.C. Rausser (2001), Handbook of Agricultural Economics, Vol. I., Elsevier.
4. Misra S.K. & V.K. Puri, (2017) Indian Economy, Himalaya Publication house Mumbai.
5. Bhalla, G. S. and Singh G., 2001, Indian Agriculture: Four Decades of Development, Sage Publications.
7. Kavimandan Vijay, (2009) Krushi Arthshastra, Shri Mangesh Prakashan, Nagpur.
8. Gardner B.L. & Rausser G.C. (2001). Handbook of Agricultural Economics. Vol. I. Agricultural Production. Elsevier
9. Kavimandan Vijay, Krushi Arthshastra.
6. Ramesh Singh, Indian Economy, Tata Mc-Graw Hill, Publication
7. Annual Reports, Department of Agriculture, Govt. of India
8. Agricultural Statistics at a Glance 2019, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.

Web reference

- 1) <https://maitri.mahaonline.gov.in/PDF/Maharashtra%20New%20Industrial%20Policy-2019.pdf>
- 2) <https://eands.dacnet.nic.in/PDF/At%20a%20Glance%202019%20Eng.pdf>
- 3) <https://www.youtube.com/user/cecedusat>
- 4) <https://www.swayamprabha.gov.in/>
[http://14.139.13.96:8080/lectures.aspx?pno=Paper05\(O\)](http://14.139.13.96:8080/lectures.aspx?pno=Paper05(O)) -UGC CEC E Contain on Agricultural Economics
[http://14.139.13.96:8080/lectures.aspx?pno=Paper06\(O\)](http://14.139.13.96:8080/lectures.aspx?pno=Paper06(O)) -UGC CEC E Contain on Industrial Economics

Savitribai Phule Pune University
Faculty of Commerce & Management
T Y B Com (Semester VI)
(Choice Based Credit System)

Revised Syllabus (2019 Pattern)

SPECIAL ELECTIVE COURSE – I

Course Code: 366 (j)

Subject: Defence budgeting finance and Management special paper - III

Total credits:

Objectives:

1. Understanding the importance of Defence Budget
2. To know the latest development of Indian Defence Industry.
3. To know the concept financial management regarding defence.
4. Understanding Defence Expenditure.

Unit No.	Topic	No. of lectures	Teaching Method	Proposed Skill to be Developed
1	Defence budgeting A) Budget as Instrument of financial Direction & control B) Ingredients of Budgeting C) Defence budgeting-it cost Effectiveness	12	Lecture, Group Discussion, Library work, Assignment, Field visit	.Understanding how the defence Budget is used as instrument of financial direction & Control.

2	Development of Indian defence Industry A) Indian Defence Industry : A Historical overview B) Policy changes in Defence Industry C) India's offset Policy to encourage domestic production D) Growth opportunities in the Indian Defence Industry	12	Lecture, Group Discussion, Library work, Assignment, Field visit	Understanding the development of Indian Defence Industry and growth opportunities in the Indian defence industry.
3.	Financial management A) Purpose, planning, control & need. B) Salient features of India's Economic system	12	Lecture, Group Discussion, Library work, Assignment, Field visit	Understanding of propose, planning control, need and of defence financial management.
4	Defence Expenditure Trends A) Defence Expenditure as a production of the GDP B) Calculating Defence Expenditure C) Characteristics of defence Spending	12	Lecture, Group Discussion, Library work, Assignment, Field visit	Understanding Defence Expenditure proportion with GDP & know the calculating system of defence Expenditure & also characteristics of Defence Expenditure.

Reference:

- 1) Raju G. C. Thomas (1978), 'The Defense of India: A Budgetary perspective', MacMillan Publication, New Delhi.
- 2) Subramanyam K. (1991), 'India's security perspective – Policy and Planning, Lancer books, New Delhi.
- 3) Nanda Ravi (1991), 'National Security Perspective, policy planning', Lancer Books, New Delhi.
- 4) Khanna D. D. and Malhotra P N. (1993), 'Defense vs Development: A Case study of India', Indus publication company, New Delhi.
- 5) Kennedy Gavin (1983), 'Defense Economics', Gerald Duckworth & Co. Ltd.

- 6) Ghosh Amiya (1996), 'India's Defense Budget & Expenditure Management in Wider Context, Lancer Publication and Span Tech, Delhi.
- 7) Dutta Meena and Sharma Jai Narayan, 'Defence Economics', Deep and Deep Publication, New Delhi.
- 8) Deger s. & Sen S. (1986), 'Military Expenditure in the Third World countries: The Economic effects', Routlet & Kegan Paul.
- 9) S. Sandeep (col retd), 'Funding for Defence & Development', Sumit Enterprises, New Delhi.
- 10) Annual report, Ministry of Defence, government of India.
- 11) Report of the finance Commission, government of India.

**TYBCOM
SPECIAL ELECTIVE COURSE – VI**

**Subject: INSURANCE, TRANSPORT AND TOURISM - II (TOURISM)
Special Paper-III**

Course Code: 366 (k)

Objectives:

1. To acquaint students with the tour package
2. To create awareness about different types of tour operator.
3. To make the students aware about pre-tour preparations.
4. To aware the students about the management of tour.

Unit No.	Topic	No. of Lectures	Teaching Method	Proposed Skills to bedveloped
1.	Tour Package 1.1 Meaning of Tour Package 1.2 Significances of Tour Package 1.3 Types of Tour Packages 1.4 Components of Tour Package 1.5 Factor Affecting the Tour Package Formulation 1.6 Tour Package Design and Selection Process	12	Lecture, PPT, Group Discussion, Library Work, Assignments	Understanding the the concept of tour package
2.	Tour marketing 2.1 Tour brochure 2.2 Market segmentation and target market 2.3 Tourist buying behavior and the role of tour operators 2.4 Image, branding and positioning 2.5 Distribution system 2.6 Career in tour marketing	12	Lecture, PPT, Group Discussion, Library Work, Panel Discussion, Study Visit to Travel Agency	Understanding the tour marketing and role of tour operator
3.	Pre-tour Preparations 3.1 Tour booking and administration 3.2 Travel documents	12	Lecture, PPT, Group Discussion, Library Work,	Understanding the Pre-tour preparations

	3.3 Tour manager briefing 3.4 Pre-departure meeting			
4.	Managing the Tour 4.1 Arrival procedures 4.2 Handling emergencies 4.3 Post-tour activities 4.4 Tour guiding 4.5 Need of quality and customer satisfaction	12	Lecture, PPT, Group Discussion, Library Work, Assignments	Understanding the Management of tour
		48		

References:

1. Bezbaruah, M.P. (1999), 'Indian Tourism beyond the Millennium', Gyan Publication, New Delhi,
2. Bhatia A.K., (2012), 'Travel Agency and Tour Operations', Sterling Publications, New Delhi.
3. Bull, A. (2095), 'The Economics of Travel and Tourism', Longman: UK.
4. Chand, M., (2007), 'Travel Agency Management: An Introductory Text', Anmol Publication Pvt. Ltd., New Delhi.
5. Dileep M.R., (2019), 'Tourism, Transport and Travel Management', Routledge New York
6. Goeldner, R and Ritchie. B., (2011), 'Tourism: Practises, Principles and Philosphies', John
7. Holloway, J.C.,and Claire Humphreys (2016), 'The Business of Tourism', Pearson.
8. Jagmohan Negi (2005), 'Travel Agency Operations and Concepts and Principles', Kanishka, New Delhi.
9. Mill and Morrison- (2002), 'The Tourism System' Kendall/Hunt Pub.
10. Murphy G. J.(1972,) 'Transport and Distribution', Random House Business Books
11. Negi J., (2006), 'Travel Agency and Tour Operations: Concepts and Principles' Kanishka, New Delhi.
12. Singh S. P. (2006), 'Travel Tourism Management' , ABD Publishers;

Savitribai Phule Pune University, Pune (T.Y. B.Com.)

Computer Programming and Application Special Paper III

Course Code -: 366 – L

Subject Name -: Software Engineering- (II).

Objective: To understand the different system concepts used in Software Engineering.

To learn the different types applications of Software Engineering.

To know the facts about Software Development

Unit No	Name Of Topic	Number of Lectures	Reference Book
5	Analysis and Design Tools Entity-Relationship Diagrams, Decision Tree and Decision Table, Data Flow Diagrams (DFD), Data Dictionary Elements of DD, Advantage of DD, Pseudo code, Input and Output Design, CASE STUDIES (Based on Above Topic solve min.5 case studies)	16	Book1, Book2
6	Structured System Design Modules Concepts and Types of Modules Structured Chart, Qualities of Good Design, Coupling, Types of Coupling, Cohesion, Types of Cohesion	14	Book1 and Book2
7	Software Testing Definition, Test characteristics, Types of testing, Black-Box Testing, White-Box Testing, Unit testing, Integration testing Validation, Verification, Testing Tools Software risk, Risk identification, Risk projection	10	Book1 and Book2

8	Designing And Document Case Studies CASE STUDIES (Based on Above Topic solve E Commerce Case Studies) Introduction Feasibility Study Fact Finding Techniques Designing (E-R Diagram & Data Flow Diagram) Screen Layout Designing	08	Book1
Total Lectures		48	

Teaching methodology

Topic No.	Total Lectures	Innovative methods to be used	Film shows and AV Applications	Project	Expected Outcome
Unit – I	16	Use ICT or presentation on Analysis and Design Tools	U–tube Tutorial on Analysis and Design Tools	-	Familiar with Analysis and Design Tools
Unit – II	14	Use ICT or presentation on Structured System Design	U–tube Tutorial Structured System Design		Familiar with Structured System Design

Unit – III	10	Use ICT or presentation on Software Testing	U–tube Tutorial Software Testing		Familiar with Software Testing
Unit – IV	8	Use ICT or presentation on Designing And Document Case Studies	U–tube Tutorial Designing And Document Case Studies	Design and Documentation of CASE STUDIES (Based on Above Topic solve E Commerce Case Studies)-	Familiar with Complete Case study

Method of Evaluation

Subject	Internal Evaluation	External Evaluation
Unit – I	30	70
Unit – II	30	70
Unit – III	30	70
Unit – IV	30	70

Guidelines for Examination:

- [1]. Term End Exam (30 Marks):
- [2]. To be conducted by college as per rules provided by University of Pune. Semester Exam 70 Marks):
- [3]. To be conducted by University of Pune at the end of the academic year.
- [4]. Passing marks for the course are 40 (Out of which **minimum 32** marks are compulsory in Semester Examination).

Recommended Book

1. Software Engineering: A Practitioner's Approach By Roger S. Pressman and Bruce Maxim McGraw-Hill Higher International; ISBN-10: 1259872971; ISBN-13: 978- 1259872976, 9 th Edition
2. Software Engineering (10th Edition) by Ian Sommerville Pearson; ISBN-10: 0133943038; ISBN-13: 978-0133943030 (04/15)
3. System Analysis, Design and Introduction to Software Engineering (SADSE) - S. Parthsarthy, B.W. Khalkar
4. Analysis and Design of Information Systems (Second Edition) - James A. Senn, McGraw Hill
5. System Analysis and Design- Elias Awad, Galgotia Publication, Second Edition
6. Fundamentals of Software Engineering- Rajib Mall, PHI Publication, Fourth Edition

Faculty of Science

Revised Syllabus

For

B. Sc.
(Physics)

From Academic Year 2013-2014

Structure of Syllabus

UNIVERSITY OF PUNE

Proposed Structure of B.Sc. (Physics) Syllabus

1) Preamble:

The systematic and planned curricula from first year to the third year shall motivate and encourage the students for pursuing higher studies in Physics and for becoming an entrepreneur.

Objectives:

- To provide in depth knowledge of scientific and technological aspects of Physics
- To familiarize with current and recent scientific and technological developments
- To enrich knowledge through problem solving, hand on activities, study visits, projects etc.
- To train students in skills related to research, education, industry, and market.
- To create foundation for research and development in Electronics
- To develop analytical abilities towards real world problems
- To help students build-up a progressive and successful career in Physics

2) Eligibility:

- 1 **First Year B.Sc.:** Higher Secondary School Certificate (10+2) Science stream or its equivalent Examination as per the University of Pune eligibility norms.
- 2 **Second Year B.Sc.:** Keeping terms of First Year of B. Sc. with Physics as one of the subjects. Other students if they fulfil the conditions approved by the equivalence committee of Faculty of Science of the University of Pune are also eligible.
- 3 **Third Year B. Sc.:** Student shall pass all First Year B. Sc. courses and satisfactorily keeping terms of Second Year of B. Sc. with Physics as one of the subjects.

Note: Admissions will be given as per the selection procedure / policies adopted by the respective college, in accordance with conditions laid down by the University of Pune. Reservation and relaxation will be as per the Government rules.

F.Y. B. Sc.

(From Academic Year 2013-2014)

(To be implemented from Academic Year 2013-14)

Paper	Title
Paper I	Section I (For Term 1): Mechanics
	Section II (For Term 2): Heat and Thermodynamics
Paper II	Section I (For Term 1): Physics Principles and Applications
	Section II (For Term 2): Electromagnetics
Paper III	(For Term1 and Term 2): Practical

For each theory course: 36 Lectures per term/2 Credits per term

For practical course: 20 practicals/4Credits

S. Y. B. Sc.
(Semester Pattern)
(From Academic Year 2014-2015)

Semester I

Paper	Title
Paper I (PHY211)	Mathematical Methods in Physics I
Paper II (PHY 212)	Electronics I /Instrumentation

Semester II

Paper	Title
Paper I (PHY221)	Oscillations, Waves and Sound
Paper II (PHY 222)	Optics

Practical Course (Annual)

Paper III (PHY 223) (Annual)	Practical
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T. Y. B. Sc. (Physics)
(Semester Pattern)

(From Academic Year 2015-2016)

Theory Courses (Semester)	
Semester III	Semester IV
PH331: Mathematical Methods in Physics II	PH341: Solid State Physics
PH332: Classical Electrodynamics	PH342: Quantum Mechanics
PH333: Classical Mechanics	PH343: Thermodynamics and Statistical Physics
PH334: Atomic and Molecular Physics	PH344: Nuclear Physics
PH335: Computational Physics	PH345: Electronics II /Advanced Electronics

PH336: Elective I (Select any One)	PH346: Elective II (Select any One)
A: Astronomy and Astrophysics	F: Renewable Energy Sources
B: Elements of Materials Science	G: Physics of Nano materials
C: Motion Picture Physics	H: Microcontrollers
D: Biophysics	I: Electro Acoustics and Entertainment Electronics
E: Medical Electronics	J: Lasers
	K: Methods of Experimental Physics
Practical Courses (Annual)	
PH347: Laboratory Course I	
Phy348: Laboratory Course II	
PH349: Laboratory Course III (Project)	

Examination:

A) Pattern of Examination:

i) **F. Y. B. Sc.**

- (a) There shall be university examination at the end of the academic year for 80 marks for each theory paper.
- (b) 20 marks for each paper are allotted to the comprehensive internal assessment of the student by the respective teacher, teaching the course. The teacher shall evaluate the performance of the student for 10 marks in each term; on the basis of written tests. Ordinarily written tests shall consist of (i) multiple choice questions, (ii) True/False, (iii) basic definitions, (iv) tricky computational problems involving minimal calculations. Student is asked to answer 20 questions in 40 minutes. Each question will be of ½ marks. In the same classroom setup, different set of equivalent sets of question papers may be experimented. It will be preferred to have two such tests in each term, per course (one at the middle of the term and one at the end of the term) and average (or best of the two tests) be considered as internal marks out of 10 for that term. Internal Test shall cover the entire syllabus. If teacher prefers to have one test only, it shall be at the end of the term covering the entire syllabus).
- (c) Practical examination be conducted by respective colleges at the end of the academic year 80 marks be assigned to practicals and 20 marks for internal examination, journal attendance (Journal 10 marks, Oral 10 marks).

ii) S. Y. B. Sc. and T. Y. B. Sc.

- (a) There shall be university examination at the end of semester for 40 marks for each theory paper.
- (b) 10 marks for each paper are allotted to the comprehensive internal assessment of the student by the respective teacher, teaching the course. Pattern of internal assessment shall be on the lines of F.Y.B. Sc.
- (c) University Practical examination be conducted at the end of the academic year 80 marks be assigned to practicals and 20 marks for internal examination, journal attendance (Journal 10 marks, Oral 10 marks).

For practical examination:

- (1) At least one examiner should be external
- (2) Certified journals be compulsory
- (3) There shall be two experts for all subjects.
- (4) (a) At T. Y. B. Sc. level, it is preferred to have project work in lieu of one of the practical course.
(b) Blue print for Model Question Paper: Each Board of Studies shall frame at least 5 sets of model theory papers and 10 sets of model question set for internal assessment.

II) Pattern of the Question paper:

For theory paper (University examination) shall be as follows.

F. Y. B. Sc. (80 Marks) (Time Allotted: 3 hrs)

- Q1. 16 marks for 8 sub-questions, each sub-question for two marks. Sub-questions shall be answerable in two to four lines and shall be based on complete syllabus.
- Q2. and Q3. Student shall attempt four out of six questions. Each short answer type question shall carry four marks and be answerable in 6 to 8 lines.
- Q4. Student shall attempt 2 out of 4 long answer type questions. Each question will be for 8 marks and be answerable in 12 to 16 lines.
- Q5. Long easy type question for 16 marks. Student shall attempt one out of two questions.

OR

- Q5. Shall be on the pattern of question 4.
(Question paper of a particular course should contain minimum of 30% weightage to problems)

S. Y. B. Sc. and T. Y. B. Sc. (Theory) University Question Paper Pattern:
(40 marks, Time allotted: 2 hrs)

- Q1. 10 sub-question each for 1 mark. Sub-questions be answerable within 2 to 4 lines and shall be based on complete syllabus. All sub-questions are compulsory.
- Q2 and Q3: (10 Marks for each questions) Three sub questions. Students have to attempt any two questions.
- Q4. Long Essay type question for 8 marks and one question of two marks.

B) Standard of Passing: 40 % marks

C) ATKT Rules

- (i) Students shall clear 8 heads of passing (out of 12 such heads) while going from F. Y. B. Sc. to S.Y.B.Sc. However he must pass in all F. Y. B. Sc. subjects while going to T. Y. B. Sc.

- (ii) Student shall clear 12 heads of passing (out of 20 such heads) while going from S. Y. B. Sc. to T. Y. B. Sc. (Practical course of S. Y. B. Sc. will be equivalent to 2 heads of passing)
- D) Award of Class: As per University norms.
- E) External Students: Not applicable
- F) Setting of question paper/Pattern of Question paper: As mentioned above
- 6) Structure of the Course:
- a) Compulsory paper: a) At F.Y.B.Sc. and S.Y.B.Sc. all papers are compulsory and at T.Y.B.Sc. 8 papers are compulsory and one paper is optional.
 - b) Optional papers: At T.Y.B.Sc. one paper per semester is optional.
 - c) Question papers and papers etc.: As mentioned above
 - d) Medium of Instructions: English
- 7) Equivalence of previous syllabus along with propose syllabus: The papers are similar so no equivalence is required at B. Sc. level.
- 8) University terms: 6 terms
- 9) Subject-wise detailed syllabus: Attached with this format.
- 10) Recommended books: Given in the syllabus at the end of each course.
- 11) Qualification of teachers: As per UGC regulations.

F. Y. B. Sc.
Term -I

Physics Paper I: Section I: Mechanics

Lectures: 36

Credits: 2

Learning Outcomes:

On successful completion of this course students will be able to do the following:

1. Demonstrate an understanding of Newton's laws and applying them in calculations of the motion of simple systems.
2. Use the free body diagrams to analyse the forces on the object.
3. Understand the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them.
4. Understand the concepts of elasticity and be able to perform calculations using them.
5. Understand the concepts of surface tension and viscosity and be able to perform calculations using them.
6. Use of Bernoulli's theorem in real life problems.
7. Demonstrate quantitative problem solving skills in all the topics covered.

Syllabus:

1. Newton's laws of motion

(6 Lectures)

- 1.1 Newton's First and Second Law and their explanation
- 1.2 Working with Newton's First and Second Law
- 1.3 Newton's Third Law of motion and its explanation
- 1.4 Various types of forces in nature (explanation) and concept of field
- 1.5 Frame of reference (Inertial, Non-inertial)
- 1.6 Pseudo Forces (e.g. Centrifugal Force)

2. Work and Energy

(8 Lectures)

- 2.1 Kinetic Energy
- 2.2 Work and Work-Energy Theorem
- 2.3 Calculation of Work done with
 - i) Constant Force
 - ii) Variable ForceIllustration
- 2.4 Conservative and Non-conservative Forces
- 2.5 Potential energy and conservation of Mechanical energy
- 2.6 Change in potential energy in rigid body motion
Mass-energy equivalence

3. Elasticity

(8 Lectures)

- 3.1 Hook's law and coefficient of elasticity
- 3.2 Young's modulus, Bulk modulus and Modulus of rigidity
- 3.3 Work done during longitudinal strain, volume strain, and shearing strain
- 3.4 Poisson's ratio
- 3.5 Relation between three elastic moduli (Y , η , K)
- 3.6 Determination of Y of rectangular thin bar loaded at the centre
- 3.7 Torsional oscillations
Torsional rigidity of a wire, to determine η by torsional oscillations

4. Surface Tension

(5 Lectures)

- 4.1 Surface Tension, Angle of Contact, Capillary Rise Method
- 4.2 Rise of liquid in a conical capillary tube
- 4.3 Energy required to raise a liquid in capillary tube

- 4.4 Factors affecting surface tension
- 4.5 Jeager's Method for Determination of surface tension
- 4.6 Applications of Surface Tension

5. Viscosity and Fluid Mechanics

(9 Lectures)

- 5.1 Concept of Viscous Forces and Viscosity
- 5.2 Pressure in a fluid and buoyancy
- 5.3 Pascal's law
- 5.4 Atmospheric Pressure and Barometer
- 5.5 Pressure difference and Buoyant Force in accelerating fluids
- 5.6 Steady and Turbulent Flow, Reynolds's number
- 5.8 Equation of continuity
- 5.9 Bernoulli's Principle
- 5.10 Application of Bernoulli's equation
 - i) Speed of Efflux
 - ii) Ventury meter
 - iii) Aspirator Pump
 - iv) Change of plane of motion of a spinning ball.

Reference Books:

1. University Physics: Sears and Zeemansky, XIth edition, Pearson education
2. Concepts of Physics: H.C. Varma, Bharati Bhavan Publishers
3. Problems in Physics: P.K. Srivastava, Wiley Eastern Ltd.
4. Applied Fluid Mechanics: Mott Robert, Pearson Benjamin Cummir, VI Edition, Pearson Education/Prentice Hall International, New Delhi
5. Properties of Matter: D. S. Mathur, Shamlal Chritable Trust New Delhi
6. Mechanics: D.S Mathur, S Chand and Company New Delhi-5.

F. Y. B. Sc.
Term –II

Physics Paper I: Section II: Heat and Thermodynamics

Lectures: 36

Credits: 2

Learning Outcomes:

After successfully completing this course, the student will be able to do the following:

1. Describe the properties of and relationships between the thermodynamic properties of a pure substance.
2. Describe the ideal gas equation and its limitations.
3. Describe the real gas equation.
4. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.
5. Analyse the heat engines and calculate thermal efficiency.
6. Analyze the refrigerators, heat pumps and calculate coefficient of performance.
7. Understand property 'entropy' and derive some thermo dynamical relations using entropy concept.
8. Understand the types of thermometers and their usage.

Syllabus

1. Equation of state (8 lectures)

- 1.1 Equations of state
- 1.2 Andrew's experiment
- 1.3 Amagat's experiment
- 1.4 Van der Waals' equation of state
- 1.5 Critical constants
- 1.6 Reduced equation of state
- 1.7 Joule-Thomson porous plug experiment

2. Concepts of Thermodynamics (8 lectures)

- 2.1 Thermodynamic state of a system and Zeroth law of Thermodynamics
- 2.2 Thermodynamic Equilibrium
- 2.3 Adiabatic and isothermal changes
- 2.4 Work done during isothermal changes
- 2.5 Adiabatic relations for perfect gas
- 2.6 Work done during adiabatic change
- 2.7 Indicator Diagram
- 2.8 First law of Thermodynamics
- 2.9 Reversible and Irreversible processes

3. Applied Thermodynamics (8 lectures)

- 3.1 Conversion of Heat into Work and its converse
- 3.2 Carnot's Cycle and Carnot's Heat Engine and its efficiency
- 3.3 Second law of Thermodynamics
- 3.4 Concept of Entropy
- 3.5 Temperature-Entropy Diagram
- 3.6 T-dS Equation
- 3.7 Clausius-Clapeyron Latent heat equations

4. Heat Transfer Mechanisms (8 lectures)

- 4.1 Heat Engines
 - i. Otto cycle and its efficiency
 - ii. Diesel cycle and its efficiency

4.2 Refrigerators:

- i. General Principle and Coefficient of performance of refrigerator
- ii. The Carnot Refrigerator
- iii. Simple structure of vapour compression refrigerator

4.3 Air conditioning: principle and its applications

5. Thermometry

(4 lectures)

5.1 Temperature Scales: Centigrade, Fahrenheit and Kelvin scale

5.2 Principle, construction and working of following thermometers

- i. Liquid and Gas Thermometers
- ii. Resistive Type Thermometer
- iii. Thermocouple as thermometer
- iv. Pyre heliometer

Reference Books:

1. Physics: 4th Edition, Volume I, Resnick/Halliday/Krane JOHN WILEY & SONS (SEA) PTE LTD
2. Concept of Physics: H.C. Verma, Bharati Bhavan Publishers
3. Heat and Thermodynamics: Brijlal, N. Subrahmanyam, S. Chand & Company Ltd, New Delhi
4. Heat and Thermodynamics: Mark. W. Zemansky, Richard H. Dittman, Seventh Edition, McGraw-Hill International Editions
5. Thermodynamics and Statistical Physics: J.K. Sharma, K.K. Sarkar, Himalaya Publishing House
6. Thermal Physics (Heat & Thermodynamics): A.B. Gupta, H.P. Roy Books and Allied (P) Ltd, Calcutta.

F. Y. B. Sc.

Term I

Physics Paper II: Section I: Physics Principles and Applications

Lectures: 36

Credits: 2

Learning Outcomes:

On successful completion of this course students will be able to do the following:

1. To demonstrate an understanding of electromagnetic waves and its spectrum.
2. Understand the types and sources of electromagnetic waves and applications.
3. To understand the general structure of atom, spectrum of hydrogen atom.
4. To understand the atomic excitation and LASER principles.
5. To understand the bonding mechanism in molecules and rotational and vibrational energy levels of diatomic molecules.
6. To demonstrate quantitative problem solving skills in all the topics covered.

Syllabus:

1. Physics of Atoms

(12 Lectures)

1. The concept of atom (Atomic Models: Thompson and Rutherford)
2. Atomic Spectra
3. Bohr Theory
4. Hydrogen atom Spectra
5. Frank Hertz experiment
6. The LASER
Absorption, Spontaneous Emission, and Stimulated Emission, Population Inversion and Laser Action, Applications of Lasers

2. Physics of Molecules

(10 Lectures)

1. Bonding Mechanisms: A Survey
 - i. Ionic Bonds
 - ii. Covalent Bonds
 - iii. Van der Waals Bonds
 - iv. The Hydrogen Bond
 - v. Metallic Bond
2. Variation of potential energy with inter-atomic distance
3. Concept of Rotational and vibrational energy levels of diatomic molecule

3. Electromagnetic Waves

(14 Lectures)

1. Historical Perspective of Electromagnetic Waves
2. Production of electromagnetic waves : Hertz experiment
3. Electromagnetic spectrum
4. Planck hypothesis of photons (Concept only)
5. Sources of electromagnetic waves : Radio waves, Microwaves, Infrared, Visible light, Ultraviolet, X-rays, Gamma rays
6. Applications
 - i. microwave oven
 - ii. RADAR
 - iii. Pyro electric thermometer
 - iv. X-ray radiography and CT Scan
 - v. Solar cell

References

1. Concepts of Modern Physics: A Beiser (6th ed., McGraw Hill, 2003)
2. Modern Physics: Raymond A. Serway, Clement J. Moses, Curt A. Moyer
3. Sears and Zemansky's University Physics: H.D. Young R. A. Freedman, Sandin (11th Ed. Pearson Education)
4. Nanotechnology : Principles and Practices: S. K. Kulkarni, Capital Publishing Company.

F. Y. B. Sc.
Term II

Physics Paper II: Section II: Electromagnetics

Lectures: 36

Credits: 2

Learning Outcomes:

On successful completion of this course students will be able to do the following:

1. Demonstrate an understanding of the electric force, field and potential, and related concepts, for stationary charges.
2. Calculate electrostatic field and potential of simple charge distributions using Coulomb's law and Gauss's law.
3. Demonstrate an understanding of the dielectric and effect on dielectric due to electric field.
4. Demonstrate an understanding of the magnetic field for steady currents using Biot-Savart and Ampere's laws.
5. Demonstrate an understanding of magnetization of materials.
6. Demonstrate quantitative problem solving skills in all the topics covered.

Syllabus

1. Electrostatics

(9 Lectures)

1. Revision of Coulomb's law
2. Superposition principle
3. Electric field due to an electric dipole, line and disc
4. Revision of Gauss's law
5. Coulomb's law from Gauss's law
6. Gauss's law applications in Cylindrical, planar and spherical symmetry

2. Dielectrics

(9 Lectures)

1. Electric Dipole
2. Electric dipole and dipole moment
3. Electric potential and intensity at any point due to dipole
4. Torque on a dipole placed in an electric field
5. Polar and non-polar molecules
6. Electric polarization of dielectric material
7. Gauss' law in dielectric
8. Electric vectors and relation between them

3. Magneto statics

(9 Lectures)

1. Revision of Biot-Savart's law with examples
2. Amperes' law, e.g. Solenoid and Toroid
3. Gauss law for magnetism

4. Magnetic properties of materials

(9 Lectures)

1. Magnetic materials and Bohr magneton
2. Magnetization (M), magnetic intensity (H), magnetic induction (B), magnetic susceptibility and permeability
3. Relation between B, M and H
4. Hysteresis

References:

1. Fundamentals of Physics: 8th Edition, Halliday Resnik and Walker
2. Electromagnetics: B. B. Laud

**F. Y. B. Sc.
Term I and II**

Physics paper III: Practical

Total Practicals: 20

Credits: 4

Learning Outcomes:

After successfully completing this laboratory course, the students will be able to do the following:

1. Acquire technical and manipulative skills in using laboratory equipment, tools, and materials.
2. Demonstrate an ability to collect data through observation and/or experimentation and interpreting data.
3. Demonstrate an understanding of laboratory procedures including safety, and scientific methods.
4. Demonstrate a deeper understanding of abstract concepts and theories gained by experiencing and visualizing them as authentic phenomena.
5. Acquire the complementary skills of collaborative learning and teamwork in laboratory settings.

Syllabus:

1. Mechanics

1. Range and Least Count of Instruments, Measurements using various instruments and error analysis (Vernier caliper, screw gauge, travelling microscope, spectrometer etc.)
2. Determination MI of disc using ring
3. MI of Flywheel
4. Determination of coefficient of viscosity by Poiseuille's method
5. Determination of Y and n by flat spiral spring
6. Determination of Y by bending
7. Surface Tension by Jaeger's method.

2. Heat and Thermodynamics

1. Interpretation of isothermal and adiabatic curves on PV diagrams (Theoretical). Theoretical study of Carnot's cycle by drawing graphs of isothermal and adiabatic curves.
2. Temperature coefficient of resistance
3. Study of thermocouple and determination of inversion temperature
4. Thermal conductivity by Lee's method
5. Specific heat of graphite

3. Light

1. Study of spectrometer and determination of angle of prism
2. Spectrometer calibration. Determination of refractive indices of different colours and plotting the graph of refractive index vs wavelength.
3. Study of total internal reflection using LASER
4. Study of polarization of light by reflection
5. Determination of wavelength of LASER light by plane diffraction grating or cylindrical obstacle.

4. Electricity and magnetism

1. Charging and discharging of a capacitor

2. Study of LR circuit
3. Study of LCR series circuit
4. Study of Kirchhoff's laws
5. Diode characteristics
6. Study of millimetres (all AC, DC ranges, Least Count)
7. Determination of frequency of AC mains

Students have to perform minimum three experiments from each section and total sixteen experiments. Students can perform any two experiments from Computer Aided experiments in place of any two experiments in above four sections.

Additional Activities

1. Demonstrations (Any four demonstrations equivalent to two experiments)
 1. Magnet –magnet interaction
 2. Collision by using balls
 3. Study of Signal generator using CRO (Sine, square wave signal, measurement of AC voltage, frequency)
 4. Demonstration of action potential
 5. Measurement of sound pressure level
2. Computer aided demonstrations (Using computer simulations or animations) (Any two demonstrations equivalent to two experiments)
 1. Coulomb's law
 2. Vectors : visualization of vectors
 3. Bohr's model
 4. Carnot engine, diesel engine
 5. Graphs and their slopes, and Kinematics graphs (using computer simulations)
3. Mini projects/Hand on activities (Any one equivalent to two experiments)
 1. Students should collect the information of at least five Physicists with their work.
 2. Students should carry out mini projects
4. Study tour (Equivalent to two experiments)
Students participated in study tour must submit a study tour report.

Students have to perform at least two additional activities out of four activities in addition to sixteen experiments mentioned above. Total Laboratory work with additional activities should be equivalent to twenty experiments.

M.V.P's
K.A.A.N.M.Sonawane Arts, Commerce & Science College,
Satana, Tal- Baglan, Dist- Nashik

Department of Botany

1.3.1 Crosscutting issue to be implemented in curriculum

Sr . No.	Program Name	Course title and Code	Cross cutting issue addressed
1.	F.Y.B.Sc (2013 Pattern)	BO 111: Plant Diversity, Plant Morphology and Anatomy	Environment and Sustainability
		BO 112: Industrial Botany	Professional skill
1	F.Y.B.Sc (2019 Pattern)	BO-111 Plant life and Utilization	Environment and Sustainability
		BO-112 Plant morphology and Anatomy	Environment and Sustainability
2.	S.Y.B.Sc (2014 Pattern)	BO-211 Taxonomy of Angiosperms and Plant community	Environment and Sustainability
		BO-222: Plant Biotechnology	Professional skill
2.	S.Y.B.Sc (2020 Pattern)	BO-231 Taxonomy of Angiosperm and Plant Ecology	Environment and Sustainability
		BO-242 Plant Technology	Professional skill
	T.Y.B.Sc (2015 PATTERN)	BO. 331 Cryptogamic Botany	Environment and Sustainability

		BO. 335 Horticulture and Floriculture	Professional skill
		BO. 336 Computational Botany	Professional skill
		BO.342 Plant Ecology and Biodiversity	Environmental Awareness
		BO.343 Plant Pathology	Professional skill
		BO.344 Medicinal and Economic Botany	Environment and Sustainability
3.	T.Y.B.Sc (2022 pattern)	BO 3510 Medicinal Botany	Human Values
		BO 3511 Plant Diversity and Human Health	Human Values
		BO 3610 Nursery and Gardening Management	Professional Ethics
		BO 3611 Biofertilizers	Professional Ethics
4	M.Sc I Year (2019 Pattern)	BODT 114 Pomoculture and Fruit Processing Technology	Professional Ethics
		BOUT 111 Botany Theory Paper 1-Plant Systematics I	Environment Awareness

	M.Sc-II Year (2019 Pattern)	BOUT 241 Botanical Techniques	Professional Ethics
		BOUT 242 Advanced Ecology	Environment Awareness
		BOUT 231 Computational Botany	Professional Ethics

Savitribai Phule Pune University
Board of Studies in Chemistry

T.Y.B.Sc. Chemistry Cross Cutting

Structure to be implemented from June 2015 (i.e. from Academic Year 2015-16)

Semester	Course Code and Title	Number of Lectures	Marks
Semester III	CH-331: Physical Chemistry	48	50
	CH-332: Inorganic Chemistry	48	50
	CH-333: Organic Chemistry	48	50
	CH-334: Analytical Chemistry	48	50
	CH-335: Industrial Chemistry	48	50
	OPTIONAL COURSE CH-336-A Nuclear Chemistry OR CH-336-B Polymer Chemistry OR CH-336-C Introduction to Biochemistry and Molecular Biology OR CH-336-D Environmental and Green Chemistry CH-336-E Agriculture Chemistry	48	50
Semester IV	CH-341: Physical Chemistry	48	50
	CH-342: Inorganic Chemistry	48	50
	CH-343: Organic Chemistry	48	50
	CH-344: Analytical Chemistry	48	50
	CH-345: Industrial Chemistry	48	50
	OPTIONAL COURSE CH-346-A Nuclear Chemistry OR CH-346-B Polymer Chemistry OR CH-346-C Introduction to Biochemistry and Molecular Biology OR CH-346-D Environmental and Green Chemistry OR CH-346-E Dairy Chemistry	48	50
	PRACTICAL COURSES		
	CH-347: Physical Chemistry Practicals		100
	CH-348: Inorganic Chemistry Practicals		100
	CH-349: Organic Chemistry Practicals		100

Semester-III

Course: Environmental and Green Chemistry (CH-336D)

Name of the Topic	Number of lectures
1. Concepts and scope of Environmental Chemistry	02
2. Atmosphere and Air Pollution	14
3. Hydrosphere and water pollution	08
4. Introduction to Green Chemistry	10
5. Green Chemistry and Technology for sustainable development	10
6. Green Chemistry and Hazardous Organic Solvents	04
Total lectures	48

Chapter 1: Concepts and scope of Environmental Chemistry (02)

- 1.1 Introduction
- 1.2 Terminologies
- 1.3 Units of concentration
- 1.4 Segments of Environment

Ref. 1, Ref. 3

Aims and Objectives-

Students should know-

- i. Importance and conservation of environment.

Chapter 2: Atmosphere and Air Pollution (14)

- 2.1 Composition and structure of atmosphere
- 2.2 Chemical and photochemical reactions in atmosphere
- 2.3 Chemistry of O₃, SO_x, NO_x and chlorides in atmosphere
- 2.4 Primary air pollutants
- 2.5 Sampling of air
- 2.6 Particulate matter: inorganic and organic
- 2.7 Smog: reducing and photochemical
- 2.8 Mechanism of ozone depletion
- 2.9 Stability and reactions of CFCs
- 2.10 Harmful effects of CFCs
- 2.11 CFCs substitutes
- 2.12 Bhopal gas tragedy

Ref. 1, Ref. 3, Ref. 5

Aims and Objectives-

Students should know-

- i. Segments of atmosphere
- ii. Hazards of flue gases
- iii. Ozone depletion
- iv. Ecological changes due to hazardous gases

- v. Understand the social issues

Chapter 3: Hydrosphere and water pollution **(08)**

- 3.1 Water resources
- 3.2 Physical chemistry of sea water: composition, equilibria, pH, pE
- 3.3 Microbially mediated aquatic reactions, nitrogen cycle, iron and manganese bacteria
- 3.4 Classification of water pollutants
- 3.5 Organic and Inorganic pollutants: Pesticides, Detergents, Eutrophication, Marine, Oil, Acidmine drainage, remedial measures and sediments
- 3.6 Thermal pollution
- 3.7 Sampling and monitoring water quality parameters: pH, D.O. (Winkler Method), COD, TOC, Total hardness, free chlorine.

Ref. 1, 2, 3, and 5

Aims and Objectives-

Students should know-

- i. Water resources
- ii. Quality of potable water
- iii. WHO limits for toxic materials in water stream
- iv. Quality measures

Chapter4. Introduction to Green Chemistry **[10]**

- 4.1 Chemistry is good
- 4.2 The environment and the five environmental spheres
- 4.3 What is environmental Chemistry?
- 4.4 Environmental Pollution
- 4.5 What is green Chemistry?
- 4.6 Green Chemistry and synthetic chemistry
- 4.7 Reduction of risk: Hazard and exposure
- 4.8 The risk and no risks
- 4.9 Waste prevention
- 4.10 Basic principles of green chemistry
- 4.11 Examples based on green technology

[Ref: Green Chemistry By Stanley E Manahan, Chemchar Research Inc. (2006) -2ndEdn. chapter1, P1-17 and Ref.6 Relevant pages.]

Chapter 5. Green Chemistry and Technology for sustainable development **[10]**

- 5.1 Green Chemistry from theory to practice
- 5.2 The twelve principles of green chemistry
- 5.3 Green Chemistry and sustainable Development
- 5.4 Designing Products under the holistic approach “ Cardle-to Cardle”
- 5.5 Scientific areas for practical applications of green chemistry
- 5.6 Use of alternative basic chemicals as feedstocs in chemical industry and research
- 5.7 Green Chemistry and Reduction of solvent Toxicity (Alternative Solvents or replacement)
- 5.8 Applications of New Methodologies in the synthesis of chemical compounds- catalysis and green chemistry.

[Ref : Green Chemistry–Green engineering by AthanasiosValavanidis and ThomaisVlachogianni (March 2012) ; Chapter 2 p17-37 and Ref.6 Relevant pages]

Chapter 6. Green Chemistry and Hazardous Organic Solvents (Green solvents, replacement andAlternative techniques) [04]

6.1 Introduction to Green Chemistry and Toxic organic solvents

6.2 Green solvents and Alternative methods

6.3 Green Chemistry, Green solvents – Alternative techniques in organic synthesis

[Ref : Green Chemistry –Green engineering , Chapter 5, p81-91, Ref.6 Relevant pages]

Aims and Objectives-(for Chapters 4, 5 and 6)

Students should know-

- i. Need of green chemistry technology
- ii. Principles of green chemistry
- iii. Advantages of green chemistry
- iv. Simple examples to clarify the principles
- v. Catalytic routes for sustainable developments

Structure of T. Y. B. Sc. Chemistry

(According to CBCS – 2019 Pattern of SPPU)

Semester	DSEC/SEC	Nature	Paper Code	Code and Title	Credits/Lectures
V	DSEC-I	Theory	CH-501	Physical Chemistry-I	Credit-2, 36 L
		Theory	CH-502	Analytical Chemistry-I	Credit-2, 36 L
		Practical	CH-503	Physical Chemistry Practical-I	Credit-2, 73 L
	DSEC-II	Theory	CH-504	Inorganic Chemistry-I	Credit-2, 36 L
		Theory	CH-505	Industrial Chemistry	Credit-2, 36 L
		Practical	CH-506	Inorganic Chemistry Practical-I	Credit-2, 73 L
DSEC-III	Theory	CH-507	Organic Chemistry-I	Credit-2, 36 L	
	Theory	CH-508	Chemistry of Biomolecules	Credit-2, 36 L	
		Practical	CH-509	Organic Chemistry Practical-I	Credit-2, 73 L
SEC- I		Theory	CH-510	(A) Introduction of Medicinal Chemistry OR (B) Polymer Chemistry	Credit-2, 36 L
SEC- II		Theory	CH-511	(A) Environmental Chemistry OR (B) Chemo informatics	Credit-2, 36 L
VI	DSEC-IV	Theory	CH-601	Physical Chemistry-II	Credit-2, 36 L
		Theory	CH-602	Physical Chemistry -III	Credit-2, 36 L
		Practical	CH-603	Physical Chemistry Practical-II	Credit-2, 73 L
	DSEC-V	Theory	CH-604	Inorganic Chemistry-II	Credit-2, 36 L
		Theory	CH-605	Inorganic Chemistry-III	Credit-2, 36 L
		Practical	CH-606	Inorganic Chemistry Practical-II	Credit-2, 73 L
	DSEC-VI	Theory	CH-607	Organic Chemistry-II	Credit-2, 36 L
		Theory	CH-608	Organic Chemistry-III	Credit-2, 36 L
		Practical	CH-609	Organic Chemistry Practical-II	Credit-2, 73 L
	SEC III		Theory	CH-610	(A) Chemistry of Soil and Agrochemicals OR (B) Introduction of Forensic Chemistry
SEC IV		Theory	CH-611	(A) Analytical Chemistry-II OR (B) Chemistry of Cosmetics and Perfumes	Credit-2, 36 L

CH-511 (A) : Environmental Chemistry

Chapter No.	Title of Topic/Chapter	No. of lecture
1	Concepts and Scope of Environmental Chemistry	06
2	Hydrosphere and Water Pollution	10
3	Analytical Techniques in water Analysis	10
4	Water pollution and treatment methods	10
Total		36

1: Concepts and Scope of Environmental Chemistry (06L)

Introduction, Environmental Pollution and Classification, Units of concentration, Segments of Environment, Biogeochemical cycles of C, N, P, S and O system

Reference: 1, 2, 3

Aims and objectives: -Students should know:

- i. Importance and conservation of environment.
- ii. Importance of biogeochemical cycles

2: Hydrosphere and Water Pollution (10L)

Water resources, Hydrological Cycle: stages of hydrological cycle and chemical composition of water bodies, Microbially mediated aquatic reactions, Classification of water pollutants

Organic and Inorganic pollutants, Sewage and Domestic waste, Sediments, Detergents, Pesticides, Eutrophication, Sampling and monitoring water quality parameters: pH, D.O. (Winkler Method), COD, TOC, Total hardness, free chlorine.

Reference: 1 Page no -47-62,

Aims and Objectives:- Students should know:

- i. Water resources
- ii. Hydrological Cycle
- iii. Organic and inorganic pollutants
- iv. Water quality parameters

3. Analytical Techniques in water Analysis (10 L)

Water quality parameters and standards, domestic water quality parameters, surface water, sampling, preservation, Monitoring techniques and methodology (pH, conductance, DO, ammonia, nitrate and nitrite, Cl, F, CN, Sulfide, sulphate, phosphate, total hardness, boron, metals and metalloids- As, Cd,

Cr, Cu, Fe, Pb, Mn, Hg (Exclude polarographic and AAS methods), COD, BOD, TOC, phenols, pesticides, surfactants, tannis and lignins, E. Coli, Case studies of water pollution.

Ref-1: 225-278

4. Water pollution and treatment methods (10 L)

Water pollutants, Eutrophication, Waste water treatment (domestic waste water, aerobic treatment, anaerobic treatment, upflow aerobic sludge bed, industrial waste water treatment, drinking water supplies, Trace elements in water, chemical speciation (Cu, Pb, Hg, As, Se, Cr)

Ref-1: 167-225

Reference-1: Environmental Chemistry – A. K. De, Third Edition (Wiley)

Additional References:

1. Environmental Chemistry – A. K. De, 5th Edition (New age international publishers)
2. Environmental Chemistry – A. K. Bhagi and C. R. Chatwal (Himalaya Publishing House)
3. Environmental Chemistry – H. Kaur 2nd Edition 2007, Pragati Prakashan, Meerut, India
4. Environmental Chemistry – J. W. Moore and E. A. Moore (Academic Press, New York)
5. Basic Concepts of Analytical Chemistry: S. M. Khopkar, Wiley Eastern (1995)

CH-610 (A) : Chemistry of Soil and Agrochemicals

Chapter No	Name of the Topic	Number of lectures
1	Soil Chemistry	6
2	Problematic Soil and Soil testing	6
3	Laboratory Methods of Soil Analysis	12
4	Fertilizers and Manures	6
5	Protection of Plants	6
	Total Lectures	36

1. Soil Chemistry (6 L)

1.1 Role of agricultural chemistry

1.2 Introduction to soil chemistry, definitions of soil, Soil components- Mineral component, organic matter or humus, soil atmosphere, soil water, soil microorganism.

1.3 Physical properties of soil- Soil texture, soil structure, soil colour, soil temperature, soil density, porosity of soil.

1.4 Surface soil and sub-soil, Functions of soil.

1.5 Chemical properties of soil - Soil reactions, importance of soil reaction, factors controlling soil reactions,

1.6 Buffer action, buffering capacity, importance of buffer reaction in agriculture, ion exchange and importance of ion exchange.

Ref 1- Pages 8-12, 92-94, 98-113, 116-146

Ref 3 - Pages 28-50

Ref 12 - Pages 211-224, 228-234

Ref 17 - Pages 49-56, 295-308, 357-370

2. Problematic Soil and Soil testing (06 L)

2.1 Introduction to problematic soils.

2.2 Acid soils- formation of acid soil, effect of soil acidity on plant, reclamation of acidic soil, application of lime in improving the acidity of soil, lime requirements.

2.3 Alkali Soil- formation of alkali soil, reclamation of alkali soil.

2.4 Classification of alkali soil- saline soil, alkali soil, saline alkali soil, non-saline alkali soil.

2.5 Soil testing - Introduction, different methods of soil fertility evaluation.

2.6 Objectives of soil testing.

Ref 1- Pages 345-370

Ref 3 - 301-312

Ref 4 – Pages 135-147, 150-159

Ref 12 - Pages 237-246, 337-353

3. Laboratory Methods of Soil Analysis (12 L)

3.1 Collection of soil Samples from field.

3.2 Soil sample preparation for analysis of various parameters.

3.3 Digestion and Extraction Procedures for soil.

3.4 Project/ Hands on training of Analysis of various parameters of soil and writing project on it.

(Note: Students can perform minimum six experiments out of eight in the laboratory with the help of teacher and write report on it and submit to subject teacher. It is considered for internal marks of this course).

1. Determination of pH of soil
2. Determination of EC and TDS of soil
3. Determination of soil organic matter of soil.
4. Determination of available nitrogen in soil.
5. Determination of available phosphorus from soil.

6. Determination of calcium and magnesium from soil by EDTA method.
7. Determination of sodium and potassium by flame photometry method.
8. Determination of carbonate and bicarbonates from soil.
9. Calculate the RSC, SAR, SSP, Salinity of soil. Interpretation of soil data and recommendations for soil use.

Ref 23 pages 11-160

Ref 25 pages 17-104

4. Fertilizers and Manures

(06 L)

Fertilizers

- 4.1 Introduction, Classification of nitrogenous fertilizers, reaction of ammonium sulphate, urea as a fertilizer in soil.
- 4.2 Nano fertilizers- Nano-Fertilizers for Sustainable Crop Production, Nano urea- preparation, forms and application of nano urea.
- 4.3 Phosphatic fertilizers- Classification of phosphatic fertilizers, reactions of superphosphate as a fertilizer in soil.
- 4.4 Potassic fertilizers - Classification of potassic fertilizers, reactions of potash fertilizer in soil.
- 4.5 Complex fertilizers- Characteristics, advantages and disadvantages,
- 4.6 Mixed fertilizers - Characteristics, advantages and disadvantages.
- 4.7 Time and mode of applications of fertilizers in the solid and liquid form to plants.
- 4.8 Factors affecting efficiency of fertilizers.

Manures

- 4.9 Introduction, Definition and classification of manures.
- 4.10 Effect of bulky organic manures on soil.
- 4.11 Farm yard manures (FYM), improved methods of handling FYM- Trench method for FYM, Factors affecting the composition of FYM, losses during the handling and storage of FYM, Gobar gas-compost plant - construction and advantages.
- 4.12 Biofertilizers - Definition, classification, role & advantages.
- 4.13 Vermicompost - Preparation, effect of vermicompost on soil fertility.

Ref 2- Pages 205-213,

Ref 3- Pages 90-112, 137-149

Ref 5 Pages Relevant pages

Ref 12 – Pages 263- 275, 280-290,

Ref 18 – URL: Attached in reference.

Ref 19 - URL: Attached in reference.

Ref 20 URL: Attached in reference.

5. Protection of Plants

(06 L)

5.1 Classification of pesticides.

5.2 Insecticide- Definition, Classification on the basis of mode of action and chemical properties.

5.2.1 Inorganic insecticides - plants or animal origin insecticides- nicotine, pyrethrum, rotenone.

5.2.2 Synthetic organic insecticides – a) Organochlorine insecticides - DDT, BHC, Aldrin and dieldrin. b) Organophosphorus insecticides – Parathion, Malathion, c) Carbamate insecticides – Carbaryl, Baygon.

5.3 Fungicide – Definition and Classification of fungicides.

5.3.1 Inorganic fungicide- Copper fungicides a) Bordeaux mixture, b) Copper oxychloride.

5.3.2 Organic fungicides- Dithiocarbamate, Quinone fungicides, Heterocyclic fungicides.

5.3.3 Synthetic fungicides.

5.4 Herbicides- Definition, Classification on the basis of mode of action- Selective and non-selective herbicides, classification based on their effect on weeds- contact, systemic herbicides. Classification on the basis of their chemical structures.

5.5 Nano pesticides: Its Scope and Utility in Pest Management

Ref 6 - Relevant Pages

Ref 13 – Pages 80-177,

Ref 14 – Pages 73-110,

Ref 15 – Chapter 3 Pages 1-45

Ref 16 Pages 2-16,

Ref 19 URL: Attached in reference.

Ref 21 URL: Attached in reference.

Learning Objectives:

- 1) Know the different components and properties of soil.
- 2) Know classification of soil on the basis of pH.
- 3) Identify the problematic soil and recommend method for their reclamation.
- 4) Know the different plant nutrients required for plants and their functions.
- 5) Know the role of various fertilizers and manures required for plant growth.
- 6) Know the various methods and their techniques in analysis of soil.
- 7) Know importance of manures as compared to chemical fertilizers.

- 8) Know various techniques to protect the plants.
- 9) Have the knowledge of various pesticides, insecticides, fungicides and herbicides.

Course Outcomes:

After studying this course, student is expected to

- 1) Understood various components of soil and soil properties and their impact on plant growth.
- 2) Understood the classification of the soil.
- 3) Explores the problems and potentials of soil and decide the most appropriate treatment for land use.
- 4) Understood the Reclamation and management of soil physical and chemical constraints.
- 5) Useful in making decisions on nutrient dose, choice of fertilizers and method of application etc. practiced in crop production.
- 6) Got experience on advanced analytical and instrumentation methods in the estimation of soil.
- 7) Understood various Nutrient management concepts and Nutrient use efficiencies of major and micronutrients and enhancement techniques.
- 8) Proper understanding of chemistry of pesticides will be inculcated among the students.
- 9) Imparts knowledge on different pesticides, their nature and, mode of action and their fate in soil so as to monitor their effect on the environment.

Savitribai Phule Pune University
Board of Studies in Chemistry

T.Y.B.Sc. Chemistry Cross Cutting

Structure to be implemented from June 2015 (i.e. from Academic Year 2015-16)

Semester	Course Code and Title	Number of Lectures	Marks
Semester III	CH-331: Physical Chemistry	48	50
	CH-332: Inorganic Chemistry	48	50
	CH-333: Organic Chemistry	48	50
	CH-334: Analytical Chemistry	48	50
	CH-335: Industrial Chemistry	48	50
	OPTIONAL COURSE CH-336-A Nuclear Chemistry OR CH-336-B Polymer Chemistry OR CH-336-C Introduction to Biochemistry and Molecular Biology OR CH-336-D Environmental and Green Chemistry CH-336-E Agriculture Chemistry	48	50
Semester IV	CH-341: Physical Chemistry	48	50
	CH-342: Inorganic Chemistry	48	50
	CH-343: Organic Chemistry	48	50
	CH-344: Analytical Chemistry	48	50
	CH-345: Industrial Chemistry	48	50
	OPTIONAL COURSE CH-346-A Nuclear Chemistry OR CH-346-B Polymer Chemistry OR CH-346-C Introduction to Biochemistry and Molecular Biology OR CH-346-D Environmental and Green Chemistry OR CH-346-E Dairy Chemistry	48	50
	PRACTICAL COURSES		
	CH-347: Physical Chemistry Practicals		100
	CH-348: Inorganic Chemistry Practicals		100
	CH-349: Organic Chemistry Practicals		100

Semester-III

Course: Environmental and Green Chemistry (CH-336D)

Name of the Topic	Number of lectures
1. Concepts and scope of Environmental Chemistry	02
2. Atmosphere and Air Pollution	14
3. Hydrosphere and water pollution	08
4. Introduction to Green Chemistry	10
5. Green Chemistry and Technology for sustainable development	10
6. Green Chemistry and Hazardous Organic Solvents	04
Total lectures	48

Chapter 1: Concepts and scope of Environmental Chemistry (02)

- 1.1 Introduction
- 1.2 Terminologies
- 1.3 Units of concentration
- 1.4 Segments of Environment

Ref. 1, Ref. 3

Aims and Objectives-

Students should know-

- i. Importance and conservation of environment.

Chapter 2: Atmosphere and Air Pollution (14)

- 2.1 Composition and structure of atmosphere
- 2.2 Chemical and photochemical reactions in atmosphere
- 2.3 Chemistry of O₃, SO_x, NO_x and chlorides in atmosphere
- 2.4 Primary air pollutants
- 2.5 Sampling of air
- 2.6 Particulate matter: inorganic and organic
- 2.7 Smog: reducing and photochemical
- 2.8 Mechanism of ozone depletion
- 2.9 Stability and reactions of CFCs
- 2.10 Harmful effects of CFCs
- 2.11 CFCs substitutes
- 2.12 Bhopal gas tragedy

Ref. 1, Ref. 3, Ref. 5

Aims and Objectives-

Students should know-

- i. Segments of atmosphere
- ii. Hazards of flue gases
- iii. Ozone depletion
- iv. Ecological changes due to hazardous gases

- v. Understand the social issues

Chapter 3: Hydrosphere and water pollution

(08)

- 3.1 Water resources
- 3.2 Physical chemistry of sea water: composition, equilibria, pH, pE
- 3.3 Microbially mediated aquatic reactions, nitrogen cycle, iron and manganese bacteria
- 3.4 Classification of water pollutants
- 3.5 Organic and Inorganic pollutants: Pesticides, Detergents, Eutrophication, Marine, Oil, Acidmine drainage, remedial measures and sediments
- 3.6 Thermal pollution
- 3.7 Sampling and monitoring water quality parameters: pH, D.O. (Winkler Method), COD, TOC, Total hardness, free chlorine.

Ref. 1, 2, 3, and 5

Aims and Objectives-

Students should know-

- i. Water resources
- ii. Quality of potable water
- iii. WHO limits for toxic materials in water stream
- iv. Quality measures

Chapter4. Introduction to Green Chemistry

[10]

- 4.1 Chemistry is good
- 4.2 The environment and the five environmental spheres
- 4.3 What is environmental Chemistry?
- 4.4 Environmental Pollution
- 4.5 What is green Chemistry?
- 4.6 Green Chemistry and synthetic chemistry
- 4.7 Reduction of risk: Hazard and exposure
- 4.8 The risk and no risks
- 4.9 Waste prevention
- 4.10 Basic principles of green chemistry
- 4.11 Examples based on green technology

[Ref: Green Chemistry By Stanley E Manahan, Chemchar Research Inc. (2006) -2ndEdn. chapter1, P1-17 and Ref.6 Relevant pages.]

Chapter 5. Green Chemistry and Technology for sustainable development

[10]

- 5.1 Green Chemistry from theory to practice
- 5.2 The twelve principles of green chemistry
- 5.3 Green Chemistry and sustainable Development
- 5.4 Designing Products under the holistic approach “ Cardle-to Cardle”
- 5.5 Scientific areas for practical applications of green chemistry
- 5.6 Use of alternative basic chemicals as feedstocs in chemical industry and research
- 5.7 Green Chemistry and Reduction of solvent Toxicity (Alternative Solvents or replacement)
- 5.8 Applications of New Methodologies in the synthesis of chemical compounds- catalysis and green chemistry.

[Ref : Green Chemistry–Green engineering by AthanasiosValavanidis and ThomaisVlachogianni (March 2012) ; Chapter 2 p17-37 and Ref.6 Relevant pages]

Chapter 6. Green Chemistry and Hazardous Organic Solvents (Green solvents, replacement andAlternative techniques) [04]

6.1 Introduction to Green Chemistry and Toxic organic solvents

6.2 Green solvents and Alternative methods

6.3 Green Chemistry, Green solvents – Alternative techniques in organic synthesis

[Ref : Green Chemistry –Green engineering , Chapter 5, p81-91, Ref.6 Relevant pages]

Aims and Objectives-(for Chapters 4, 5 and 6)

Students should know-

- i. Need of green chemistry technology
- ii. Principles of green chemistry
- iii. Advantages of green chemistry
- iv. Simple examples to clarify the principles
- v. Catalytic routes for sustainable developments

Structure of T. Y. B. Sc. Chemistry

(According to CBCS – 2019 Pattern of SPPU)

Semester	DSEC/SEC	Nature	Paper Code	Code and Title	Credits/Lectures
V	DSEC-I	Theory	CH-501	Physical Chemistry-I	Credit-2, 36 L
		Theory	CH-502	Analytical Chemistry-I	Credit-2, 36 L
		Practical	CH-503	Physical Chemistry Practical-I	Credit-2, 73 L
	DSEC-II	Theory	CH-504	Inorganic Chemistry-I	Credit-2, 36 L
		Theory	CH-505	Industrial Chemistry	Credit-2, 36 L
		Practical	CH-506	Inorganic Chemistry Practical-I	Credit-2, 73 L
DSEC-III	Theory	CH-507	Organic Chemistry-I	Credit-2, 36 L	
	Theory	CH-508	Chemistry of Biomolecules	Credit-2, 36 L	
	Practical	CH-509	Organic Chemistry Practical-I	Credit-2, 73 L	
SEC- I	Theory	CH-510	(A) Introduction of Medicinal Chemistry OR (B) Polymer Chemistry	Credit-2, 36 L	
SEC- II	Theory	CH-511	(A) Environmental Chemistry OR (B) Chemo informatics	Credit-2, 36 L	
VI	DSEC-IV	Theory	CH-601	Physical Chemistry-II	Credit-2, 36 L
		Theory	CH-602	Physical Chemistry -III	Credit-2, 36 L
		Practical	CH-603	Physical Chemistry Practical-II	Credit-2, 73 L
	DSEC-V	Theory	CH-604	Inorganic Chemistry-II	Credit-2, 36 L
		Theory	CH-605	Inorganic Chemistry-III	Credit-2, 36 L
		Practical	CH-606	Inorganic Chemistry Practical-II	Credit-2, 73 L
	DSEC-VI	Theory	CH-607	Organic Chemistry-II	Credit-2, 36 L
		Theory	CH-608	Organic Chemistry-III	Credit-2, 36 L
		Practical	CH-609	Organic Chemistry Practical-II	Credit-2, 73 L
	SEC III	Theory	CH-610	(A) Chemistry of Soil and Agrochemicals OR (B) Introduction of Forensic Chemistry	Credit-2, 36 L
SEC IV	Theory	CH-611	(A) Analytical Chemistry-II OR (B) Chemistry of Cosmetics and Perfumes	Credit-2, 36 L	

CH-511 (A) : Environmental Chemistry

Chapter No.	Title of Topic/Chapter	No. of lecture
1	Concepts and Scope of Environmental Chemistry	06
2	Hydrosphere and Water Pollution	10
3	Analytical Techniques in water Analysis	10
4	Water pollution and treatment methods	10
Total		36

1: Concepts and Scope of Environmental Chemistry (06L)

Introduction, Environmental Pollution and Classification, Units of concentration, Segments of Environment, Biogeochemical cycles of C, N, P, S and O system

Reference: 1, 2, 3

Aims and objectives: -Students should know:

- i. Importance and conservation of environment.
- ii. Importance of biogeochemical cycles

2: Hydrosphere and Water Pollution (10L)

Water resources, Hydrological Cycle: stages of hydrological cycle and chemical composition of water bodies, Microbially mediated aquatic reactions, Classification of water pollutants

Organic and Inorganic pollutants, Sewage and Domestic waste, Sediments, Detergents, Pesticides, Eutrophication, Sampling and monitoring water quality parameters: pH, D.O. (Winkler Method), COD, TOC, Total hardness, free chlorine.

Reference: 1 Page no -47-62,

Aims and Objectives:- Students should know:

- i. Water resources
- ii. Hydrological Cycle
- iii. Organic and inorganic pollutants
- iv. Water quality parameters

3. Analytical Techniques in water Analysis (10 L)

Water quality parameters and standards, domestic water quality parameters, surface water, sampling, preservation, Monitoring techniques and methodology (pH, conductance, DO, ammonia, nitrate and nitrite, Cl, F, CN, Sulfide, sulphate, phosphate, total hardness, boron, metals and metalloids- As, Cd,

Cr, Cu, Fe, Pb, Mn, Hg (Exclude polarographic and AAS methods), COD, BOD, TOC, phenols, pesticides, surfactants, tannis and lignins, E. Coli, Case studies of water pollution.

Ref-1: 225-278

4. Water pollution and treatment methods (10 L)

Water pollutants, Eutrophication, Waste water treatment (domestic waste water, aerobic treatment, anaerobic treatment, upflow aerobic sludge bed, industrial waste water treatment, drinking water supplies, Trace elements in water, chemical speciation (Cu, Pb, Hg, As, Se, Cr)

Ref-1: 167-225

Reference-1: Environmental Chemistry – A. K. De, Third Edition (Wiley)

Additional References:

1. Environmental Chemistry – A. K. De, 5th Edition (New age international publishers)
2. Environmental Chemistry – A. K. Bhagi and C. R. Chatwal (Himalaya Publishing House)
3. Environmental Chemistry – H. Kaur 2nd Edition 2007, Pragati Prakashan, Meerut, India
4. Environmental Chemistry – J. W. Moore and E. A. Moore (Academic Press, New York)
5. Basic Concepts of Analytical Chemistry: S. M. Khopkar, Wiley Eastern (1995)

CH-610 (A) : Chemistry of Soil and Agrochemicals

Chapter No	Name of the Topic	Number of lectures
1	Soil Chemistry	6
2	Problematic Soil and Soil testing	6
3	Laboratory Methods of Soil Analysis	12
4	Fertilizers and Manures	6
5	Protection of Plants	6
	Total Lectures	36

1. Soil Chemistry (6 L)

1.1 Role of agricultural chemistry

1.2 Introduction to soil chemistry, definitions of soil, Soil components- Mineral component, organic matter or humus, soil atmosphere, soil water, soil microorganism.

1.3 Physical properties of soil- Soil texture, soil structure, soil colour, soil temperature, soil density, porosity of soil.

1.4 Surface soil and sub-soil, Functions of soil.

1.5 Chemical properties of soil - Soil reactions, importance of soil reaction, factors controlling soil reactions,

1.6 Buffer action, buffering capacity, importance of buffer reaction in agriculture, ion exchange and importance of ion exchange.

Ref 1- Pages 8-12, 92-94, 98-113, 116-146

Ref 3 - Pages 28-50

Ref 12 - Pages 211-224, 228-234

Ref 17 - Pages 49-56, 295-308, 357-370

2. Problematic Soil and Soil testing (06 L)

2.1 Introduction to problematic soils.

2.2 Acid soils- formation of acid soil, effect of soil acidity on plant, reclamation of acidic soil, application of lime in improving the acidity of soil, lime requirements.

2.3 Alkali Soil- formation of alkali soil, reclamation of alkali soil.

2.4 Classification of alkali soil- saline soil, alkali soil, saline alkali soil, non-saline alkali soil.

2.5 Soil testing - Introduction, different methods of soil fertility evaluation.

2.6 Objectives of soil testing.

Ref 1- Pages 345-370

Ref 3 - 301-312

Ref 4 – Pages 135-147, 150-159

Ref 12 - Pages 237-246, 337-353

3. Laboratory Methods of Soil Analysis (12 L)

3.1 Collection of soil Samples from field.

3.2 Soil sample preparation for analysis of various parameters.

3.3 Digestion and Extraction Procedures for soil.

3.4 Project/ Hands on training of Analysis of various parameters of soil and writing project on it.

(Note: Students can perform minimum six experiments out of eight in the laboratory with the help of teacher and write report on it and submit to subject teacher. It is considered for internal marks of this course).

1. Determination of pH of soil
2. Determination of EC and TDS of soil
3. Determination of soil organic matter of soil.
4. Determination of available nitrogen in soil.
5. Determination of available phosphorus from soil.

6. Determination of calcium and magnesium from soil by EDTA method.
7. Determination of sodium and potassium by flame photometry method.
8. Determination of carbonate and bicarbonates from soil.
9. Calculate the RSC, SAR, SSP, Salinity of soil. Interpretation of soil data and recommendations for soil use.

Ref 23 pages 11-160

Ref 25 pages 17-104

4. Fertilizers and Manures

(06 L)

Fertilizers

- 4.1 Introduction, Classification of nitrogenous fertilizers, reaction of ammonium sulphate, urea as a fertilizer in soil.
- 4.2 Nano fertilizers- Nano-Fertilizers for Sustainable Crop Production, Nano urea- preparation, forms and application of nano urea.
- 4.3 Phosphatic fertilizers- Classification of phosphatic fertilizers, reactions of superphosphate as a fertilizer in soil.
- 4.4 Potassic fertilizers - Classification of potassic fertilizers, reactions of potash fertilizer in soil.
- 4.5 Complex fertilizers- Characteristics, advantages and disadvantages,
- 4.6 Mixed fertilizers - Characteristics, advantages and disadvantages.
- 4.7 Time and mode of applications of fertilizers in the solid and liquid form to plants.
- 4.8 Factors affecting efficiency of fertilizers.

Manures

- 4.9 Introduction, Definition and classification of manures.
- 4.10 Effect of bulky organic manures on soil.
- 4.11 Farm yard manures (FYM), improved methods of handling FYM- Trench method for FYM, Factors affecting the composition of FYM, losses during the handling and storage of FYM, Gobar gas-compost plant - construction and advantages.
- 4.12 Biofertilizers - Definition, classification, role & advantages.
- 4.13 Vermicompost - Preparation, effect of vermicompost on soil fertility.

Ref 2- Pages 205-213,

Ref 3- Pages 90-112, 137-149

Ref 5 Pages Relevant pages

Ref 12 – Pages 263- 275, 280-290,

Ref 18 – URL: Attached in reference.

Ref 19 - URL: Attached in reference.

Ref 20 URL: Attached in reference.

5. Protection of Plants

(06 L)

5.1 Classification of pesticides.

5.2 Insecticide- Definition, Classification on the basis of mode of action and chemical properties.

5.2.1 Inorganic insecticides - plants or animal origin insecticides- nicotine, pyrethrum, rotenone.

5.2.2 Synthetic organic insecticides – a) Organochlorine insecticides - DDT, BHC, Aldrin and dieldrin. b) Organophosphorus insecticides – Parathion, Malathion, c) Carbamate insecticides – Carbaryl, Baygon.

5.3 Fungicide – Definition and Classification of fungicides.

5.3.1 Inorganic fungicide- Copper fungicides a) Bordeaux mixture, b) Copper oxychloride.

5.3.2 Organic fungicides- Dithiocarbamate, Quinone fungicides, Heterocyclic fungicides.

5.3.3 Synthetic fungicides.

5.4 Herbicides- Definition, Classification on the basis of mode of action- Selective and non-selective herbicides, classification based on their effect on weeds- contact, systemic herbicides. Classification on the basis of their chemical structures.

5.5 Nano pesticides: Its Scope and Utility in Pest Management

Ref 6 - Relevant Pages

Ref 13 – Pages 80-177,

Ref 14 – Pages 73-110,

Ref 15 – Chapter 3 Pages 1-45

Ref 16 Pages 2-16,

Ref 19 URL: Attached in reference.

Ref 21 URL: Attached in reference.

Learning Objectives:

- 1) Know the different components and properties of soil.
- 2) Know classification of soil on the basis of pH.
- 3) Identify the problematic soil and recommend method for their reclamation.
- 4) Know the different plant nutrients required for plants and their functions.
- 5) Know the role of various fertilizers and manures required for plant growth.
- 6) Know the various methods and their techniques in analysis of soil.
- 7) Know importance of manures as compared to chemical fertilizers.

- 8) Know various techniques to protect the plants.
- 9) Have the knowledge of various pesticides, insecticides, fungicides and herbicides.

Course Outcomes:

After studying this course, student is expected to

- 1) Understood various components of soil and soil properties and their impact on plant growth.
- 2) Understood the classification of the soil.
- 3) Explores the problems and potentials of soil and decide the most appropriate treatment for land use.
- 4) Understood the Reclamation and management of soil physical and chemical constraints.
- 5) Useful in making decisions on nutrient dose, choice of fertilizers and method of application etc. practiced in crop production.
- 6) Got experience on advanced analytical and instrumentation methods in the estimation of soil.
- 7) Understood various Nutrient management concepts and Nutrient use efficiencies of major and micronutrients and enhancement techniques.
- 8) Proper understanding of chemistry of pesticides will be inculcated among the students.
- 9) Imparts knowledge on different pesticides, their nature and, mode of action and their fate in soil so as to monitor their effect on the environment.

MVP'S KAAANMS College Satana
Department of Electronic science

1.3 Curriculum Enrichment

Program Name	Course code	Course title	Cross cutting issues Addressed
T.Y.BSc Electronic Science	EL 351	Digital Design using Verilog	Professional Ethics
	EL 352	Microcontroller Architecture and Programming	
	EL 353	Analog circuit Design and Applications	
	EL 354	Nanoelectronics	
	EL 355	Signals and Systems	
	EL 356(A)	A. Optics and Fiber Optic Communication	
	EL 356(B)	B. Electronic Product Design and Entrepreneurship	
	ELSEC 351	Electronic Design Automation Tools	
	ELSEC 352	Internet of Things and Applications	
	EL 361	Modern Communication Systems	
	EL 362	Embedded System Design using Microcontrollers	
	EL 363	Industrial Electronics	
	EL 364	Manufacturing Processes for Electronics	
	EL 365	Process Control Systems	
	EL 366(A) EL 366(B)	A. PLC SCADA B. Sensors and Systems	
	ELSEC 361	Design and Fabrication of PCB	
	ELSEC 362 XI	ELSEC 362 XI Mobile Application Development	



**Karmveer Abasaheb Alias N.M. Sonawane Arts, Commerce & Science College, Satana,
Dist. Nashik- 423301
Department of Physics
Curriculum Enrichment**

Program Name	Course code	Course title	Cross cutting issues Address
FY Physics	PHY-111	Mechanics and Properties of Matter	Professional Ethics
	PHY-112	Physics Principles and Applications	
	PHY-113	Physics Laboratory-IA	
	PHY-121	Heat and Thermodynamics	
	PHY-122	Electricity and Magnetism	
	PHY-123	Physics Laboratory-IB	
SY Physics	PHY-231	Mathematical Methods in Physics I	Professional Ethics
	PHY-232	Electronics I /Instrumentation	
	PHY-233	Physics Laboratory-2A	
	PHY-2310	Environment -I	Environment and Sustainability
	PHY-2311	Language-I	Human Values
	PHY-241	Oscillations, Waves and Sound	Professional Ethics
	PHY-242	Optics	
	PHY-243	Physics Laboratory-2B	
	PHY-2410	Environment –II	Environment and Sustainability
	PHY-2411	Language-II	Human Values
TY Physics	PHY-351	Mathematical Methods in Physics-II	Professional Ethics
	PHY-352	Electrodynamics	
	PHY-353	Classical Mechanics	
	PHY-354	Atomic and Molecular Physics	
	PHY-355	Computational Physics	
	PHY-356: Elective-I (Select any One)		
	PHY-356(A)	Astronomy and Astrophysics-I	Environment and Sustainability
	PHY-356(B)	Elements of Materials Science	
	PHY-356(C)	Biophysics	
	PHY-356(D)	Renewable Energy Sources-I	Professional Ethics
	PHY-356(E)	Applied Optics	
	PHY-356(F)	C# programming	
	PHY-356(G)	Acoustics-I	
PHY-357	Physics Laboratory-3A		
PHY-358	Physics Laboratory-3B		

	PHY-359	Project-I	
TY Physics	PHY-3510: Skill Enhancement Course-I (Select any One)		
	PHY-3510(H)	Python Programming	Professional Ethics
	PHY-3510(I)	Energy studies	Environment and Sustainability
	PHY-3510(J)	Introduction to Arduino	Professional Ethics
	PHY-3510(K)	Sensors and Transducer	
	PHY- 3511: Skill Enhancement Course-II (Select any One)		
	PHY-3511(L)	Physics Workshop Skill	
	PHY-3511(M)	Biomedical Instrumentation	Human Values
	PHY-3511(N)	Non-destructive Testing Techniques	Professional Ethics
	PHY- 3511(O)	Acoustics Applications	
	PHY-361	Solid State Physics	
	PHY-362	Quantum Mechanics	
	PHY-363	Thermodynamics and Statistical Physics	
	PHY-364	Nuclear Physics	
	PHY-365	(A) Electronics-II OR (B) Advanced Electronics	
	PHY-366: Elective-II (Select any One)		
	PHY-366(P)	Medical Electronics	Human Values
	PHY-366(Q)	Physics of Nanomaterials	Professional Ethics
	PHY-366(R)	Microcontrollers	
	PHY-366(S)	Lasers	
	PHY-366(T)	Astronomy and Astrophysics-II	
	PHY-366(U)	Renewable Energy Sources-II	Environment and Sustainability
	PHY-366(V)	Acoustics-II	Professional Ethics
	PHY-367	Physics Laboratory-4A	
	PHY-368	Physics Laboratory-4B	
	PHY-369	Project-II	
	PHY-3610: Skill Enhancement Course-III (Select any One)		
	PHY-3610(W)	Scientific Data Analysis using Python	
	PHY-3610(X)	Solar PV System: Installation, Repairing and Maintenance	Environment and Sustainability
	PHY-3610(Y)	Applications of Internet of things (IOT)	Professional Ethics
PHY-3610(Z)	Calibration Techniques		
PHY- 3611: Skill Enhancement Course-IV (Select any One)			
PHY- 3611(AA)	Microcontrollers	Professional Ethics	
PHY- 3611(AB)	Instrumentation for Agriculture	Environment and Sustainability	
PHY- 3611(AC)	Radiation Physics		
PHY- 3611(AD)	Photography	Gender	



Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Botany

(Faculty of Science & Technology)

F.Y.B.Sc. Botany

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

Title of the Course: B. Sc Botany

1. Structure of Course:

Structure B.Sc. Botany syllabus					
Year	Semester	Course Type	Course code	Course Name	Credits
1	1	Compulsory Course	BO 111	Plant life and utilization I	2
			BO 112	Plant morphology and Anatomy	2
			BO 113	Practical based on BO 111 & BO 112	1.5
	2	Compulsory Course	BO 121	Plant life and utilization II	2
			BO 122	Principles of plant science	2
			BO 123	Practical based on BO 121 & BO 122	1.5
2	3	Compulsory Course	BO 231	Botany Theory Paper 1	2
			BO 232	Botany Theory Paper 2	2
			BO 233	Botany Practical Paper	2
	4	Compulsory Course	BO 241	Botany Theory Paper 1	2
			BO 242	Botany Theory Paper 2	2
			BO 243	Botany Practical Paper	2
3	5	Discipline Specific Elective Course	BO 351	Botany Theory Paper 1	2
			BO 352	Botany Theory Paper 2	2
			BO 353	Botany Theory Paper 3	2
			BO 354	Botany Theory Paper 4	2
			BO 355	Botany Theory Paper 5	2
			BO 356	Botany Theory Paper 6	2
			BO 357	Botany Practical Paper 1	2
			BO 358	Botany Practical Paper 2	2
			BO 359	Botany Practical Paper 3	2
			Skill Enhancement course	BO 3510	Botany Theory Paper 7
	BO 3511	Botany Theory Paper 8		2	
3	6	Discipline Specific Elective Course	BO 361	Botany Theory Paper 1	2
			BO 361	Botany Theory Paper 2	2
			BO 362	Botany Theory Paper 3	2
			BO 363	Botany Theory Paper 4	2
			BO 364	Botany Theory Paper 5	2
			BO 365	Botany Theory Paper 6	2
			BO 366	Botany Practical Paper 1	2
			BO 367	Botany Practical Paper 2	2
	BO 368	Botany Practical Paper 3	2		
	Skill Enhancement course	BO 3610	Botany Theory Paper 7	2	
BO 3611		Botany Theory Paper 8	2		

2. Equivalence of Previous Syllabus:

Old Course (2013 Pattern)	New Course (2019 CBCS Pattern)
Fundamentals of Botany: PAPER – I Term- I: Plant Diversity	BO 111 Plant life and utilization I
Botany Theory Paper II Term I – Industrial Botany	BO 112 Plant morphology and Anatomy
Fundamentals of Botany: PAPER - I Term- II: Morphology and Anatomy	BO 121 Plant life and utilization II
Botany Theory Paper II Term- II – Industrial Botany	BO 122 Principles of plant science
F. Y. B. Sc. Botany Practical Paper - III based on Theory Paper I and Paper II	BO 113 Practical based on BO 111 & BO 112 and BO 123 Practical based on BO 121 & BO 122

SEMESTER-I: PAPER-I**BO-111: PLANT LIFE AND UTILIZATION I (30 Lectures)****CREDIT-I****15 Lectures (15 Hours)****1. INTRODUCTION****3 L**

General outline of plant kingdom (**Lower Cryptogams:** Thallophytes- Algae, Fungi & Lichens; **Higher Cryptogams:** Bryophytes and Pteridophytes; **Phanerogams:** Gymnosperms and Angiosperms- Dicotyledons and Monocotyledons). Distinguishing characters of these groups and mention few common examples from each.

2. ALGAE**9 L**

2.1: Introduction

2.2: General Characters

2.3: Classification (Bold and Wynne 1978) up to classes with reasons

2.4: Life Cycle of *Spirogyra* w.r.t. Habit, Habitat, Structure of thallus, structure of typical cell, Reproduction- Vegetative, Asexual and Sexual, systematic position with reasons

2.5: Utilization of Algae in Biofuel Industry, Agriculture, Pharmaceuticals, Food and Fodder

3. LICHENS**3 L**

3.1: Introduction

3.2: General Characters

3.3: Nature of Association, forms- Crustose, Foliose and Fruticose.

3.4: Utilization of lichens.

CREDIT-II**15 Lectures (15 Hours)****4. FUNGI****9 L**

4.1: Introduction

4.2: General Characters

4.3: Classification (Ainsworth, 1973)

4.4: Life Cycle of Mushroom- *Agaricus bisporus* w.r.t. Habit, Habitat, Structure of thallus, Structure of Sporocarp, Structure of Gill, Reproduction- Asexual and sexual, Systematic position.

4.5: Utilization of Fungi in Industry, Agriculture, Food and Pharmaceuticals.

5. BRYOPHYTES**6 L**

5.1: Introduction

5.2: General Characters

5.3: Classification (G.M. Smith 1955)

5.4: Life Cycle of *Riccia* w.r.t. Habit, habitat, external and internal structure of thallus, Reproduction- vegetative, asexual and sexual- Structure of sex organs, fertilization, structure of mature sporophyte, structure of spore, systematic position with reasons.

5.5: Utilization: Bryophytes as ecological indicators, agriculture, fuel, industry and medicine.

(Development of sex organs not expected for all the above mentioned life cycles).

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10. Vashista, B.R., Sinha, A.K. and Singh, V.B. (2005). Botany for degree students- Algae, S. Chand Publication.
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12. Vashista, B.R., Sinha, A.K. and Singh, V.B. (2005). Botany for degree students- Bryophytes, S. Chand Publication.

SEMESTER-I: PAPER-II**BO-112: PLANT MORPHOLOGY AND ANATOMY (30 Lectures)****CREDIT-I****15 Lectures (15 hours)****1. MORPHOLOGY:****2 L**

1.1: Introduction, definition, descriptive and interpretative morphology.

1.2: Importance in identification, nomenclature, classification, phylogeny and Plant breeding.

2. MORPHOLOGY OF REPRODUCTIVE PARTS:**2.1: INFLORESCENCE:****3 L**

2.1.1 Introduction and definition

2.1.2 Types:

- a) Racemose -Raceme, Spike, Spadix, Corymb, Umbel, Catkin and Capitulum.
- b) Cymose -Solitary, Monochasial- Helicoid and scorpioid; Dichasial and Polychasial.
- c) Special types -Verticillaster, Cyathium and Hypanthodium.

2.1.3 Significance

2.2: FLOWER:**7 L**

2.2.1 Introduction and definition

2.2.2 Parts of a typical flower: Bract, Pedicel, Thalamus- forms, Perianth- Calyx and Corolla, Androecium and Gynoecium.

2.2.3 Symmetry: Actinomorphic and zygomorphic, Sexuality- Unisexual and bisexual, Insertion of floral whorls on thalamus- Hypogyny, Epigyny and perigyny, Merous condition-Trimerous, tetramerous and pentamerous.

2.2.4 Floral whorls:

- a) **Calyx:** Nature- Polysepalous, Gamosepalous; Aestivation- types, Modifications of Calyx- Pappus, Petaloid and Spurred.
- b) **Corolla:** Forms of Corolla-
 - i) Polypetalous- Cruciform and Papilionaceous.
 - ii) Gamopetalous- Infundibuliform, Bilabiate, Tubular and Campanulate.
 - iii) Aestivation- types and significance.
- c) **Perianth:** Nature- Polytepalous, Gamotepalous.
- d) **Androecium:** Structure of typical stamen, Variations- cohesion and adhesion.
- e) **Gynoecium:** Structure of typical carpel, number, position, cohesion and adhesion; placentation- types and significance.

2.3: FRUITS:**3 L**

2.3.1 Introduction and definition

2.3.2 Types of fruits:

- a) **Simple:** Indehiscent - Achene, Cypsela, Nut and Caryopsis.
Dehiscent - Legume, Follicle and Capsule,
- b) **Fleshy:** Drupe, Berry, Hesperidium and Pepo.
- c) **Aggregate:** Etaerio of Berries and Etaerio of Follicles.
- d) **Multiple fruits:** Syconus and Sorosis.

CREDIT- II**15 Lectures (15 Hours)****3. ANATOMY:****2 L**

3.1 Introduction and definition

3.2 Importance in Taxonomy, Physiology, Ecological interpretations, Pharmacognosy and Wood identification.

4. TYPES OF TISSUES:**8 L**

Outline with brief description, simple and complex tissues.

4.1: **Meristmatic tissues:** Meristem, characters and types based on origin, position and plane of division, functions.4.2: **Permanent tissues:** Simple tissues - parenchyma, collenchymas, chlorenchyma and sclerenchyma.4.3: **Complex/Vascular tissues:** Components of xylem and phloem, types of vascular bundles and functions.4.4: **Epidermal tissues:** Epidermis, structure of typical stomata, trichomes, motor cells; functions.**5. INTERNAL ORGANIZATION OF PRIMARY PLANT BODY:****5 L**

5.1: Internal structure of dicotyledon and monocotyledon root.

5.2: Internal structure of dicotyledon and monocotyledon stem.

5.3: Internal structure of dicotyledon and monocotyledon leaf.

REFERENCES:

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17. Tayal, M.S. (2012). Plant Anatomy. Rastogi Publications.

BO 113: PRACTICALS BASED ON BO 111 & BO 112 (1.5 CREDITS)

- | | |
|---|------|
| 1. Study of Life Cycle of <i>Spirogyra</i> . | 1 P |
| 2. Study of Life Cycle of <i>Agaricus</i> . | 1 P |
| 3. Study of Life Cycle of <i>Riccia</i> | 1 P. |
| 4. Study of forms of Lichens- Crustose, Foliose and fruticose. | 1 P |
| 5. Study of Mushroom Cultivation. | 1 P |
| 6. One day visit to study Algae, Fungi, Bryophytes and Lichens. | 1 P |
| 7. Study of Inflorescence. | 2 P |
| a. Racemose: Raceme, Spike, Spadix, Catkin, Corymb, Umbel and Capitulum | |
| b. Cymose: Solitary cyme, Uniparous cyme: helicoid and scorpiod, Biparous cyme and Multiparous cyme. | |
| c. Special type: Verticillaster, Hypanthodium and Cyathium. | |
| 8. Study of flower with respect to Calyx, Corolla and Perianth, Androecium and Gynoecium. | 2 P |
| 9. Study of fruits with suitable examples. | 2 P |
| a) Simple fruit: Dry: Achene, Cypsella and Legume; Fleshy: Berry and Drupe. | |
| b) Aggregate fruit: Etaerio of follicles and Etaerio of Berries. | |
| c) Multiple fruit: Syconus and Sorosis. | |
| 10. Study of internal primary structure of dicotyledonous root and stem e.g. Sunflower. | 1 P |
| 11. Study of internal primary structure of monocotyledonous root and stem e.g. Maize. | 1 P |
| 12. Study of internal primary structure of dicotyledonous and monocotyledonous leaf e.g. Sunflower and Maize. | 1 P |

SEMESTER-II: PAPER-I**BO-121: PLANT LIFE AND UTILIZATION-II (30 Lectures)****CREDIT-I****15 Lectures (15 hours)**

1. **INTRODUCTION:** Introduction to plant diversity- Pteridophytes, Gymnosperms and Angiosperms with reference to vascular plants. 3 L
2. **PTERIDOPHYTES:** General characters, Outline classification according to Sporne (1976) up to classes with reasons. Life cycle of *Nephrolepis* w.r.t. Habit, habitat, distribution, morphology, anatomy of stem and leaf, Reproduction – vegetative and sexual. 10 L
3. Utilization and economic importance of Pteridophytes. 2 L

CREDIT-II**15 Lectures (15 hours)**

1. **GYMNOSPERMS:** General characters, Outline classification according to Sporne (1977) up to classes with reasons. Life cycle of *Cycas* w.r.t. Habit, Habitat, Distribution, Morphology and Anatomy of Stem, leaf and reproductive organs- Male cone, Microsporophyll, microspores and megasporophyll, megaspore; structure of seed; Utilization and economic importance of gymnosperms. 8 L
2. **ANGIOSPERMS:** General characters, Outline of classification of Bentham and Hooker's system up to series, comparative account of monocotyledons and dicotyledons. 4L
3. Utilization and economic importance of Angiosperms: In food, fodder, fibers, horticulture and medicines. 3L

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1. Bendre, Ashok and Kumar, Ashok (1993). A Text Book of Practical Botany, Rastogy Publications, Meerut.
2. Chamberlain, C.J. (1934). Gymnosperms- Structure and Evolution. Chicago.
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SEMESTER-II: PAPER-II**BO-122: PRINCIPLES OF PLANT SCIENCE (30 Lectures)****CREDIT-1: PLANT PHYSIOLOGY AND CELL BIOLOGY****15 Lectures (15 Hours)**

1. Introduction, definition and scope of plant physiology. 1 L
2. Diffusion – definition, importance of diffusion in plants, imbibition as a special type of diffusion. 1 L
3. Osmosis – definition, types of solutions (hypotonic, isotonic, hypertonic), endosmosis, exo-osmosis, osmotic pressure, turgor pressure, wall pressure, importance of osmosis in plants. 2 L
4. Plasmolysis – definition, mechanism and significance. 1 L
5. Plant growth - introduction, phases of growth, factors affecting growth, 2 L
6. Structure of plant cell, differences between prokaryotic and eukaryotic cell. 2 L
7. Plant cell wall – components of primary cell wall, structure and functions. 1 L
8. Ultrastructure and functions of chloroplast 2 L
9. Cell cycle in plants- importance of cell cycle in plants, divisional stages of mitosis and meiosis. 3 L

CREDIT-II: MOLECULAR BIOLOGY**(15 Lectures) 15 Hours**

1. Introduction and scope of molecular biology, central dogma of molecular biology. 2 L
2. Structure of DNA, nucleoside and nucleotide 2 L
3. Watson Crick model of DNA and its characteristic features, types of DNA (A, B and Z DNA). 3 L
4. Types of chromosomes. 2 L
5. Structure and types of RNA. 3 L
6. DNA replication- Types of replication (conservative, semi-conservative and dispersive), enzymes involved, leading and lagging strands, Okazaki fragments. 3 L

REFERENCES:

1. Buchanan, B.B, Gruissem, W. and Jones, R.L (2000). Biochemistry and Molecular Biology of Plants. American Society of Plant Physiologists Maryland, USA.
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10. Pal, J.K. and Ghaskadbi, Saroj (2009). Fundamentals of Molecular Biology. Oxford University Press. India.
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13. Watson, James D., Baker, Tania; Bell, Stephen P.; Alexander Gann; Levine, Michael and Lodwick, Richard (2008). Molecular Biology of the Gene. 6th Edition, Pearson Education, Inc. and Dorling Kindersley Publishing, Inc. USA.
14. Weaver, R. (2011). Molecular Biology. 5th Edition, Publisher- McGraw Hill Science. USA.

BO 123: PRACTICALS BASED ON BO 121 & BO 122 (1.5 CREDITS)

- | | |
|---|-----|
| 1. Study of life cycle of <i>Nephrolepis</i> . | 1 P |
| 2. Study of life cycle of <i>Cycas</i> . | 1 P |
| 3. Study of Bentham and Hooker's system of classification outline up to series with example | 1 P |
| 4. Study of comparative account of Dicotyledonous and Monocotyledonous plants w.r.t to external morphological characters. | 1 P |
| 5. Study of utilization and economic importance of Angiosperms- food, fodder, fibers, horticulture and medicines. | 1 P |
| 6. One day visit to study diversity of vegetation. | 2 P |
| 7. To observe characteristic features of prokaryotic and eukaryotic plant cell. | 1 P |
| 8. Staining of suitable nuclear material by Basic Fuchsin | 1 P |
| 9. Study of mitosis- preparation of slides using onion root tips to observe divisional stages. | 1 P |
| 10. Study of meiosis- preparation of slides using <i>Tradescantia/ Rhoec/ Maize /</i> Onion flower buds to observe divisional stages. | 2 P |
| 11. Estimation of chlorophyll-a and chlorophyll-b by using suitable plant material. | 1 P |
| 12. Plasmolysis- endosmosis, exosmosis, incipient plasmolysis using <i>Rhoec</i> leaf peeling and Demonstration of Osmosis- curling experiment. | 1 P |
| 13. Study of DPD by using suitable plant sample | 1 P |



Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Microbiology

(Faculty of Science & Technology)

F. Y. B. Sc. (Microbiology)

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

Title of the Course: B. Sc. (Microbiology)

Preamble:

Microbiology is a broad discipline of biology which encompasses five groups of microorganisms i.e. bacteria, protozoa, algae, fungi, viruses. It studies their interaction with their environments as well as how these organisms are harnessed in human endeavour and their impact on society. The study has its extensions in various other conventional and advanced fields of biology by employing microbes as study models. Since inception of microbiology as a branch of science, it has remained an ever-expanding field of active research, broadly categorized as pure and applied science. Microorganisms were discovered over three fifty years ago and it is thought that a huge diversity yet remains to be explored.

Knowledge of different aspects of Microbiology has become crucial and indispensable to the society. Study of microbes has become an integral part of education and human progress. There is a continuous demand for microbiologists as work force – education, industry and research. Career opportunities for the graduate students are available in industry and research equally.

Introduction:

In the post globalization world higher education has to play a significant role in creation of skilled human resources for the well-being of humanity. The barriers among the academic fields seem to have dissolved. However, the disparities in the field of curriculum aspect, evaluation and mobility exist. With the changing scenario at local and global level, the syllabus restructuring should keep pace with developments in the education sector. Choice Based Credit System (CBCS) is being adopted and implemented to address the issues related to traditional system and it also aims to maintain the best of earlier curriculum. The student is at the centre of CBCS. The present curriculum focuses on students' needs, skill development, interdisciplinary approach to learning and enhancing employability.

Microbiology curricula are offered at two levels viz. undergraduate and postgraduate. The undergraduate curricula are prepared to impart basic knowledge of the respective subject from all possible angles. In addition, students are to be trained to apply this knowledge in day-to-day applications and to get a glimpse of research.

Objectives to be achieved:

- To enrich students' knowledge and train them in the pure microbial sciences
- To introduce the concepts of application and research in Microbiology
- To inculcate sense of scientific responsibilities and social and environment awareness
- To help students build-up a progressive and successful career

Course Structure:

- For First year: Student has to select 4 different subjects among the subjects offered by the College /Institute.
- For Second year: Student has to select 3 different subjects among 4 subjects chosen in first year.
- For Third year: Student has to select only 1 subject among the 3 subjects opted in second year
- CGPA will be calculated based on core 132 credits only
- Each theory credit is equivalent to 15 clock hours of teaching (12hrs classroom+3hrs of tutorials-active learning method) and each practical credit is equivalent to 30 clock hours of teaching in a semester.
- For the purpose of computation of workload, the following mechanism may be adopted as per UGC guidelines:
 - i) 1 Credit = 1 Theory period of one-hour duration per week
 - ii) 1 Credit = 1 Tutorial period of one-hour duration per week
 - iii) 1 Credit = 1 Practical period of two-hour duration per week
- Each theory Lecture time for FY, SY, TY is of 1 hour = 50 min
- Each practical session time for FY is of 3 hour 15 min = 195 min
- Each practical session time for SY & TY is of 4 hour 20 min = 260 min

Eligibility for Admission:**First Year B.Sc.:**

- a. Higher Secondary School Certificate (10+2) or its equivalent Examination with English and Biology; and two of the science subjects such as Physics, Chemistry, Mathematics, Geography, Geology, etc.
OR
- b. Three Years Diploma in Pharmacy Course of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
OR
- c. Higher Secondary School Certificate (10+2) Examination with English and vocational subject of + 2 level (MCVC) - Medical Lab. Technician (Subject Code = P1/P2/P3)

Admissions will be given as per the selection procedure / policies adopted by the respective college keeping in accordance with conditions laid down by the University of Pune.

Reservation and relaxation will be as per the Government rules.

Medium of Instruction: English**Award of Credits:**

- Each course having 4 credits shall be evaluated out of 100 marks and student should secure at least 40 marks to earn full credits of that course.
- Each course having 2 credits shall be evaluated out of 50 marks and student should secure at least 20 marks to earn full credits of that course.
- GPA shall be calculated based on the marks obtained in the respective subject provided that student should have obtained credits for that course.

Evaluation Pattern:

- Each course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- Continuous assessment shall be of 30 marks while University Evaluation shall be of 70 marks. To pass in a course, a student has to secure minimum 40 marks provided that he should secure minimum 28 marks in University Evaluation (UE).
- Each course carrying 50 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism.
- Continuous assessment shall be of 15 marks while University Evaluation shall be of 35 marks.
- To pass in a course, a student has to secure minimum 20 marks provided that he/she should secure minimum 14 marks in University Evaluation (UE).
- For Internal examination minimum two tests per paper of which one has to be a written test 10 marks
- Methods of assessment for Internal exams: Seminars, Viva-voce, Projects, Surveys, Field visits, Tutorials, Assignment, Group Discussion, etc (on approval of the head of the centre)

ATKT Rules:

- Minimum number of credits required to take admission to Second Year of B. Sc.: 22
- Minimum number of credits required to take admission to Third Year of B.Sc.: 44

1. In addition to the compulsory credits of 132, the student has to earn additional 8 credits from following groups by taking/participating/conducting respective activities.
2. Courses in Group I are compulsory.
3. The student can earn maximum 04 credits from an individual group from Group 2 to Group-9. These extra credits will not be considered for GPA calculation; however, these are mandatory for the completion and award of B. Sc. Degree.

Group 1: Physical Education (at F. Y.B. Sc. Sem. I)-01 credit

Physical Education (at F. Y.B. Sc. Sem. II)-01 credit (Note: Group I is compulsory for all the students as stated above.)

Group 2: Sport representation at College level-01 credit

Sport representation at University/State level-02 credits

Group 3: National Social Service Scheme (participation in Camp): 01 credits

N.C.C. (with participation in annual camp)-01 credit

N.C.C. (with B certificate/C certificate award)-02 credits

N.S.S./N.C.C. Republic day parade participation-04 credits

Group 4: Avishkar participation; Extension activity participation, Cultural activity participation– 01 credit, Avishkar selection at University level-02 credits.

Avishkar winner at state level- 04 credits

Group 5: Research paper presentation at State/National level-01 credits. Research paper presentation at International level-02 credits

Group 6: Participation in Summer school/programme; Short term course (not less than 1- week duration) -03 credit.

Group 7: Scientific Survey, Societal survey -02 credits.

Group 8: Field Visits; Study Tours; Industrial Visits; Participation in curricular/ cocurricular competitions-01 Credit

Group 9: Online certificate Courses /MOOC Courses/ Career Advancement Course up to 04 credits (Minimum 10 Hrs. / credit)

Completion of Degree Course:

- A student who earns 140 credits, shall be considered to have completed the requirements of the B. Sc. degree program and CGPA will be calculated for such student.

Titles of Papers and Scheme of Study Evaluation

F. Y. B.Sc. Microbiology

Semester	Paper Code	Paper	Paper title	credits	Lectures/Week			Evaluation		
					Th.	Tut.	Pr.	CA	UE	Total
I	MB 111	I	Introduction to Microbial World	2	2			15	35	50
	MB 112	II	Basic Techniques in Microbiology	2	2			15	35	50
	MB113	III	Practical Course based on theory paper I and II	1.5			3	15	35	50
II	MB121	I	Bacterial Cell and Biochemistry	2	2			15	35	50
	MB122	II	Microbial cultivation and growth	2	2			15	35	50
	MB123	III	Practical Course based on theory paper I and II	1.5			3	15	35	50

S. Y. B. Sc. Microbiology

Semester	Paper Code	Paper	Paper title	credits	Lectures/Week			Evaluation		
					Th	Tut	Pr.	CA	UE	Total
III	MB 211	I	Bacterial Systematics and Physiology	2	2			15	35	50
	MB 212	II	Industrial Microbiology	2	2			15	35	50
	MB213	III	Practical based on MB211 & MB 212	2			4	15	35	50
IV	MB221	I	Bacterial Genetics	2	2			15	35	50
	MB222	II	Air Water & Soil Microbiology	2	2			15	35	50
	MB223	III	Practical based on MB211 & MB 212	2			4	15	35	50

T. Y. B. Sc. Microbiology Proposed Structure

	Paper	Paper Title	Marks	Lecture
Semester V	MB 331 TC	Medical Microbiology I	50	2 Credits /per TC
	MB 332 TC	Genetics and Molecular Biology I	50	
	MB 333 TC	Enzymology	50	
	MB 334 TC	Immunology I	50	
	MB 335 TC	Fermentation technology I	50	
	MB 336 Elective Course TE	Applied Microbiology I (Elective Course)	50	2 Credits /TE
	TE 1	Dairy Microbiology		
	TE 2	Agricultural Microbiology		
	TE 3	Marine Microbiology		
	TE 4	Space Microbiology		
	MB 337 PC	Practical Course I	50	2 Credits /per PC
	MB 338 PC	Practical Course II	50	
	MB 339 PC	Practical Course III	50	
Semester VI	MB 341 TC	Medical Microbiology II	50	2 Credits /per TC
	MB 342 TC	Genetics and Molecular Biology II	50	
	MB 343 TC	Metabolism	50	
	MB 344 TC	Immunology II	50	
	MB 345 TC	Fermentation technology II	50	
	MB 346 Elective Course TE	Applied Microbiology II (Elective Course)	50	2 Credits /TE
	TE 5	Food Microbiology		
	TE 6	Geomicrobiology		
	TE 7	Nanobiotechnology		
	TE 8	Waste Management		
	MB 347 PC	Practical Course I	50	2 Credits /per PC
	MB 348 PC	Practical Course II	50	
	MB 349 PC	Practical Course III	50	

Equivalence of Previous Syllabus: F. Y. B. Sc. Microbiology

Semester	Old Course (2013 Pattern)		New Course (2019 Pattern)	
	Course Number	Course title	Course Number	Course title
I	Theory Paper I	Introduction to Microbiology	MB 111	Introduction to Microbial World
	Theory Paper II	Basic Techniques in Microbiology	MB 112	Basic Techniques in Microbiology
	—	- Practical Course - (Term I & II)	MB 113	Practical Course based on theory paper I (MB 111) and Paper II (MB 112)
II	Theory Paper I	Introduction to Microbiology	MB 121	Bacterial Cell and Biochemistry
	Theory Paper II	Basic Techniques in Microbiology	MB 122	Microbial cultivation and growth
	—	- Practical Course - (Term I & II)	MB 123	Practical Course based on theory paper I (MB 121) and Paper II (MB 122)

External Students

There shall be no external students.

University Terms

Dates for commencement and conclusion for the first and second terms will be declared by the University authorities. Terms can be kept by only duly admitted students. The term shall be granted only on minimum 80 percent attendance at theory and practical course and satisfactory performance during the term.

Program Specific Outcome

To accommodate more advanced topics in the syllabi, it is necessary to understand the basic science knowledge level of the students that have chosen the Microbiology discipline. Curricula of courses of state and central boards of higher secondary level were reviewed to avoid reiterations of previous syllabi.

At **first year of under-graduation**, students will be provided the basic information that includes – characteristics of microbial world. The microorganisms will be studied for morphological, structural characterization, isolations techniques from natural and extreme environments and their prominent features. The methodology to develop keen observation i.e. different microscopy techniques, staining techniques and nutritional requirements will be taught in detail; including these aspects at laboratory level as well. Introduction to biochemical characterization of components of micro-organism e.g. proteins, lipids, nucleic acids and carbohydrates and instrumental techniques to estimate these components qualitatively and quantitatively from micro-organisms or other natural sources will be the focus for second theory paper. Relevant experimentation on these topics will be included in practical course. In practical course, students will be trained in preparing laboratory manuals, standard operating practices and logbooks.

At **second year under-graduation** includes paper on principles of taxonomy and classification of major groups of microorganisms. The said paper will also include the physiological studies on these groups of microorganisms. Second paper will deal with Air and Water Microbiology; role of micro-organisms in environment in regard to pollution and biodegradation; water and sewage treatment. Practical for the second-year students will designed to be flexible incorporating project themes on environment, agriculture and pollution aspects to acquire laboratory skills. Practical at this level will also includes application of biostatistics principles, computers for data analysis, interpretation, introduction to scientific writing and report preparation. These aspects can be better while carrying out the mini projects.

At **third year under-graduation**, The six theory papers will deal with broad areas of microbiology. Five such areas are – Medical microbiology, Microbial physiology, Microbial (prokaryotic and eukaryotic) genetics, Immunology and Fermentation technology. The sixth course will be Applied Microbiology that will include – Dairy Microbiology, Food Microbiology, Fermentation Technology, Agriculture Biotechnology, Fungal Biotechnology, etc. The practicals at third year will be planed more intensively, with exposure to applied fields and hands-on training.

Qualification of Teachers:

With minimum undergraduate and postgraduate degree in Microbiology (B. Sc. and M. Sc. Microbiology) and qualified as per UGC regulations.

Semester I

DSEC- MB 111: Introduction to Microbial World**[2 Credits; 36 Lectures]****[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]****Course Outcomes:**

- Understand history of microbiology
- Acquire knowledge of different Eras of Microbiology and become acquainted with Nobel laureates in Life Sciences of 21st Century
- Gain knowledge about different types of Microorganism with their differentiating characters
- Understand beneficial and harmful effects of microorganisms in different fields of Microbiology

Credit	Topic	No. of Lectures (36)
Credit I	1. Amazing world of Microbiology	
	a. Development of microbiology as a discipline -Discovery of microscope and Microorganisms (Anton von Leeuwenhoek and Robert Hooke), Abiogenesis v/s biogenesis (Aristotle's notion about spontaneous generation, Francesco Redi's experiment, Louis Pasteur's & Tyndall's experiments)	4
	b. Golden Era of Microbiology	
	i. Contributions of - Louis Pasteur (Fermentation, Rabies, Pasteurization and Cholera vaccine-fowl cholera experiment) Robert Koch (Koch's Postulates, Germ theory of disease, Tuberculosis and Cholera-isolation and staining techniques of causative agent) Ferdinand Cohn (Endospore discovery),	4
	ii. Discovery of viruses (TMV and Bacteriophages), River's Postulates Contribution of Joseph Lister (antiseptic surgery), Paul Ehrlich (Chemotherapy), Elie Metchnikoff (Phagocytosis), Edward Jenner (Vaccination) and Alexander Fleming (Penicillin) in establishment of fields of medical microbiology and immunology, Discovery of Streptomycin by Waksman	4
iii. Contribution of Martinus W. Beijerinck (Enrichment culture technique, Rhizobium), Sergei N. Winogradsky (Nitrogen fixation and Chemo-lithotrophy) in the development of the field of soil microbiology	2	
c. Modern Era of Microbiology Carl Woese classification based on 16S rRNA Signification and Application of Human Microbiome, Nano-biotechnology and Space Microbiology	2	
d. Nobel laureates in Life Sciences of 21st Century <i>(Project Based Learning: Assignments should be given to student)</i>	2	

Credit II	2. Types of Microorganism and their differentiating characters	
	a. Prokaryotes, Eukaryotes, three domain and five domain system of classification	2
	b. Bacteria (Eubacteria and Archaeobacteria)	1
	c. Protozoa	1
	d. Fungi	1
	e. Algae	1
	f. Viruses, Viroids and Prions	2
	g. Actinomycetes	1
	3. Beneficial and Harmful effects of microorganisms:	
	a. Medical Microbiology (Enlist diseases caused by various microorganisms, vaccines and antibiotics)	1
	b. Environmental Microbiology (Eutrophication, red tide, Sewage treatment, bioremediation)	2
	c. Food and Dairy Microbiology (Food spoilage, food borne diseases, Probiotics and fermented food)	1
	d. Agriculture Microbiology (Plant diseases and Biofertilizers and Bio-control agents)	1
	e. Industrial Microbiology (Production of antibiotics, enzymes, solvents and contaminants-bacteria and phages)	2
f. Immunology (Normal flora, Three lines of defence)	2	

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Semester I

DSEC- MB 112: Basic Techniques in Microbiology

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcomes:

- Get knowledge of Modern SI units
- Understand Principles and Working of different types of Microscopes
- Gain knowledge of different types of staining techniques and role of fixatives, mordants, decolourisers and accentuators in staining
- Understand the concept of sterilization and disinfection

Credit	Topic	No. of Lectures (36)
I	1. Units of measurement – Introduction to Modern SI units	1
	2. Microscopy: a. Bright field microscopy: <ul style="list-style-type: none"> • Electromagnetic spectrum of light • Structure, working of and ray diagram of a compound light microscope; concepts of magnification, numerical aperture and resolving power. • Types, ray diagram and functions of – condensers (Abbe and cardioid) eyepieces and objectives • Concept of aberrations in lenses - spherical, chromatic, comma and astigmatism 	3
	b. Principle, working and ray diagram of i. Phase contrast microscope ii. Fluorescence Microscopy iii. Electron Microscopy – TEM, SEM	2 1 3
	3. Staining Techniques: a. Definition of Stain; Types of stains (Basic and Acidic), Properties and role of Fixatives, Mordants, Decolourisers and Accentuators b. Monochrome staining and Negative (Relief) staining c. Differential staining - Gram staining and Acid-fast staining d. Special staining- Capsule, Cell wall, Spore, Flagella, Lipid granules, metachromatic granules	2 1 2 3

II	<p>4. Sterilization and Disinfection</p> <p>a. Sterilization</p> <ul style="list-style-type: none"> • Physical Agents - Heat, Radiation, Filtration 3 • Checking of efficiency of sterilization (Dry and Moist) – Biological and Chemical Indicators 4 <p>b. Disinfection:</p> <ul style="list-style-type: none"> a. Chemical agents and their mode of action - Aldehydes, Halogens, Quaternary ammonium compounds, Phenol and phenolic compounds, 4 b. Heavy metals, Alcohol, Dyes, Detergents and Ethylene oxide. 4 c. Characteristics of an ideal disinfectant 1 d. Checking of efficiency of disinfectant - Phenol Coefficient (Rideal–Walker method) 2 	
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DSEC-MB – 113: F. Y. B. Sc. Microbiology Practical Course

Semester I		
Practical Course MB 113 (Implemented from 2019)		
Based on theory paper I (MB 111) and Paper II (MB 112)		
Expt. No.	Topics	No. of Practicals
1	a. Safety measures and Good Laboratory Practices in microbiology laboratory b. Introduction, operation, precautions and use of common microbiology laboratory instruments: Incubator, Hot air oven, Autoclave, Colorimeter, Laminar air flow hood, Clinical centrifuge.	2
2	a. Construction (mechanical and optical), working and care of bright field microscope. b. Permanent slide observation: Algae, Fungi and Protozoa c. Wet mount slide preparation and its observation for: Bacteria, Algae, Fungi and Protozoa.	3
3	a. Introduction and use of common laboratory glass wares: Test tubes, culture tubes, suspension tubes, screw capped tubes, Petri plates, pipettes (Mohr and serological) micropipettes, Pasteur pipettes, Erlenmeyer flask, volumetric flask, glass spreader, Durham's tube, Cragie's tube and inoculating needles (wire loop, stab needles). b. Learning basic techniques in Microbiology: Wrapping of glassware, cotton plugging, cleaning and washing of glassware, biological waste disposal.	2
4	Basic staining techniques: a. Monochrome staining b. Negative staining c. Gram staining of bacteria	3
5	Observation of motility in bacteria using: Hanging drop method and swarming growth method.	2
6.	Checking of efficacy of chemical disinfectant: Phenol Coefficient by Rideal-Walker method.	2
	TOTAL	14

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Semester II**DSEC- MB 121: Bacterial Cell and Biochemistry****[2 Credits; 36 Lectures]****[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]****Course Outcomes:**

- Understand structure, chemical composition and functions of the components in bacterial cell
- Comprehend chemical basis of Microbiology
- Learn structure, organization and functions of carbohydrates, lipids, proteins & nucleic acids
- Be familiar with classification of bacteria (Bergey's Manual and Systemic Bacteriology) and Viruses (ICTV Nomenclature)

Credits	Topic	No. of Lectures (36)
I	1. Bacterial Cytology	1
	- Microbial cell size, shape and arrangements	
	2. Structure, chemical composition and functions of the following components in bacterial cell:	
	a. Cell wall (Gram positive, Gram negative)	2
	b. Concept of Mycoplasma, Spheroplast, protoplast, L-form	1
	c. Cell membrane	2
	d. Endospore (spore formation and stages of sporulation)	1
	e. Capsule	1
	f. Flagella	2
	g. Fimbriae and Pili	1
h. Ribosomes	1	
i. Chromosomal & extra-chromosomal material	2	
j. Cell inclusions (Gas vesicles, carboxysomes, PHB granules, metachromatic granules, glycogen bodies, starch granules, magnetosomes, sulfur granules, chlorosomes)	4	
II	3. Chemical Basis of Microbiology	
	a. Atom, Biomolecules, types of bonds (covalent, co-ordinate bond, non-covalent) and linkages (ester, phospho-diester, peptide, glycosidic)	2

<p>b. Chemistry of Biomolecules: Structure, organization and functions Carbohydrates: Definition, classification</p>	1
<p>4. Carbohydrates: Definition, classification</p>	
<p>a. Monosaccharides: Classification based on aldehyde and ketone groups; structure of Ribose, Deoxyribose, Glucose, Galactose and Fructose.</p>	1
<p>b. Disaccharides: Glycosidic bond, structure of lactose and sucrose.</p>	1
<p>c. Polysaccharides: Structure and types Examples-Starch, glycogen, Peptidoglycan, chitin</p>	2
<p>5. Lipids: Definition, classification</p>	2
<p>a. Simple lipids – Triglycerides, Fats and oils, waxes.</p>	
<p>b. Compound lipids – Phospholipid, Glycolipids</p>	
<p>c. Derived lipids – Steroids, Cholesterol</p>	
<p>6. Proteins: Definition, classification</p>	1
<p>a. General structure of amino acids, peptide bond.</p>	1
<p>b. Types of amino acids based on R group</p>	1
<p>c. Structural levels of proteins: primary, secondary, tertiary and quaternary</p>	1
<p>d. Study of Hemoglobin, flagellin and cytoskeletal proteins</p>	
<p>7. Nucleic acids: Definition, classification</p>	2
<p>a. DNA – structure and composition</p>	
<p>b. RNA – Types (m-RNA, t-RNA, r-RNA), structure and functions.</p>	
<p>8. Classification of Bacteria Introduction to Bergey's Manual of Determinative and Systemic Bacteriology</p>	2
<p>9. Classification of Viruses: ICTV nomenclature</p>	1

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Semester II

DSEC- MB 122: Microbial Cultivation and Growth
[2 Credits; 36 Lectures]
[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcomes:

- Gain knowledge of cultivation of microorganisms: Nutritional classification, Design and Preparation of media
- Comprehend isolation and maintenance of bacteria, algae, fungi, actinomycetes and viruses
- Understand the Role of National Biodiversity Authority for culture collection centres
- Become acquainted with Bacterial growth kinetics, Growth curve, Generation time and Diauxic growth
- Learn different methods of enumeration of bacterial growth with factors affecting bacterial growth.

Credit	Topic	No. of Lectures (36)
I	1. Cultivation of Microorganisms: a. Nutritional requirements and nutritional classification b. Design and preparation of media: Common ingredients of media and types of media c. Methods for cultivating photosynthetic, extremophilic and chemo-lithotrophic bacteria, anaerobic bacteria, algae, fungi, actinomycetes and viruses d. Concept of Enrichment, Pure Culture, Isolation of culture by streak plate, pour plate, spread plate e. Maintenance of bacterial and fungal cultures using different techniques f. Culture collection centres and their role g. Requirements and guidelines of National Biodiversity Authority for culture collection centres	 3 3 4 3 3 1 1

II	Bacterial growth:	
	a. Kinetics of bacterial growth (Exponential growth model)	3
	b. Growth curve and Generation time	2
	c. Diauxic growth	1
	d. Measurement of bacterial growth- Methods of enumeration:	4
	Microscopic methods (Direct microscopic count, counting cells using improved Neubauer, Petroff-Hausser's chamber)	
	e. Plate counts (Total viable count)	1
	f. Turbidometric methods (including Nephelometry)	1
	g. Estimation of biomass (Dry mass, Packed cell volume)	1
	h. Chemical methods (Cell carbon and nitrogen estimation)	1
	i. Factors affecting bacterial growth {pH, Temperature, Solute Concentration (Salt and Sugar)} and Heavy metals	4

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**DSEC-MB – 123: F. Y. B. Sc. Microbiology Practical Course
(Implemented from 2019) based on MB 121 and MB 122**

Semester II		
Expt. No.	Topics	No. of Practicals
1	i. Preparation of simple laboratory nutrient media (Nutrient agar/broth, MacConkey's agar). ii. Checking sterilization efficiency of autoclave using a biological indicator (<i>B. stearothermophilus</i>) iii. Preparation of Winogradsky's column and observation of different types of microorganisms using bright field microscope	3
2	Special staining techniques: i. Endospore staining ii. Capsule staining	2
3	Isolation of bacteria by streak plate technique (Colony and cultural characteristics)	1
4	Enumeration of bacteria from fermented food / soil / water by: i. Spread plate method ii. Pour plate method	2
5	Study of normal flora of skin: i. Cultivating and observing different morpho-forms of bacteria from skin. ii. Study of effect of washing on skin with soap and disinfectant on it's microflora	2
6	To study the effect of different parameters on growth of <i>E.coli</i>: i. pH, temperature, sodium chloride concentration ii. Study of oligodynamic action of heavy metal	3
7	Preservation of cultures on slants, soil and on grain surfaces; revival of these cultures and lyophilized cultures.	1
	TOTAL	14

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University of Pune
Three Year B. Sc. Degree Course in
Botany

Principal Dr. Balkrishna N. Zaware
Chairman,
Board of Studies in Botany
University of Pune, Pune 411 007.

1) Title of the Course : B. Sc. Botany

F. Y. B. Sc. Botany

(To be implemented from Academic Year 2013-14)

2) Preamble:

The well organized curricula including basic as well as advanced concepts in the plant sciences from first year to the third year shall inspire the students for pursuing higher studies in Botany and for becoming an enterpruner and also enable students to get employed in the Botany subject based industries.

3) Introduction:

At **first year of under-graduation** the topics related to the fundamentals of Botany, including exposure to diversity in plant groups and industries related to plant sciences are covered. The practical course is aimed to equip the students with skills required for plant identification, description, classification and also applications of these plants in various industries.

At **second year under-graduation**: The level of the theory and practical courses shall be one step ahead of the first year B.Sc. courses based on content of first year shall be introduced.

At **third year under-graduation**: Theory papers in each semester shall deal with the further detailed studies of the various plant groups and other branches of Botany such as Plant Genetics, Plant Physiology, Molecular biology etc. The students will also learn about use of Statistics in the plant sciences which will be helpful to students during research in the Botany subject.

Objectives:

- To provide thorough knowledge about various plant groups from primitive to highly evolved
- To make the students aware of applications of different plants in various industries
- To highlight the potential of these studies to become an enterpruner
- To equip the students with skills related to laboratory as well as field based studies
- To make the students aware about conservation and sustainable use of plants
- To create foundation for further studies in Botany
- To address the socio-economical challenges related to plant sciences

- To facilitate students for taking up and shaping a successful career in Botany

4) Eligibility:

- 1 **First Year B.Sc. :** A student who has passed the Higher Secondary School Certificate (10+2) Science stream with Biology or its equivalent examination as per the University of Pune eligibility norms.
- 2 **Second Year B.Sc. :** Keeping terms of First Year of B. Sc. with Botany as one of the subjects. Other students if they fulfill the conditions approved by the equivalence committee of Faculty of Science of the University of Pune are also eligible.
- 3 **Third Year B.Sc.:** Student shall pass all First Year B. Sc. courses and satisfactorily keeping terms of Second Year of B. Sc. with Botany as one of the subjects.

Note: Admissions will be given as per the selection procedure / policies adopted by the respective college, in accordance with conditions laid down by the University of Pune. Reservation and relaxation will be as per the Government rules.

5 A) Examination Pattern:

First Year B. Sc. Botany

Pattern of Examination: Annual

Theory courses	Botany Theory Paper I : Annual
	Botany Theory Paper II : Annual
Practical Course	Annual

Paper/ Course No.	Title	Total Number of lectures/practicals per Term	Standard of passing		
			Internal marks out of 20	External marks out of 80	Total marks out of 100
Theory Paper I BO 111 (First term)	Plant Diversity	Three lectures/Week (Total 36 lectures per term)	08	32	40 *
Theory Paper I BO 111 (Second term)	Plant Morphology and Anatomy	Three lectures/Week (Total 36 lectures per term)			
Theory Paper II BO 112 (First term)	Industrial Botany I	Three lectures/Week (Total 36 lectures per term)	08	32	40 *
Theory Paper II BO 112 (Second term)	Industrial Botany II	Three lectures/Week (Total 36 lectures per term)			
Practical Paper III BO 113 (First & Second Term)	Practical	10 Practicals of 4 lectures in each term (20 practicals / year)	08	32	40 *

* Subject to compulsory passing in external examination and getting minimum 40 marks out of 100

Notes:

1. Total marks: Theory (100 + 100) = 200 marks
2. Total marks per year 200 (Theory) + 100 marks (practicals) = 300 marks
3. Internal marks for theory papers given on the basis of internal assessment tests

Theory examination will be of three hours duration for each theory course. There shall be 5 questions each carrying equal marks. The pattern of question papers shall be:

Question 1	8 sub-questions, each of 2 marks; answerable in 2 -3 lines and based on entire syllabus
Question 2 and 3	4 out of 6 - short answer type questions; answerable in 8 – 10 lines
Question 4	2 out of 4 – Descriptive answer type questions, answerable in 15 – 20 lines
Question 5	1 out of 2 – Descriptive answer type questions, answerable in 35 – 40 lines

Internal examination: Internal assessment of the student by respective teacher will be based on written test, 10 marks in each term. The written test shall comprise objective type questions – Multiple Type Questions, True / False, Definitions, Answer in one or two line questions. There shall be 20 questions.

Practical: Regular assessment of each practical for 20 marks each: Marks for journal:10, Marks for attendance: 05, Marks experimental skills: 03, Practical Work Book: 02

Practical Examination: Practical examination shall be conducted by the respective college at the end of the academic year. Practical examination will be of more than 4 hours duration. Certified journal is compulsory to appear for practical examination. There shall be two expert and two examiners per batch for the practical examination.

Second Year B. Sc. Botany

Pattern of examination: Semester

Theory courses BO 211 and BO 212: Semester

BO 221 and BO 222: Semester

Practical Course: Annual

Paper/ Course No.	Title	Total Number of lectures/practicals Per Semester	Standard of passing		
			Internal marks out of 10 (theory) Out of 20 (practicals)	External marks out of 40 (theory) Out of 80 (practicals)	Total passing marks out of 50 (theory) and out of 100 (practicals)
BO 211	Theory Paper I	Four lectures/Week (Total 48 per semester)	04	16	20 *
BO 212	Theory Paper II	Four lectures/Week (Total 48 per Semester)	04	16	20 *
BO 221	Theory Paper I	Four lectures/Week (Total 48 per Semester)	04	16	20 *
BO 222	Theory Paper II	Four lectures/Week (Total 48 per Semester)	04	16	20 *
Practical paper III (First & Second Semester)	Paper III	12 Practicals of 4 lectures in each Semester (24 practicals / year)	08	32	40**

* Subject to compulsory passing in external examination and getting minimum 20 marks out of 50

****Subject to compulsory passing in external examination and getting minimum 40 marks out of 100**

Notes:

1. Total marks: Theory for each semester (50 + 50) = 100 marks
2. Total marks per year 200 (Theory) + 100 marks (practicals) = 300 marks
3. Internal marks for theory papers given on the basis of internal assessment tests.
4. Internal marks for Practical Course should be a regular assessment of each practical for 20 marks each: Marks for journal:10, Marks for attendance: 05, Marks experimental skills: 03, Practical Work Book: 02

Theory examination will be of two hours duration for each theory course. There shall be 4 questions each carrying equal marks as follows: The pattern of question papers shall be:

Question 1	10 sub-questions, each of 1 marks based on entire syllabus	10 marks
Question 2 and 3	2 out of 3 sub-questions, each of 5 marks; short answer type questions; answerable in 10-15 lines	5 marks each
Question 4	1 out of 2 sub-questions, each of 10 marks; long answer type questions (20-25lines)	10 marks

Internal examination: Internal assessment of the student by respective teacher will be based on written test, 10 marks each Semester. The written test shall comprise of objective type questions – Multiple Type Questions, True / False, Definitions, Answer in Two or three line question. There shall be 20 questions. Practicals: Regular assessment as described earlier (regular assessment of each practical for 20 marks each: Marks for journal:10, Marks for attendance: 05, Marks experimental skills: 03, Practical Work Book: 02)

Practical Examination: Practical examination shall be conducted at the respective college at the end of the academic year. Practical examination will be of more than 4 hours duration. Certified journal is compulsory to appear for practical examination. There shall be two expert and two examiners per batch for the practical examination. One of the examiners will be external.

Third Year B. Sc. Botany

Pattern of examination: Semester

Theory courses:

(Sem III: BO 331 – BO 336) : Semester

(Sem IV: BO 341 – BO 346) : Semester

Practical Course:

(BO 347 – BO 349) : Annual

Theory Papers					
Paper/Course No.	Title	Total Number of lectures Per Semester	Standard of passing		
			Internal marks out of 10 (theory) Out of 20 (practicals)	External marks out of 40 (theory) Out of 80 (practicals)	Total passing marks out of 50 (theory) and out of 100 (practicals)
SEM III					
BO 331	Paper I	48	4	16	20*
BO 332	Paper II	48	4	16	20*
BO 333	Paper III	48	4	16	20*
BO 334	Paper IV	48	4	16	20*
BO 335	Paper V	48	4	16	20*
BO 336	Paper VI	48	4	16	20*
SEM IV					
BO 341	Paper I	48	4	16	20*
BO 342	Paper II	48	4	16	20*
BO 343	Paper III	48	4	16	20*
BO 344	Paper IV	48	4	16	20*
BO 345	Paper V	48	4	16	20*
BO 346	Paper VI	48	4	16	20*
Practical Papers					
BO 347 (Semester III & IV)	Practical Paper I	12 Practicals of 4 lectures in each Semester (24 / year)	08	32	40 **
BO 348 (Semester III & IV)	Practical Paper II	12 Practicals of 4 lectures in each Semester (24 / year)	08	32	40 **
BO 349 (Semester III & IV)	Project Practical Paper III	12 Practicals of 4 lectures in each Semester (24 / year)	08	32	40 **

* Subject to compulsory passing in external examination and getting minimum 20 marks out of 50

**Subject to compulsory passing in external examination and getting minimum 40 marks out of 100

Notes:

1. Total marks: Theory for each semester (50×6) = 300 marks
2. Total marks per year 600 (Theory) + 300 marks (practicals) = 900 marks
3. Internal marks for theory papers be given on the basis of internal assessment tests.
4. Practicals: Regular assessment as described earlier (regular assessment of each practical for 20 marks each: Marks for journal:10, Marks for attendance: 05, Marks experimental skills: 03, Practical Work Book: 02)

Theory examination will be of two hours duration for each theory course. There shall be 4 questions each carrying marks as per the table. The pattern of question papers shall be:

Question 1	10 sub-questions, each of 1 marks based on entire syllabus	10 marks
Question 2 and 3	2 out of 3 sub-questions, each of 5 marks; short answer type questions; answerable in 10 – 15 lines	5 marks each
Question 4	2 out of 3 sub-questions, each of 10 marks; long answer type questions (20 – 25 lines)	10 marks

Internal examination: Internal assessment of the student by respective teacher will be based on written test, 10 marks each Semester. The written test shall comprise of objective type questions – Multiple Type Questions, True / False, Definitions, Answer in Two or three line question. There shall be 20 questions. Practicals: Regular assessment as described earlier (regular assessment of each practical for 20 marks each: Marks for journal:10, Marks for attendance: 05, Marks experimental skills: 03, Practical Work Book: 02)

Practical Examination: Practical examination shall be conducted at the respective college at the end of the academic year. Practical examination will be of more than 4 hours duration. Certified journal is compulsory to appear for practical examination. There shall be two expert and two examiners per batch for the practical examination. One of the examiners will be external.

5 B) Standard of Passing:

- i. In order to pass in the first year theory examination, the candidate has to obtain 40 marks out of 100 in each course. (Minimum 32 marks out of 80 must be obtained in the University Theory Examination.)
- ii. In order to pass in the Second Year and Third Year theory examination, the candidate has to obtain 20 marks out of 50 in each course of each semester. (Minimum 16 marks out of 40 must be obtained in the University Theory Examination.)
- iii. In order to pass in practical examination, the candidate has to obtain 40 marks out of 100 in each course. (Minimum 32 marks out of 80 must be obtained in the University Examination.)

5 C) ATKT Rules:

While going from F.Y.B.Sc. to S.Y.B.Sc. at least 8 courses (out of total 12) should be passed; however all F.Y.B.Sc. courses should be passed while going to T.Y.B.Sc.

While going from S.Y.B.Sc. to T.Y.B.Sc., at least 12 courses (out of 20) should be passed (Practical Course at S.Y.B.Sc. will be equivalent to 2 courses).

5 D) Award of Class:

The class will be awarded to the student on the aggregate marks obtained during the second and third year in the principal subject only. The award of the class shall be as follows:

1	Aggregate 70% and above	First Class with Distinction
2	Aggregate 60% and more but less than 70%	First Class
3	Aggregate 55% and more but less than 60%	Higher Second Class
4	Aggregate 50% and more but less than 55%	Second Class
5	Aggregate 40% and more but less than 50%	Pass Class
6	Below 40%	Fail

5 E) External Students: There shall be no external students.

5 F) Setting question papers:

F. Y. B. Sc.: For theory papers I and II annual question papers shall be set by the University of Pune and assessment done at the respective colleges. Questions should be designed to test the conceptual knowledge and understanding of the basic concepts of the subject. For Practical Paper III,

papers shall be set by the University of Pune and assessment done at the respective colleges.

S. Y. B. Sc. and T. Y. B. Sc.: For theory papers for each semester and also for the annual practical examination, question papers shall be set by the University of Pune. Centralized assessment for theory papers done as per the University instructions. Questions should be designed to test the conceptual knowledge and understanding of the basic concepts of the subject. For Practical Papers, papers shall be set by the University of Pune and assessment done by the internal examiner and external examiner appointed by University of Pune.

5 G) Verification and Revaluation Rules:

As per university Statues and Rules for verification and revaluation of marks in stipulated time after declaration of the semester examination result.

6) Course Structure:

Duration: The duration of B.Sc. Botany Degree Program shall be three years.

a) Compulsory Papers:

F. Y. B. Sc.: 2 Theory + 1 Practical (Annual)

S. Y. B. Sc.: 2 Theory per semester + 1 Practical (Annual)

T. Y. B. Sc.: 6 Theory per semester + 3 Practical (Annual)

b) Question Papers :

F. Y. B. Sc. Theory paper:

University Examination – 80 marks (at the end of 2nd term)

Internal Examination – 20 marks

S. Y. / T. Y. - B. Sc. Theory paper:

University Examination – 40 marks (at the end of each term)

Internal Examination – 10 marks

F. Y. / S. Y. / T. Y. - B. Sc. Practical Paper:

University Examination – 80 marks (at the end of 2nd term)

Internal Examination – 20 marks

c) Medium of Instruction: The medium of instruction for the course shall be **English**.

7) Equivalence of Previous Syllabus:

Old Course (2008 Pattern)	New Course (2013 Pattern)
Paper I: Plant Diversity	BO 111: Plant Diversity, Plant Morphology and Anatomy
Paper II: Plant Resources -Utiliation and Management	BO 112: Industrial Botany
Paper III: Practical	BO 113: Practical

8) University Terms: Dates for commencement and conclusion for the first and second terms will be declared by the University authorities. Terms can be kept by only duly admitted students. The term shall be granted only on minimum 75 percent attendance at theory and practical course and satisfactory performance during the term.

9) Qualification of Teachers: M.Sc. Botany or equivalent master degree in science with class/grades and NET/SET/Ph.D. as per prevailing University/Government /UGC rules.

UNIVERSITY OF PUNE
BOARD OF STUDIES IN BOTANY
Proposed Revised Syllabus for F. Y. B. Sc. (Botany)
To be implemented from June, 2013
F. Y. B. Sc. (Botany) New Syllabus

- 1. Fundamentals of Botany: PAPER – I**
Term- I: Plant Diversity

- 2. Botany Theory Paper II**
Term I – Industrial Botany

- 3. Fundamentals of Botany: PAPER - I**
Term- II: Morphology and Anatomy

- 4. Botany Theory Paper II**
Term- II – Industrial Botany

- 5. F. Y. B. Sc. Botany Practical Paper - III based on Theory Paper I
and Paper II**

UNIVERSITY OF PUNE
BOARD OF STUDIES IN BOTANY
Proposed Revised Syllabus for F. Y. B.Sc. (Botany)
To be implemented from June, 2013

PAPER – I

FUNDAMENTALS OF BOTANY

Term – I: Plant Diversity (36 Lectures)

1. **Introduction:** General outline of plant kingdom, Introduction to plant diversity with reference to following groups:-
Cryptogams: Thallophyta (Algae, Fungi, Lichens, And Bacteria), Bryophyta and Pteridophyta, Phanerogams: Gymnosperms and Angiosperms. **3L**
2. **Algae:** General characters, Outline classification according to G.M. Smith (1955) up to classes with reasons. Life cycle of *Spirogyra*. **6L**
3. **Fungi:** General characters, Outline classification according to G.M. Smith (1955) up to classes with reasons. Life cycle of *Cystopus (Albugo)*. **5L**
4. **Lichens:** General characters, Nature of Association, Types of Lichens on the basis of thallus morphology, Economic importance of lichens. **3L**
5. **Bryophytes:** General characters, Outline classification according to G.M. Smith (1955) up to classes with reasons. Life cycle of *Riccia*. **5L**
6. **Pteridophytes:** General characters, Outline classification according to G.M. Smith (1955) up to classes with reasons. Life cycle of *Nephrolepis*. **6L**
7. **Gymnosperms:** General characters, Outline classification according to Chamberlain (1934) up to classes with reasons. Life cycle of *Cycas*. **5L**
8. **Angiosperms:** General characters, Causes of evolutionary success of Angiosperms, comparative account of monocotyledons and dicotyledons. **3L**
(Note: Development of sex organs not expected, for all the above mentioned life cycles)

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PAPER – I
FUNDAMENTALS OF BOTANY
Term – II: Morphology and Anatomy (36 Lectures)

- 1. Morphology:** **4L**
- 1.1: Introduction, Definition and Scope.
- 1.2: Descriptive and Interpretative.
- 1.3: Importance in identification, nomenclature, classification, phylogeny and Plant breeding.
- 2. Morphology of Vegetative Parts:** **8L**
- 2.1: **Root:** Types of roots, Modifications of roots: Epiphytic, Respiratory (Pneumatophores), Parasitic and Storage roots (conical, fusiform and napiform) with examples; functions of root.
- 2.2: **Stem:** Modifications of Stem: Phylloclade, Runner, Stolon, Suckers, Offsets, Rhizome, Corm, Tuber and Bulb with examples. Functions of stem.
- 2.3: **Leaf:** Parts of typical leaf: petiole, lamina; leaf margins and apices. Types of leaves: simple, compound, venation, phyllotaxy. Modifications: tendrils, spines, scale leaves, phyllode, reproductive and trap leaves (mechanism of trapping in *Nepenthes* only) with examples. Functions of leaf.
- 3. Morphology of Reproductive Parts:** **10L**
- 3.1: **Inflorescence:** Types of inflorescence: Racemose (raceme, spike, corymb, umbel, catkin, spadix and capitulum), Cymose (solitary, monochasial, dichasial, polychasial), Special types (Verticillaster, Cyathium, and Hypanthodium) Significance.
- 3.2: **Flower:** Parts of typical flower, Types of flower (complete, incomplete), symmetry of flower and insertion of floral whorls. Floral whorls: Calyx, corolla, perianth, aestivation, modifications of calyx (pappus, petalloid, spurred), forms of corolla: polypetalous (cruciform and papilionaceous) gamopetalous (infundibuliform, bilabiate), Androecium: structure of stamen, fixation of anthers, cohesion and adhesion; Gynoecium: structure of carpel. Types of placentations.
- 3.3: **Fruit:** Types of fruits: Simple and dry: Achene, Cypsela, Legume, Follicle and Capsule, Fleshy: Drupe, berry, Hesperidium and pepo. Aggregate: Etaerio of berries and Etaerio of follicles. Multiple fruits: Syconus and Sorosis.
- 3.4: **Seed:** Parts, types, structural modifications for seed dispersal.
- 4. Anatomy:** **2L**
- Introduction, Definition, Importance in taxonomy, physiology, ecological interpretations, pharmacognosy and wood identification.
- 5. Types of tissues:** Outline with brief description. **6L**
- 5.1: **Meristmatic tissues:** - Meristem, characters and types based on origin, position and plane of division, functions.
- 5.2: **Vascular tissues:-** Components of xylem and phloem, types of vascular bundles, functions.
- 5.3: **Epidermal tissues:-** Epidermis, structure of typical stomata, trichomes, motor cells; functions.
- 5.4: **Mechanical tissues:-** Collenchyma, sclerenchyma and xylem with functions.

6. Internal Organization of Primary Plant Body:

6L

6.1: Internal structure of dicotyledon and monocotyledon root.

6.2: Internal structure of dicotyledon and monocotyledon stem.

6.3: Internal structure of dicotyledon and monocotyledon leaf.

References:

1. College Botany, 2006, Gangulee and Kar. New Central Book Agency (P) Ltd. Kolkata
2. Taxonomy of Angiosperms, 1994, V. N. Naik, Tata Mc Graw Hill Publishing Comp., New Delhi
3. Systematic Botany, 1988, S. C. Dutta, Wiley Eastern Ltd., New Delhi
4. College Botany, Vol. I. 2002, Gangulee, Das and Datta, New Central Book Agency, Kolkata.
5. Taxonomy of Angiosperms, 2010, V. Singh and D. K. Jain, Rastogi Publications, Meerut.
6. Plant Anatomy 2007, B. P. Pandey, S. Chand and Comp. Ltd. New Delhi.
7. A Text Book of Botany- Angiosperms, 2009, B. P. Pandey, S. Chand and Comp. Ltd. New Delhi
8. An introduction to plant anatomy, 1994, J. Eames, L.H & Mc. Daniels ,Tata Mc Graw Hills Publ. Comp. New Delhi.
9. Plant anatomy, 1974, Fahn , A, Pergamon Press Oxford.
10. Anatomy of seed plants, 2006, Esau K., John Wiley & Sons, New York.
11. Taxonomy of vascular plant, 2012, Lawrence GHM, Scientific Publishers, (India) Jodhpur.
12. Plant Anatomy, 1993, Esau K., Wiley Eastern Ltd. New Delhi.
13. Morphology of the angiosperms, 1961, Eames A.J., Mc. Graw Hill, New York.
14. A Text Book of Practical Botany II, 1993, Ashok Bendre & Ashok Kumar. Rastogi Publ., Meerut.
15. Plant Anatomy, 2006, Pijush Roy. New Central Book Agency (P) Ltd. Kolkata.
16. Plant Anatomy, 1989, Chandurkar, P. J., Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
17. Botany for Degree Students, 2003, A. C. Dutta. Oxford University Press, New Delhi.
18. A text book of Botany: Angiosperms, 2011. V. Singh, P. C. Pande & D. K. Jain. Rastogi publications.

PAPER- II

Term I – INDUSTRIAL BOTANY (36 Lectures)

1. **Introduction to Industrial Botany** **2L**
 - 1.1 Concept of Industrial Botany.
 - 1.2 Plant resources and industries: Food, fodder, fibers, medicines, timber, dyes, gum, tannins. (Two examples of each resource and the relevant industries with which they are associated).
2. **Floriculture Industry** **8L**
 - 2.1 Introduction to floriculture.
 - 2.2 Important floricultural crops, open cultivation practices, harvesting and marketing of Tuberose.
 - 2.3 Greenhouse technology: Concept, advantages and limitations.
 - 2.4 Cultivation practices (greenhouse technology), harvesting and marketing of Rose and *Gerbera*.
3. **Plant Nursery Industry** **8L**
 - 3.1 Concept and types of nurseries: ornamental plant nursery, fruit plant nursery, medicinal plant nursery, vegetable plant nursery, orchid nursery, forest nursery (with reference to infrastructure required, outputs, commercial applications and profitability).
 - 3.2 Propagation methods: Seed propagation, natural vegetative propagation and artificial vegetative propagation (Cutting: Stem, Layering: Air layering, Grafting: Stone grafting and Approach grafting, Budding : T-budding).
4. **Plant Tissue Culture Industry** **6L**
 - 4.1 Concept of tissue culture.
 - 4.2 Culture techniques: Types of explants, preparation of media, methods of sterilization, inoculation techniques, incubation and hardening.
 - 4.3 Commercial significance
5. **Agri industries:** **8L**
 - 5.1 Organic Farming: Concept, need of organic farming, types of organic fertilizers, advantages and limitations.

5.2 Seed industries: Importance of seed industries, seed production, seed processing and seed marketing with reference to cotton. Major seed industries and corporations of India.

6. Mushroom Industries:

4L

Mushroom cultivation: Plant resources, cultivation practices of Oyster mushroom, uses of mushrooms, value added products, commercial significance.

References:

1. Textbook of Economic Botany, Verma V., Ane Books Pvt. Ltd.
 2. Economic Botany in the Tropics, Kochhar, Macmillan Publisher.
 3. Economic Botany: Principles and Practices, Gerald E. Wickens, Springer Publication.
 4. Floriculture in India, Gurcharan Singh Randhawa and Amitabha Mukhopadhyay, Allied Publishers.
 5. Floriculture Marketing in India, Debashish Sengupta and Raj Kamal, Excel Books.
 6. Floriculture Hand Book, Eiri, Engineers India Research in Publication.
 7. Nursery Management, John Mason, Landlinks Press Publisher.
 8. Plant Nursery Management: How to Start and Operate a Plant Nursery, Ray, P.K., Scientific Publishers.
 9. Introduction to Plant Tissue Culture (2/e), M. K. Razdan, Science Publishers.
 10. Plant Cell and Tissue Culture, Indra K. Vasil, (Eds. - Indra K. Vasil, Trevor A. Thorpe), Springer Publication.
 11. The Complete Book on Organic Farming and Production of Organic Compost, NPCS Board of Consultants & Engineers, Asia Pacific Business Press Inc.
 12. The Organic Farming Manual: A Comprehensive Guide to Starting and Running a Certified Organic Farm, Ann Larkin Hansen, Storey Publications.
 13. Hand Book of Mushroom Cultivation, Processing and Packaging, Engineers India Research In Publishers
 14. Growing Gourmet and Medicinal Mushrooms, Paul Stamets, Ten Speed Press Publishers
 15. Handbook of Seed Science And Technology: Seed biology, Production, and Technology, Amarjit S. Basra, Food Products Press publishers.
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PAPER- II

Term- II: INDUSTRIAL BOTANY (36 Lectures)

- 1. Bio-fuel Industry** **6L**
 - 1.1 Introduction and advantages.
 - 1.2 Concept of biofuel and its need.
 - 1.3 Plants used for biofuel production.
 - 1.4 Biodiesel production from Caster.
 - 1.5 Commercial significance.
- 2 Bio-pesticide Industry** **6L**
 - 2.1 Concept of bio-control; Integrated Pest Management (IPM).
 - 2.2 Importance of bio pesticides.
 - 2.3 Types of bio pesticides: Indiara, Azadiractin.
 - 2.4 Commercial significance.
- 3. Industrial Mycology** **6L**
 - 3.1 Introduction
 - 3.2 Important genera of fungi used in various industries and their products.
 - 3.3 Products and applications of *Trichoderma*, *Penicillium*, *Aspergillus* and yeast.
 - 3.4 Commercial significance.
- 4. Bio-Fertilizer Industry** **6L**
 - 4.1 Bio fertilizers : concept and need
 - 4.2 Types of bio-fertilizers: Nitrogen fixing bio fertilizer: *Rhizobium*, Blue green algae. *Anabaena* associated with *Azolla*. Phosphate solubilizing bio-fertilizer: Bacteria and Fungi.
 - 4.3 Commercial significance.
- 5 Fruit Processing Industry** **6L**
 - 5.1 Fruit processing: concept and need
 - 5.2 Cold storage.
 - 5.3 Types of fruit processing (canned fruits, dried fruit chips, fruit pulp, squash, jam, jelly, pickle and ketchups).
 - 5.4 Commercial significance.
- 6 Plant Pharmaceutical Industry** **6L**

6.1 Concept and advantages.

6.2 Types of pharmaceutical products: Churna, Asava and Arishta.

6.3 Drug plants with reference to botanical source, active principles and medicinal uses of *Adathoda zeylanica*, *Tinospora cordifolia* and *Asperagus racemosus*.

6.4 Manufacture of *Churna (Triphala churna)*, *Arishta (Ashokarishta)* and *Asava (Kumariasava)*.

6.5 Concept of nutraceuticals and cosmeceuticals.

6.6 Commercial significance of Amla and Aloe.

References:

1. The Complete Book on Organic Farming and Production of Organic Compost, NPCS Board of Consultants & Engineers, Asia Pacific Business Press Inc.
2. The Organic Farming Manual: A Comprehensive Guide to Starting and Running a Certified Organic Farm, Ann Larkin Hansen, Storey Publications.
3. Deore and Laware (2011). Liquid Organic Fertilizer: An Approach towards Organic Vegetable Production. LAP LAMBERT Academic Publishing (2011)
4. A Pharmacognosy and Pharmacobiotechnology. New Age international (P) Limited, Publishers (formerly Wiley Eastern Limited)
5. Kokate C.K. Practical Pharmacognosy, Vallabh Prakashan, New Delhi,
6. Kokate C.K. Purohit A.P. and Gokhale S.B. Pharmacognosy, Nirali Prakashan Pune
7. Trease G.E. and Evans. W.C. Pharmacognosy ELBS Twelfth Edition
8. Tyler V.E. Brady L.R. and Robbers J.E. Pharmacognosy Lea and Febiger. Philadelphia. 8th edition KM Varghese and Co. Mumbai,
9. Vaidya S.S. and Dole V.A. Bhaishyajakalpana, Anmol Prakashan, pune
10. Wallis T.E. Text books of pharmacognosy CBS publishers and distributors New Delhi (Latest Edition)
11. Pathak, Khatri, Pathak, 2003, Fundamentals of plant pathology, Agrbios
12. Mehrotra, R.S. 1991, Plant Pathology, Tata Mc-Graw Hill Co. Delhi
13. Chatterjee, P.B., 1997, Plant Protection Techniques, Bharati Bhawan, Publ. Patana
14. Agrios, G.N. 2006 Plant Pathology, Elsevier Academic Press.
15. Pandey, B.P. 2009, Plant Pathology, S. Chand Co.

16. Gupta, G.P., 2004, Text book of plant diseases, Discovery Publ. House, New, Delhi
 17. Singh, R.S. 2004, Plant Diseases, Oxford & IBH Publishing Co. Pvt. Ltd., Delhi.
 18. Zhiqiang A.N. (2004) Handbook of Industrial Mycology. CRC Press
 19. Gary Leatham (1993) Frontiers in Industrial Mycology. Springer
 20. Sueli Rodrigues; Fabiano Andre Narciso Fernandes (2012). Advances in Fruit Processing Technologies. CRC Press
 21. Hui. Y. H. (3008) Handbook of Fruits and Fruit Processing John Wiley & Sons, 04-Aug-2008.
 22. A.C. Gaur (Biofertilizers in Sustainable Agriculture. IARI, New Delhi
 23. The Complete Technology Book on Biofertilizer and Organic Farming. NIIR PROJECT CONSULTANCY SERVICES.
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F. Y. B.Sc. BOTANY PRACTICAL PAPER – III

Based on Theory Paper I and Paper II

1. Modifications of root and stem. 1P
2. Study of leaf (parts of leaf, types: simple and compound; sessile and petiolate; venation: parallel and reticulate) (Glossary of terminologies be given with the protocol). 1P
3. Study of Inflorescence. 1P
 - a) Racemose: Raceme, Spike, Spadix, Catkin, Umbel and Capitulum.
 - b) Cymose: Solitary cyme, Uniparous cyme: helicoid and scorpiod, Biparous cyme and Multiparous cyme.
 - c) Special type: Verticillaster, Hypanthodium and Cyathium.
4. Study of flower with respect to Calyx, Corolla and Perianth: (Glossary of terminologies is given with the protocol). 1P
5. Study of flower with respect to Androecium and Gynoecium. 1P
6. Study of fruits and seed with suitable examples. 1P

Simple fruit: fleshy – Berry and Drupe; Dry: Achene, Cypsella and Legume

Aggregate fruit: Etaerio of follicles and Etaerio of Berries.

Multiple fruit: Syconus and Sorosis.

Seed: parts of seed and types of seed (monocotyledonous dicotyledonous, albuminous, exalbuminous)
7. Study of internal primary structure of dicotyledonous root, stem and leaf. 1P

e.g. Sunflower.
8. Study of internal primary structure of monocotyledonous root, stem and leaf. 1P

e.g. Maize.
9. Study of *Spirogyra*. 1P
10. Study of *Cystopus (Albugo)* 1P
11. Study of *Riccia*. 1P
12. Study of *Nephorlepis*. 1P
13. Study of *Cycas*. 1P
14. Study of plant resources in industries: food, fodder, fiber, medicine, timber and gum (one example of each) 1P

15. Study of artificial plant propagation: 1P
 Stem cutting (demonstration of three subtypes)
 Air Layering, Approach grafting, and T- budding
16. Study of plant tissue culture techniques: Demonstration of various stages. 1P
17. Cultivation of Oyster mushroom and demonstration of value added mushroom products. 1P
18. Study of plant resources used in biopesticides. 1P
 (Indiara, Azadiractin)
19. Study of industrially important fungi and their products. 1P
Ganoderma: *Ganoderma* tablets, *Aspergillus*: citric acid; *Yeast*: Bakery products; *Penicillium*: Penicillin and *Trichoderma*.
20. Study of types of Biofertilizers: *Rhizobium*, *Azotobacter*, BGA, *Azolla*.
 Phosphate Solubilizing Bacteria. Green manure (preferably *Crotolaria*/
Gliricidia/locally available material). 1P
21. Preparation of Jam and Squash. 1P
22. A) One botanical excursion to study plant diversity.
 B) Visit to one of the following industries. (Study/project report is compulsory).
 1) Floriculture unit 2) Greenhouse 3) Pharmaceutical industry 4) Nursery and
 5) Mushroom cultivation unit.

(Note: Visits mentioned in the practical No. 22 (A & B) are compulsory. It carries 10 marks at the time of annual practical examination.)



Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Physics

(Faculty of Science & Technology)

F.Y.B.Sc. (Physics)

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

Title of the Course: B.Sc. (Physics)

Preamble:

The curriculum for the B. Sc. (Physics) programme is designed to cater to the requirement of Choice Based Credit System following the University Grants Commission (UGC) guidelines. In the proposed structure, due consideration is given to Core and Elective Courses (Discipline specific - Physics), along with Ability Enhancement (Compulsory and Skill based) Courses. Furthermore, continuous assessment is an integral part of the CBCS, which will facilitate systematic and thorough learning towards better understanding of the subject. The systematic and planned curricula from first year to the third year (comprised of six semesters) shall motivate the student for pursuing higher studies in Physics and inculcate enough skills for becoming an entrepreneur.

Objectives:

- To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.
- To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits, etc.
- To familiarize with recent scientific and technological developments.
- To create foundation for research and development in Physics.
- To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.
- To train students in skills related to research, education, industry, and market.
- To help students to build-up a progressive and successful career in Physics.

Structure of the Course:

Subject Name	Year	Semester	Course Type	Course Code	Course Name	Credit
Physics	1	I	Compulsory Course	PHY-111	Mechanics and Properties of Matter	2
				PHY-112	Physics Principles and Applications	2
				PHY-113	Physics Laboratory-IA	1.5
		II	Compulsory Course	PHY-121	Heat and Thermodynamics	2
				PHY-122	Electricity and Magnetism	2
				PHY-123	Physics Laboratory-IB	1.5
	2	III	Compulsory Course	PHY-231	Mathematical Methods in Physics I	2
				PHY-232	Electronics I /Instrumentation	2
				PHY-233	Physics Laboratory-2A	2
			Ability Enhancement Compulsory Course	PHY-2310	Environment -I	2
				PHY-2311	Language-I	2
				IV	Compulsory Course	PHY-241
		PHY-242	Optics			2
		PHY-243	Physics Laboratory-2B			2
		Ability Enhancement Compulsory Course	PHY-2410		Environment –II	2
			PHY-2411	Language-II	2	
	3		V	Discipline Specific Elective Course	PHY- 351	Mathematical Methods in Physics II
		PHY- 352			Electrodynamics	2
		PHY- 353			Classical Mechanics	2
		PHY- 354			Atomic and Molecular Physics	2
		PHY- 355			Computational Physics	2
		PHY- 356			Elective I (Select any One)	2
		PHY- 357			Physics Laboratory-3A	2
		PHY- 358			Physics Laboratory-3B	2
		PHY- 359			Physics Laboratory-3C	2
		Skill Enhancement Course			PHY-3510	Maintenance and Repairing of Laboratory equipment – I
PHY- 3511			Household Electrification, Maintenance and repairing - I	2		

		VI	Discipline Specific Elective Course	PHY- 361	Solid State Physics	2
				PHY- 362	Quantum Mechanics	2
				PHY- 363	Thermodynamics and Statistical Physics	2
				PHY- 364	Nuclear Physics	2
				PHY- 365	Electronics II /Advanced Electronics	2
				PHY- 366	Elective II (Select any One)	2
				PHY- 367	Physics Laboratory-4A	2
				PHY- 368	Physics Laboratory-4B	2
				PHY- 369	Project	2
			Skill Enhancement Course	PHY-3610	Maintenance and Repairing of Laboratory Equipment – II	2
				PHY- 3611	Household Electrification, Maintenance and Repairing- II	2

SEMESTER-I**Course code and title: PHY-111 Mechanics and Properties of Matter****Lectures: 36** **(Credits-02)****1. Motion:** **(9 Lectures)**

Introduction to motion, Types of motion, Displacement, Velocity, Acceleration, Inertia, Newton's laws of motion with their explanations, Various types of forces in nature, Frames of reference (Inertial and Non inertial), Laws of motion and its real life applications, Problems.

2. Work and Energy: **(7 Lectures)**

Kinetic energy, Work Energy Theorem, Work done with constant force, Work done with varying force (spring force), Conservative and Non conservative forces, Potential energy, Law of energy conservation, Gravitational potential energy, Problems.

3. Fluid Mechanics: **(8 Lectures)**

Concept of viscous force and viscosity, Coefficient of viscosity, Steady and Turbulent flow, Reynolds number, Equation of continuity, Bernoulli's Principle, Applications of Bernoulli's Principle (Ventury Meter, PitotTube), Applications of viscous fluids, Problems.

4. Properties of Matter: **(12 Lectures)**

Surface tension, Angle of contact, Factors affecting surface tension, Jaeger's method for determination of surface tension, Applications of surface tension.

Stress and Strain, Hook's law and Coefficient of elasticity, Young's modulus, Bulk modulus, Modulus of rigidity, Work done during longitudinal strain, Volume strain, Shearing strain, Poisson's ratio, Relation between three elastic moduli, (Y , η , K), Applications of elasticity, Problems.

Reference Books

1. Physics: Resnick, Halliday & Walker 9/e, Wiley.
2. University Physics : Sears and Zeemansky, XIth/XIIth Edition, Pearson Education.
3. Mechanics: D. S. Mathur, S. Chand and Company, New Delhi.
4. Elements of Properties of Matter : D. S. Mathur, S. Chand, New Delhi.
5. Concepts of Physics: H. C. Verma, BharatiBhavan Publisher.
6. Problems in Physics: P. K. Srivastava, Wiley Eastern Ltd.
7. Applied Fluid Mechanics: Mott Robert, Pearson Benjamin Cummir VI Edition. Pearson Education/Prentice Hall International, New Delhi.
8. Fundamentals of Mechanics: J C Upadhyaya, Himalaya Publishing House.
9. Mechanics: D. S. Mathur, Revised by P. S. Hemne, S. Chand and Company, New Delhi.
- 10.

Course code and title: PHY-112 Physics Principles and Applications**Lectures: 36****(Credits-02)****Learning Outcomes:**

On successful completion of this course students will be able to do the following:

1. To understand the general structure of atom, spectrum of hydrogen atom.
2. To understand the atomic excitation and LASER principles.
3. To understand the bonding mechanism and its different types.
4. To demonstrate an understanding of electromagnetic waves and its spectrum.
5. Understand the types and sources of electromagnetic waves and applications.
6. To demonstrate quantitative problem solving skills in all the topics covered.

1. Physics of Atoms**(08-Lectures)**

1.1 Introduction to Atom

1.2 Atomic Models:

1.2.1 Thomson's Atomic Model

1.2.2 Rutherford's Atomic Model

1.2.3 Bohr's Atomic Model

1.3 Atomic Spectra:

1.3.1 Emission line Spectrum

1.3.2 Absorption line spectrum

1.3.3 Uses of Atomic Spectra

1.4 Classical planetary model of Hydrogen Atom

1.5 The Bohr Theory of the Hydrogen Atom

1.6 The Hydrogen Spectrum

1.7 Frank-Hertz experiment

Problems

2. LASERS and Its Applications**(07-Lectures)**

2.1 Introduction to LASERS

2.2 Basic Principle of Lasers: Three Processes

2.3 Characteristics of Lasers: brief explanation

2.4 Boltzmann Distribution Law

2.5 Population Inversion and Pumping

2.6 Types of Lasers:

2.5.1 He-Ne Laser

2.5.2 Ruby Laser

2.7 Applications of Lasers

Problems

3. Physics of Molecules**(08-Lectures)**

3.1 Introduction to Bonding Mechanisms

3.2 Forces between Atoms

3.3 Types of Bonding:

3.3.1 Ionic Bonds

3.3.2 Covalent Bonds

3.3.3 van der Waal's Bonds

3.3.4 Hydrogen Bond

3.3.5 Metallic Bond

3.4 Rotation energy levels of a diatomic molecule

3.5 Vibration energy levels of a diatomic molecule

Problems

4. Sources of Electromagnetic Waves (06-Lectures)

- 4.1 Introduction to Electromagnetic Waves: Historical Perspective
- 4.2 General properties of Electromagnetic radiations
- 4.3 Electromagnetic spectrums and its sources
- 4.4 Production of electromagnetic waves: Hertz experiment
- 4.5 Plank's hypothesis of Photons
- 4.6 Applications of various waves in electromagnetic spectrum

5. Applications of Electromagnetic Waves (07-Lectures)

- 5.1 Microwave oven
 - 5.2 RADAR
 - 5.3 Pyroelectric thermometer
 - 5.4 X-ray radiography
 - 5.5 CT Scan
 - 5.6 Solar cell and its types
- Problems

Books/References

1. Concepts of Modern Physics: A Beiser (6th ed., McGraw Hill, 2003)
2. Modern Physics: Raymond A. Serway, Clement J. Moses, Curt A. Moyer
3. Sears and Zemansky's University Physics: H.D. Young R. A. Freedman, Sandin (11th Ed. Pearson Education)
4. LASERS: M. N. Avdhanulu, S. Chand Publications.

Course code and title: PHY-113 Physics Laboratory 1A**Practical: 10****(Credits-1.5)****Section I- Mechanics and Properties of Matter**

Sr. No	Title of the experiment
1	Study and use of various measuring Instruments. 1. Vernier caliper 2. Micrometer Screw Gauge 3. Travelling Microscope
2	Study of Modulus of Rigidity of wire using Torsional Oscillations
3	Determination of coefficient of Viscosity by Poiseuille's method
4	Determination of “Y” and “ η ” by flat spiral spring
5	Determination of “Y” by bending method.
6	Study of surface tension by Jaeger's method
7	Study of Poisson's ratio of rubber using rubber tube /rubber chord
8	Study of surface tension of liquid using Fergusson Method

Section II-Physics Principles and Applications

Sr. No	Title of the experiment
1	Study of Spectrometer and determination of angle of prism
2	Study of Spectrometer calibration and determination of refractive indices of different colors
3	Study of divergence of LASER beam
4	Study of total internal reflection using LASER
5	Determination of Plank's constant
6	Determination of wavelength of LASER light by plane diffraction grating
7	Study of I-V characteristics of solar cell

Note: Any four experiments from each section be conducted during the semester, with a total of 10 experiments.

SEMISTER-II**Course code and title: PHY-121 Heat and Thermodynamics****Lectures: 36** **(Credits-02)****1. Fundamentals of Thermodynamics** **(10 Lectures)**

Concept of thermodynamic state, Equation of state, Van der Waal's equation of state, Thermal equilibrium, Zeroth law of thermodynamics, Thermodynamic processes: Adiabatic, Isothermal, Isobaric and Isochoric changes, Indicator diagram, Work done during isothermal change, Adiabatic relations, Work done during adiabatic change, Internal energy, Internal energy as state function, First law of thermodynamics, Reversible and Irreversible changes, Problems.

2. Applied Thermodynamics: **(9 Lectures)**

Conversion of heat into work and its converse, Second law of thermodynamics, Concept of entropy, Temperature - entropy diagram, T-dS equations, Clausius - Clapeyron latent heat equations, Problems.

3. Heat Transfer Mechanisms **(9 Lectures)**

Carnot's cycle and Carnot's heat engine and its efficiency, Heat Engines: Otto cycle & its efficiency, Diesel cycle & its efficiency, Refrigerators: General principle and coefficient of performance of refrigerator, Simple structure of Vapour compression refrigerator, Air Conditioning: Principle and its applications, Problems.

4. Thermometry: **(8 Lectures)**

Concept of heat & temperature, Principle of thermometry, Temperature scales & inter-conversions, Principle, Construction and Working: (Liquid thermometers, Liquid filled thermometers, Gas filled thermometers, Bimetallic thermometers, Platinum resistance thermometer, Thermocouple), Problems.

Reference Books:

1. Concept of Physics: H. C. Verma, BharatiBhavan Publisher.
2. Heat and Thermodynamics: Brijlal, N. Subrahmanyam, S. Chand and Company Ltd.
3. Heat and Thermodynamics: Mark W. Zemansky, Richard H. Dittman, 7th Edition, Mc-Graw Hill International Edition.
4. Thermodynamics and Statistical Physics: J. K. Sharma, K. K. Sarkar, Himalaya Publishing House.
5. Thermal Physics (Heat and Thermodynamics): A. B. Gupta, H. P. Roy books and Allied (P) Ltd. Calcutta.
6. Instrumentation: Devices & Systems, Rangan, Mani, and Sarma.

Course code and title: PHY-122 Electricity and Magnetism**Lectures: 36****(Credits-02)****Learning Outcomes:**

On successful completion of this course students will be able to do the following:

- 1) To understand the concept of the electric force, electric field and electric potential for stationary charges.
- 2) Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law.
- 3) To understand the dielectric phenomenon and effect of electric field on dielectric.
- 4) To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.
- 5) To study magnetic materials and its properties.
- 6) Demonstrate quantitative problem solving skills in all the topics covered.

1. Electrostatics**(08-Lectures)**

- 1.1 Revision of Coulomb's law:
 - 1.1.1 Statement
 - 1.1.2 Variation of forces with distances
 - 1.2 Superposition principle:
 - 1.2.1 Statement
 - 1.2.2 Explanation with illustration
 - 1.3 Energy of system of charges
 - 1.4 Concept of electric field
 - 1.4.1 Due to point charge
 - 1.4.2 Due to group charges
 - 1.5 Concept of electric flux
 - 1.6 Gauss's law in electrostatics
- Problems

2. Dielectrics**(08-Lectures)**

- 2.1 Introduction to dielectric materials
 - 2.2 Electric Dipole
 - 2.2.1 Electric dipole
 - 2.2.2 Dipole moment
 - 2.3 Electric potential and intensity at any point due to dipole
 - 2.4 Torque on a dipole placed in an electric field
 - 2.5 Polar and non-polar molecules
 - 2.6 Electric polarization of dielectric material
 - 2.7 Gauss' law in dielectric
 - 2.8 Electric vectors and its relation
- Problems

3. Magnetization**(07-Lectures)**

- 3.1 Introduction to Magnetization
- 3.2 Magnetic materials
- 3.3 Types of Magnetic Materials
 - 3.3.1 Diamagnetic materials
 - 3.3.2 Paramagnetic materials
 - 3.3.3 Ferromagnetic materials
 - 3.3.4 Antiferromagnetic materials

3.4 Bohr magnetron
Problems

4. Magnetostatics

(07-Lectures)

- 4.1 Introduction to magnetization,
- 4.2 Magnetic Induction and Intensity of magnetization
- 4.3 Biot-Savart's law:
 - 4.3.1 Statement
 - 4.3.2 Long straight conductor
 - 4.3.3 Circular Coil
- 4.4 Ampere's circuital law:
 - 4.4.1 Statement
 - 4.4.2 Field of Solenoid
 - 4.4.3 Field of Toroid
- 4.5 Gauss law for magnetism
Problems

5. Magnetic Properties of Materials

(06-Lectures)

- 5.1 Definition
 - 5.1.1 Magnetization (M),
 - 5.1.2 Magnetic Intensity (H),
 - 5.1.3 Magnetic Induction (B),
 - 5.1.4 Magnetic Susceptibility
 - 5.1.5 Magnetic Permeability
- 5.2 Relation between B, M and H
- 5.3 Hysteresis and Hysteresis Curve
- 5.4 Ferrite materials and its Applications
Problems

References:

1. Fundamentals of Physics: Halliday Resnik and Walker, 8th Edition.
2. Electromagnetics: B. B. Laud.
3. Foundations of Electromagnetic theory: Reitz, Milford, Christey.
4. Electricity and Electronics: D.C. Tayal, Himalaya Publishing House, Mumbai.
5. Introduction to Electrodynamics: D.G. Griffith.
6. Electricity and Magnetism: Brij Lal, Subramanyan, Ratan Prakashan (Revised edition, 1997).
7. Electricity and Magnetism: Khare, Shrivastav (Revised edition, 1997).

Course code and title: PHY-123 Physics Laboratory 1B**Practical: 08****(Credits-1.5)****Section I- Heat and Thermodynamics**

Sr No	Title of the experiment
1	Interpretation of Isothermal and Adiabatic curve on P-V diagram and theoretical study of Carnot's cycle by drawing graphs of Isothermal and Adiabatic curves
2	Study of temperature coefficient of Thermistor.
3	Study of Thermocouple and determination of inversion temperature
4	Study of thermal conductivity by Lee's method
5	Study of specific heat of Graphite
6	Study of Solar constant
7	Determination of calorific values of different fuels

Section II- Electricity and Magnetism

Sr No	Title of the experiment
1	Study of charging and discharging of capacitor
2	Study of LR circuit
3	Study of LCR circuit
4	Study of Kirchhoff's Laws
5	Study of Diode characteristics
6	Study of Voltmeter, Ammeter and Multimeter (AC, DC, ranges and least count)
7	Determination of frequency of AC mains
8	Comparison of capacitor using DeSauty's method

Note: Any four experiments from each section be conducted during the semester.



Savitribai Phule Pune University

(Formerly University of Pune)

Two Year Degree Program in Botany

(Faculty of Science & Technology)

Revised Syllabi for

M.Sc. (Botany) Part-II

(For Colleges Affiliated to Savitribai Phule Pune University)

Choice Based Credit System Syllabus

To be implemented from Academic Year 2020-2021

Title of the Course: M.Sc. Botany

Structure for M. Sc. Botany Second Year:

Year	Semester	Course Type	Course code	Course Name	Credits
2	3	Core Compulsory Theory paper	BOUT 231	Botany Theory Paper 1- Computational Botany	4
			BOUT 232	Botany Theory Paper 2- Developmental Botany	4
			BOUT 233	Botany Theory Paper 3- Plant Physiology-	4
		Choice Based optional paper	BODT 234 (Any one)	Botany Theory Paper 4 a. Mycology b. Angiosperm Taxonomy- c. Plant Ecology d. Plant Biotechnology e. Genetics and Plant breeding f. Seed science	2
			BODP 234	Botany Practical Paper based on BODT 234	2
		Core Compulsory practical paper	BOUP 235	Botany Practical Paper based on BOUT 231, BOUT 232, BOUT 233	4
2	4	Core Compulsory Theory paper	BOUT 241	Botany Theory Paper 1- Botanical Techniques	4
			BOUT 242	Botany Theory Paper 2- Advanced Ecology	4
		Choice Based optional paper	BODT 243 (Any one)	Botany Theory Paper 3- a) Applied Mycology b) Advanced Medicinal Botany c) Advanced Plant Physiology d) Industrial Biotechnology- e) Seed Technology	2
			BODP 243	Botany Practical paper based on BODT 243	2
			BODT 244 (Any one)	Botany Theory Paper 4- a) Plant Tissue culture Technology b) Herbal Technology c) Research Methodology	2

			BODP 244	Botany Practical Paper based on BODT 244 Or PG Dissertation	2
		Core Compulsory practical paper	BOUP 245	Botany Practical paper based on BOUT 241 and BOUT 242	4

BO 4.1 Computational Botany (60 L)

Credit I-Basic Biostatistics

(15 L)

1. Introduction to Statistics : 9L
Measures of central tendency – mean, mode, median and their properties Measures of dispersion – variance, standard deviation, coefficient of variance Symmetry and skewness, measures of skewness, kurtosis Sampling and sampling distributions – concept of sample and population, statistic, standard error, methods of sampling
2. Correlation and regression 6L
Bivariate correlation, positive correlation, negative correlation Measures of correlation – Scatter diagram, Karl-Pearson’s coefficient of correlation, Spearman’s rank correlation coefficient Regression – Equations of regression lines using least square method, regression estimate and its standard error

Experimental Statistics

(15 L)

1.1 Statistics using R, SPSS and Excel : Introduction , features, installation, starting and ending of the sessions, R commands and case sensitivity (08L)

- a. Data types: Logical and Numerical
- b. Vectors and vector arithmetic
- c. Data frames: Creation using data, frame, subset and transform commands
- d. Statistical methods using R : Sampling methods, Diagrams, graphs:
: Measures of central tendency, Dispersion, Skewness and Kurtosis
- e. Probability Distributions: Hypergeometric distribution, Binomial. Normal and poisson distribution
- f. Correlation and Regression

1.2. SPSS (Statistical Package for the Social Sciences) Software: Concept and applications in Means, t – test, ANOVA and Correlation and linear regression

1.3 Excel : concept and applications on Biology

2. Testing of Hypothesis : critical difference for pairs of treatments Tukey’s test for pairwise comparison of treatments Dunnet’s test for comparison of treatment means with control Duncan’s multiple range test Mann–Whitney U test

3. Testing of hypothesis 7L

Hypothesis, statistical hypothesis, critical region, level of significance, p-value, normal distribution T-test: t-test for mean, equality of two means, paired t-test, unpaired t-test, chi-square test: chi square test for goodness of fit, independence of attributes, non-parametric test

Credit III – Scientific Communication (15 L)

1. Importance of scientific communication Types of scientific communications Logical organization of scientific data and documentation
2. Different modes of scientific communication Details of – Steps involved in Proposal writing, Research paper writing, Thesis writing
3. Oral forms of scientific communication Popular and Scientific talks, Poster presentations
4. Legal forms of communication of science 4 Ethics in scientific communication IPR, patent submissions

Credit IV: Bio-analytical techniques & Bioinformatics (15L)

1. Making solutions – moles and molarity, stock solutions and dilutions, making media and reaction mixtures (4 L)
2. pH measurements and preparation of buffers (2L)
3. Measuring concentrations using spectrophotometry, Cell counting using serial dilutions, haemocytometry (2L)
4. Bioinformatics: What is Bioinformatics, What is database, Classification of database, Sequences and nomenclature, IUPAC symbols, Types of sequences used in Bioinformatics, Information sources: NCBI, the GDP, MGD. (4L)
5. Data Retrieval tools – ENTREZ, OMIM, PubMed, Taxonomy Browsers, LocusLink, SRS. Database Similarity Searching – BLAST, FASTA, Resources for Gene Level Sequences, Use of Bioinformatics tools in analysis (3L)

NOTE – Emphasis be given on methodology and numerical problem solving rather than derivations and proofs.

Suggested Reading:

1. P.N. Arora and P.K. Malhan (2002) Biostatistics, Himalaya publishing House.
2. Rama Krishnan, P. (1995) Biostatics, Saras publication A.R.P. camp Road, Periavilai, Kottar, po. Nagercoil, Kanyakumari- Dist. Pin- 629 002.
3. Banerjee, P.K. (2005) Introduction to Biostatistics’ S. Chand and Company Ltd. Ram Nagar, New Delhi- 110 055.
4. Norman T.J. Bailey (2004), Statistical methods in biology (Third Edition) Cambridge University press (Low price Editions).
5. Dr. Mungikar A.N. (1997) an introduction to Biometry, Saraswati publication, Aurangabad.
6. Mungikar, A. M. (2003) Biostatistical Analysis. Saraswati Printing Press. Aurangabad.

7. Lab Math – Adams, D.S. I.K. InternationsPvt Ltd. New Delhi, 2004
 8. T. M. Apostol: Mathematical Analysis (Narosa publishing house)
-

BOUT 232 Botany Theory paper 2

BOUT 232 Developmental Botany (4 Cr - 60 L)

Credit I: Basic concepts of Plant development (15L)

1. Potency, commitment, specification, induction, competence, determination and differentiation; morphogenetic gradients; cell fate and cell lineages; stem cells; genomic equivalence and the cytoplasmic determinants; imprinting; mutants and transgenics in analysis of development, 7L

- | | |
|--|----|
| 2. Polarity & Symmetry | 2L |
| 3. Difference between Plant and Animal development | 2L |
| 4. Factors for development- intrinsic and extrinsic | 2L |
| 5. Juvenility -Characteristics, Transition to Adult phase. | 2L |

Credit II: Embryology (15L)

- | | |
|---|----|
| 1. Reproductive structure in plant | 1L |
| 2. Gametophyte development- Stamen and Microsporogenesis, Male gametophyte or male germ unit development, Carpel and Megasporogenesis, Female gametophyte or female germ unit development | 4L |
| 3. Fertilization-Pollen tube growth and its path, its entry into embryo sac, gametic fusion, significance of double fertilization, abnormalities in fertilization. | 2L |
| 4. Development of embryo in dicots and monocot | 2L |
| 5. Development of Endosperm | 2L |
| 6. Polyembryony- concept and classification of polyembryony, special cases and causes of polyembryony. | 2L |
| 7. Apomixis - concept, categories- agamospermy and vegetative reproduction apospory, parthenogenesis | 2L |

Credit III: Physiological & Molecular Basis of Plant Development (15L)

1. Physiology of plant development - Photo-morphogenesis, Light mediated development, Photoreceptors, Hormonal Signaling in development	4L
2. Molecular and Cellular Events in –	
a. Embryogenesis	1L
b. Leaf development	2L
c. Stomatal development	2L
d. Root development	2L
e. Root Hair Development	2L
f. Shoot development	2L
Credit IV: Molecular and Cellular Events in –	15L
g. Inflorescence development	2L
h. Flower development	2L
3. Mutants in Developments	3L
4. Genetic and Epigenetic Mechanisms Underlying Vernalization	4L
5. Radial and Axial Pattern of development	2L
6. Process of Senescence	2L

References:

1. Embryology of Angiosperm by Maheswari
 2. Embryology of Angiosperm by Bhojwani and Bhatnagar
 3. Plant Physiology by Taize and Zeiger
 4. Arabidopsis Book
 5. Current Trends in the Embryology of Angiosperms by SS Bhojwani
 6. Developmental Biology of Flowering Plants by V. Raghavan
 7. Flowering Plant Embryology By Nels R. Lersten
-

Semester III

M Sc Syllabus, 2020-2021

BOUT 233 Theory Paper 3-Plant Physiology (4 Credit)

Credit I: Plant Nutrition:	15L
• Soil- Formation, structure, composition, classification and role	2L.
• Essential elements- Mineral and nonmineral, criteria of essentiality, role-structural, catalytic osmotic and others; influence of pH, mineral elements interaction and microbes on availability of essential elements	3L
• Mechanism of absorption of mineral elements; mechanism of assimilation of sulfur, phosphorus and nitrogen	2L
• Active and passive transport, Transporters, role of ATPase and PPase	2L
• Merits and demerits of use of natural and chemical fertilizers, conventional and modern methods of application of fertilizers	2L
• Properties of water, water potential and factor influencing transport of water	2L
• Mechanism of opening and closing of stomata, transpiration ratio and water conservation strategies in plants	2L
Credit II: Photosynthesis:	15L
• Photosystem I and II (composition, light harvesting mechanism and functioning).	2L
• Organization of Photosynthetic electron transport system(evidence from Membrane chemical composition, electro-potential gradient and use of ETS Component inhibitors)	3L
• Photo-oxidation of water	2L
• Mechanism of establishment of proton gradient across the thylakoid membrane. Production of assimilatory powers of photosynthesis (ATP and NADPH)	3L
• Fixation of CO ₂ : Calvin (C ₃), steps and regulation, Photorespiration-mechanism and significance	3L
• Fixation of CO ₂ : C ₄ cycle, Kranz anatomy, biochemical sub-types, Single cell C ₄ Photosynthesis.	
• CAM pathway	2L
Credit III: Respiration and lipid metabolism:	15L
• Schematic presentation of Glycolysis, TCA cycle and PPP (Home assignment). Release of energy in Glycolysis, TCA cycle and PPP and their significance	7L
• Organization of respiratory electron transport system(evidence from membrane chemical composition, electro-potential gradient and use of ETS component inhibitors)	2L

- Mechanism of NADPH and NADH oxidation, establishment of proton gradient across the membrane and ATP formation 1L
- Cyanide resistance pathway 1L
- Fatty acid biosynthesis 1L
- Synthesis of membrane lipids 1L
- Catabolism of storage lipids 1L
- Significance of lipids(energy storage, defense, structure and others) 1L

Credit IV: Solute transport, Growth and development: 15L

- Seed dormancy, types of dormancy, causes, and methods of break dormancy. 1L
- Growth- Relative growth rate and net assimilation rate, IRGA 1L
- Physiology of flowering- photoperiodism, mechanism of vernalization. 4L
- Physiological organization phloem element for transport (Home assignment), Loading and unloading of phloem and mechanism of transport of solutes (Munch hypothesis); Source and sink relationship 3L
- Plant growth regulators-types and the physiological roles of auxin and cytokinin. 2L
- Stress physiology: Definition, Types: biotic and abiotic stress, effect of stress on Plants and elaborate any one abiotic and biotic tolerance mechanism. 2L
- Schematic presentation of secondary metabolite synthesis pathways (home assignment), Classification, biosynthesis and significance of alkaloids in plants. 2L

REFERENCES:

- Berg J.M., Tymoczko J.L., Stryer L. (2002) Biochemistry. 5th Ed. Wlt. Freeman and Company, New York.
- Biology of Plants. American Society of Plant Physiologists Maryland, USA.
- Buchanan B.B, Gruissem W. and Jones R.L 2000. Biochemistry and Molecular Biology of Plants. American Society of Plant Physiologists Maryland, USA.
- Concept in Photobiology; Photosynthesis and Photomorphogenesis. Narosa Publishing House, New Delhi.
- Davis P. J. (Eds.)(2004) Plant Hormones.Kluwer Academic Publishers, Dordrecht, Netherlands.
- Dennis D.T., Turpin, D.H. Lefebvre D.D. and Layzell D.B. (eds) 1997. Plant Metabolism (Second Edition) Longman, Essex, England.
- Galstone A.W. 1989. Life processes in Plants. Scientific American Library, Springer Verlag, New York, USA.
- Goodwin T.W., Mercer E.I. (1998) Introduction to Biochemistry. CBS Publishers, New Delhi.
- Heldt H. W. (2004) Plant Biochemistry. Academic Press, California.
- Hopkins W. G. 1995. Introduction to Plant Physiology. John Wiley and Sons, Inc., New York, USA
- Lawlor D.W. (2001) Photosynthesis in C3 and C4 Pathway. 3rd Ed. Viva. New Delhi.

- Leninger A.C 1987. Principles of Biochemistry, CBS Publishers and Distributors (Indian Reprint)
- Lincoln Taiz and Eduardo Zeiger (2010) Plant Physiology, Fifth edition. Sinauer Associates, Inc. Publishers. Sunderland, USA.
- Lodish H., Berk A., Zipursky S, L., Matsudaira P., Baltimore D and Darnell J. 2000. Molecular Cell Biology (IV Edition) W. H. Freeman and Company, New York, USA.
- Metabolism (Second Edition) Longman, Essex, England.
- Moore T.C. 1989. Biochemistry and Physiology of Plant Hormones Springer –Verlag, New York, USA.
- Nelson David and Cox Michael. (2007) Lehninger Principles of Biochemistry. W.H. Freeman and Company. New York.
- Nobel P.S 1999. Physicochemical and Environmental Plant Physiology (Second Edition) Academic Press, San Diego, USA.
- Salisbury F.B and Ross C.W 1992. Plant physiology (Fourth Edition) Wadsworth Publishing Company, California, USA.
- Singhal G.S., Renger G., Sopory, S.K. Irrgang K.D and Govindjee 1999. Concept in Photobiology; Photosynthesis and Photomorphogenesis. Narosa Publishing House, New Delhi.
- Lincoln Taiz and Eduardo Zeiger (2010) Plant Physiology, Fifth edition. Sinauer Associates, Inc. Publishers. Sunderland, USA.
- Thomas B. and Vince-Prue D. 1997. Photoperiodism in Plants (Second Edition) Academic Press, San Diego, USA.
- Verma S.K. and Verma Mohit 2007. A.T.B of Plant Physiology, Biochemistry and Biotechnology, S.Chand Publications.

Semester –III

M.Sc. Botany – II Botany Theory paper -4

BODT 234- a) Mycology (2 Cr- 30 Lectures)

Credit I – Fungi	(15L)
1. Fungi – Affinities with plants, animals and their significance	2L
2. Outline classification of fungi upto order-	3L
E. A. Bessey System (1950)	
Alexopoulos System (1962),	

L. E. Hawkens System (1966),
 Alexopoulos and Mims System (1979),
 Webster and Weber System (2007)

3. General characters and structural variations in-

- | | |
|--|----|
| A) Myxomycota- Acrasiomycetes, Protosteliomycetes, Dictyosteliomycetes, Myxomycetes | 4L |
| B) Straminipila- Plasmodiophoromycota, Hyphochytridiomycota, Labyrinthulomycota and Oomycota | 2L |
| C) Mastigomycota- Chytridiomycetes | 1L |
| D) Zygomycota- Zygomycetes, and Trichomycetes | 3L |

Credit II –Higher Fungi – 15L

4. General characters, structural variations in-

- | | |
|---|----|
| A. Ascomycota- Archiascomycetes, Hemiascomycetes, Plectomycetes, Pyrenomycetes, Loculoascomycetes, Discomycetes | 5L |
| B. Basidiomycota- Hymenomycetes- Agarics and Polypores, Homobasidiomycetes - Gasteromycetes, Heterobasidiomycetes- Auriculariales, Dacrymycetales, Tremellales, Teliomycetes–Uredinales and Ustilaginales fungi | 6L |
| C. Deuteromycota- Hyphomycetes- Moniliales, Mycelia Sterilia, Coelomycetes - Melanconiales, Sphaeropsidales | 4L |

Suggested Readings:

1. Ainsworth et al., 1973. The fungi VI –A, VI – B, Academic press.
2. John Webster and Weber, 2007. Introduction to Fungi, Cambridge.
3. Alexopolous C.J. Minms C.W. and Blackwell M., 1999. Introductory Mycology (4th Edition), Willey, New York.
4. Deacon J. W. Fungal Biology (4th Edition) , Blackwell Publishing, ISBN 1405130660
5. Kendrick B., 1994. The Fifth Kingdom, North America, New York Publisher.
6. Kirk et al., 2001. Dictionary of fungi, 9th edition, Wallingford.
7. Mehrotra R.S. and Aneja K.R., 1990. An introduction to mycology, New Age Publication.

8. Miguel U., Richard H., and Samuel A. 2000. Illustrated dictionary of mycology Elvira Aguirre Acosta Publisher.
9. Webster J., and Rpland W. 2007. Introduction to fungi (3rd Edition), Cambridge University Press.
10. Dube H.C. 2010. An Introduction to fungi, Vikas Publication.
11. Vashista B. R. and Sinha A.K. 2008. Botany for Degree students- Fungi, S. Chand's Publication.

Semester III

Botany Theory paper -4

M Sc Syllabus, 2020-2021

BODT 234 b) TAXONOMY OF ANGIOSPERMS (2 credits-30 Lectures)

Credit I:		15 Lectures
	<ul style="list-style-type: none"> • Introduction to Taxonomy , Botanical Nomenclature: Brief history, Scientific names, ICN, Principles, typification, Principle of priority, effective and valid publication, rank of taxa • Tools of taxonomy: Floras, monographs, revisions, websites. Herbarium and botanical gardens, their role in teaching, research and conservation, important herbaria and botanic gardens of the World. Botanical Survey of India. • Identification of Plants: Introduction, Morphological features used in identification. Keys: Types and Importance • Biodiversity, types, importance and methods of conservation IUCN and its categories, Endemism, Hotspots 	<p style="margin-top: 0;">4L</p> <p style="margin-top: 10px;">4L</p> <p style="margin-top: 10px;">4L</p> <p style="margin-top: 10px;">3L</p>
Credit II:		15 Lectures
	<ul style="list-style-type: none"> • Modern Trends in Angiosperm Taxonomy 	<p style="margin-top: 0;">4L</p>

Embryology in relation to taxonomy: Embryological characters of taxonomic importance,
Anatomy in relation to taxonomy: Anatomical characters of taxonomic importance,
Palynotaxonomy: pollen characters of taxonomic importance.

- Chemotaxonomy 2L
Classes of compounds and their biological significance, stages in chemotaxonomic investigations, Techniques-Criteria for use of chemical in plant taxonomy
- Serology and taxonomy 2L
History, precipitation reaction, techniques, antigen, antisera antibody, application of serological data in systematic
- Ultrastructural Systematics: 3L
SEM and TEM studies and plant systematics; SEM and plant surface structure, TEM and dilated cisterneae of endoplasmic reticulum and sieve element, plastids
- Molecular Systematics: 4L
Molecular diagnostic tools, restriction fragment length polymorphism (RFLPs), Random Amplified Polymorphic DNA (RAPD), Polymerase Chain Reaction (PCR) analysis, specific applications of RAPD in molecular systematics. Molecular data and systematic position of Hydatellaceae.

Suggested Readings:

1. Balfour Austin (2016). Plant Taxonomy. Syrawood Publishing House
2. Chapman, J.L. and Reiss, M.J. (1998). Ecology: Principles and applications. Cambridge, University Press.
3. Chopra G.L. (1984). Angiosperms: Systematics and Life-Cycle., Pradeep Publications
4. Cooke, Theodore (1903-8). The Flora of the Presidency of the Bombay Vol. I, II, III (Repr. ed), Botanical Survey of India.
5. Cronquist, A. (1968). The Evolution and Classification of Flowering Plants. Thomas Nel and Sons Ltd. London.
6. Datta S.C. (1988). Systematic Botany. New Age Publ.
7. Davis P.H and V.H Heywood (1963). Principles of Angiosperm Taxonomy. Oliver and Boyd, London.
8. Heywood V.H. (1967). Plant Taxonomy, Hodder & Stoughton Educational, London.
9. Judd Walter S., Campbell, C. S., Kellogg, E. A., Stevens, P.F. and M. J. Donoghue. (2008). Plant Systematics- A Phylogenetic Approach. Sinauer Associates, INC, Publishers.Sunderland, Massachusetts, USA.
10. Kormondy Edward (1995). Concepts of Ecology, Pearson Publ.
11. Lawrence G.H.M. (1955). An Introduction to Plant Taxonomy. McMillan, New York.

12. Lawrence, G.H.M. (1951). Taxonomy of Vascular Plants. McMillan, New York.
13. Michael P. (1984). Ecological Methods for field and Laboratory investigations TMH Co. Ltd. Bombay.
14. Mondol A.K. (2016) Advanced Plant Taxonomy, New Central Book Agency (NCBA)
15. Naik V.N. (1988) Taxonomy of Angiosperms. Oxford and IBH
16. Odum E.P., (2004). Fundamentals of Ecology, Publ. Cengage Learning, Australia
17. Pande B.P. (1997). Taxonomy of Angiosperms. S. Chand.
18. Pande B.P. (2001) Taxonomy of Angiosperms. S. Chand.
19. Radford A.E. 1986. Fundamentals of Plant Systematics, Harper and Row N Y.
20. Santapau H. (1953). The Flora of Khandala on the Western Ghats of India. BSI
21. Sharma O.P. (2011), Plant Taxonomy, Tata Mc grow Hill
22. Shivrajan V.V. & N.K.P. Robson (1991). Introduction to Principles of Plant Taxonomy. Cambridge Univ. Press
23. Shukla Priti and Shital Mishra (1982). An introduction to Taxonomy of angiosperms. Vikas Publ.
24. Simpson, M.G. (2010). Plant Systematics. Elsevier, Amsterdam.
25. Singh Gurucharan (2005). Systematics: Theory and Practice. Oxford IBH.
26. Singh J.S., S.P. Singh, and S.R. Gupta (2006). Ecology, Environment and Resource Conservation. Anamaya Publ. New Delhi.
27. Singh N.P. (2001) Flora of Maharashtra Volume-II BSI, Kolkatta
28. Singh N.P. (2003) Flora of Maharashtra Volume-III BSI, Kolkatta
29. Singh N.P., S. Karthikeyan (1996) Flora of Maharashtra Volume-I, BSI, Kolkatta
30. Singh V. and D.K. Jain, (1981). Taxonomy of Angiosperms. Rastogi Publication, Meerut.
31. Singh, Gurcharan. (2012). Plant Systematics: Theory and Practice. Completely revised and enlarged 3rd edition. Oxford & IBH, New Delhi.
32. Stuessy, Tod F. (2009). Plant Taxonomy: The Systematic Evaluation of Comparative Data, second edition. Columbia University Press.
33. Swingle D.B. (1946). A Text book of Systematic Botany. McGraw Hill Book Co. New York.
34. Takhtajan A. (1969). Flowering Plants: Origin and Disposal.

IMPORTANT WEBSITES

THE FAMILIES OF FLOWERING PLANTS- L. Watson and M.J. Dallwitz

<https://www.delta-intkey.com/angio/index.htm>

ANGIOSPERM PHYLOGENY WEBSITE, version 14.

<http://www.mobot.org/MOBOT/research/APweb/>

THE PLANTS OF THE WORLD ONLINE PORTAL

<http://www.plantsoftheworldonline.org/>

INTERNATIONAL PLANT NAME INDEX (IPNI)

<https://www.ipni.org/>

TROPICOS

<https://www.tropicos.org/home>

BIODIVERSITY HERITAGE LIBRARY

<https://www.biodiversitylibrary.org/>

BOTANICUS DIGITAL LIBRARY
<https://www.botanicus.org/>
 INTERNET ARCHIVE- DIGITAL LIBRARY
<https://archive.org/>
 DATABASE OF PLANTS OF INDIAN SUBCONTINENT
<https://sites.google.com/site/efloraofindia/>
 BOTANICAL SURVEY OF INDIA
https://bsi.gov.in/content/1416_1_FloraofIndia.aspx
 FLOWERS OF INDIA
<http://www.flowersofindia.net/>
 eFLORAS OF WORLD
<http://www.efloras.org/>

Botany Theory paper -4
M.Sc. Botany Semester-III
BOU 234: c) Plant Ecology
(2 Credits) (30 Lectures)

Topic Details	Lectures
Credit-I	
Introduction to science of ecology, definition, concept, and scope, interdisciplinary science, autecology and synecology, branches of ecology	2
Environmental factors controlling plant distributions: geology, topography, elevation, soils, light, temperature, precipitation, water and humidity, fire	3
Population Ecology: Characteristics of a population; population growth curves; population regulation; life history strategies (r and K selection); concept of meta-population – demes and dispersal, interdemic extinctions, age structured populations.	4
Species Interactions: Types of interactions, interspecific competition, herbivory, carnivory, pollination, symbiosis.	2
Community Ecology: definition, nature, composition and characteristics of community, structure/ stratification of community, levels of species diversity and its measurement; edges and ecotones, habitat, niche and guild	4
Credit-II	
Ecological succession: Types, mechanisms, changes involved in succession; concept of climax; relationship between ecosystem stability and diversity, ecological indicator plants	3

Ecosystems – concept, nature, structure and function; Structure and function of some Indian ecosystems: terrestrial (forest, grassland) and aquatic (fresh water, marine, eustarine).	3
Energy flow in ecosystem, food chain, food web, biogeochemical cycles (C,N,P), primary production and decomposition; ecological pyramids, homeostasis, concept of limiting factors	3
Biogeography: Major terrestrial biomes; theory of island biogeography; floristic regions and vegetation zones of Maharashtra, India, and world and its characters, principals of classification, key species of each region.	3
Applied Ecology: Environmental pollution; global environmental change; biodiversity: status, monitoring and documentation; major drivers of biodiversity change; biodiversity management approaches.	3

Suggested Readings:

- Ambasht R.S. and N.K. Ambasht (2017). A Textbook of Plant Ecology (15/E). CBS Publishers & Distributors-New Delhi.
- Ambasht R.S., and N.K. Ambasht (2003). Modern Trends in Applied Terrestrial Ecology. Springer
- Avery Thomas E. and Burkhart Harold E. (2015). Forest Measurements. (5/E). McGraw-Hill.
- Barbier E.B., Burgess J.C. and Folke C. (1994). Paradise Lost? The Ecological Economics of Biodiversity; Earthscan, London
- Bhatnagar Aditya (2010). Ecology and Environment. Oxford Book Company
- Bowles M.L. and Whelan C.J (1996) edt. Restoration of Endangered Species Cambridge Univ. Press.
- Chapman, J.L. and Reiss, M.J. (1998). Ecology: Principles and applications. Cambridge University Press.
- Dash M.C. and S.P. Dash (2009). Fundamentals of Ecology (3/E). McGraw Hill Education (India) Private Limited
- Gadgil M. and Guha R (1992). This Fissured Land: An Ecological History of India. Oxford University Press, New Delhi
- Hajra P.K. and V. Mudgal (1997) Edt. Plant Diversity Hotspots in India - An Overview, BSI.
- Henderson Peter A., and T.R.E. Southwood (2016). Ecological Methods. (4/E). Wiley-Blackwell Publishers
- Heywood and Watson (1995), Edt. Global Biodiversity Assessment UNEP, Cambridge University Press.
- Hill David, Matthew Fasham, Graham Tucker, Michael Shewry and Philip Shaw (2004) Edt. Handbook of Biodiversity Methods – Survey, Evaluation and Monitoring; Cambridge

- Kent Martin (2011). Vegetation Description and Data Analysis: A Practical Approach (2E). Wiley-Blackwell.
- Kormondy Edward (1995). Concepts of Ecology. Pearson Publ.
- Krebs Charles J. (1999). Ecological Methodology (2/E). Pearson Education.
- Krishnamurthy K.V. (2003). An Advanced Textbook on Biodiversity-Principles and Practice, Oxford and IBH Publ. New Delhi
- Magurran Anne (1988). Ecological Diversity and Its Measurement Chapman and Hall India
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Botany Theory paper -4

M.Sc. Botany – II

Semester –III

BODT 234- d) Plant Biotechnology (2 Cr- 30 Lectures)

Credit –I

15 L

Introduction to Biotechnology:

1. Definitions of Biotechnology, Multidisciplinary approach, scope and importance of Biotechnology wrt Plant genetic Engineering, Plant micropropagation, Plant mutation cloning, Plant cell technology and Environmental Biotechnology (02)
2. A. Plant Genetic Engineering: Gene constructs, A typical Plant gene, Promoters/ Enhancers, reporter genes

B. Vectors for production of Transgenic plants: Plasmid Vectors; Structure of Ti Plasmid, organization of T DNA, Vir region, transfer and integration of T DNA in host plant genome, Plant Virus vectors; Cauliflower Mosaic Virus (CaMV) , Gemini Viruses and Tobacco Mosaic Virus (TMV) (05)

3. Agrobacterium mediated gene transfer, integration of the transgenes, inheritance of transgenes, Analysis and confirmation of transgene integration (03)

4. Applications of transgenic Plants: Applications of Transgenic plants in Biotic and Abiotic Stress resistance, Quality modifications and Novel features such as modification of Endogenous genes, molecular farming, Plant derived vaccines (05)

Credit – II 15 L

5. Plant tissue culture technology (05)

A. Introduction to plant tissue culture, Scope, Importance and types, Protoplast Culture and Somatic Hybridization: Isolation of protoplast, culture and regeneration of protoplasts, fusion of protoplasts, selection of hybrid cells. Identification of hybrid plants, Cybrids, Applications of somatic hybridization

B. Somaclonal Variations: Introduction, Isolation of somaclonal variants, with and without *in-vitro* selection, factors affecting somaclonal variation, applications and limitations of somaclonal variation

6. Environmental Biotechnology: (05)

Environmental Pollution: Sources and Nature, Measurement of Pollution: Biotechnological methods of Pollution management, air pollution and its control, water pollution and sewage: Nature of water pollutants, organic and inorganic, microbiological and radioactive pollutants, Waste water and sewage: composition of sewage and its types, Sewage water treatment: Preliminary, Primary, Secondary or biological treatment processes, water recycling

7. Biotechnology and Society

A. Biotechnology- Society, Risks, Ethics and Patenting (02)

ELSI of Biotechnology, Recombinant and Therapeutic products for human healthcare, Genetic modifications and food consumption, recombinant food and religious beliefs, Release of Transgenics

Patenting : What is a Patent, Intellectual property rights, the process of patenting, Plant Breeder's rights

B. Biosafety- (03)

Introduction, definitions, objectives and biosafety guidelines, Risk assessment during Laboratory research, planned introduction, for biotechnology products, Risk regulations, Physical and Biological contaminants, Biosafety guidelines in India

Suggested Readings:

1. U. Satyanarayan, Biotechnology Published by Books and Allied PVT. LTD.
 2. B. D. Singh. Biotechnology : Expanding Horizons Kalyani Publishers
 3. S. C. Dubey Biotechnology , Rastogi publication
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Botany Theory paper 4

M.Sc. Botany – II

Semester –III

BODT 234 e) Genetics and plant breeding- (2 Credits – 30 lectures)

Credit - I 15 L

1. Karyotype analysis and application: 7L

Introduction and concept, Role of karyotype in evolution and plant species identification, Chromosome banding: i) Quinacrine dihydrochloride (Q) banding, ii) G-banding, iii) Giemsa C-banding, Modified C-banding, Combined C and N bonding for plants, B-Chromosome and accessory chromosomes, Applications of karyotyping analysis in taxonomy, Molecular analysis through in Situ hybridization of chromosomes: Types of hybridization, Nature of probes, P.C.R. and in situ hybridization, Prerequisites, steps and techniques of hybridization: Probe sequence, Metaphase chromosome, Labelling of probes, Hybridization and detection

2. Transposable Elements: 3L

Genetic instability and the discovery of transposable elements. Transposable element in bacteria: IS elements and Tn3 Family, Transposable elements in Maize, The Genetics and evolutionary significance of transposable elements: Mutation and Chromosome Brekage, Use in genetic analysis and Evolutionary issues or significance

3. **Population and evolutionary genetics:** **5L lectures**
Genetic variation, random mating and Hardy- Hardy-Weinberg Principle, Mating frequencies - Non-dominance - Codominance - Snyder's ratio, importance, and its effect over random mating in succeeding generations, Application of Hardy-Weinberg method in breeding, The inbreeding coefficient, Calculating F from pedigree, Genotype frequencies under inbreeding, Quantitative effects of inbreeding, Outbreeding and assortative mating, Evolutionary genetics: The synthetic theory of evolution, Evidence for adaptive evolution and Molecular evolution

Credit - II: **15 L**

4. **Addition Molecular Markers in Plant breeding:** **4L**
QTL mapping; Strategies for QTL mapping, desired populations for QTL mapping, Marker assisted selection (MAS), Classification of markers -Enzyme based markers, Hybridization based markers, DNA-sequence based markers, Approaches to apply MAS in plant breeding, Factors influencing MAS
5. **Breeding for resistance to Salinity:** **4L**
Introduction, Effect of salinity stress: Salt toxicity, Salinity resistance : Resistance to salinity induced ion toxicity, Genetics of salinity resistance: Interspecific variation, Intraspecific variation, Gene action and heritability, Measurement of salinity resistance: Saline environment and Estimation of salinity resistance and selection criteria.
6. **Biometrical techniques in plant breeding:** **4 L**
Introduction, Assessment of variability, Simple measures of variability.
Genetic Diversity: Introduction, D^2 statistics, Metroglyph Analysis, Correlation coefficient analysis (Aids to selection): Simple coefficient Analysis, Partial correlation, Choice of parents and Breeding procedures: Diallel cross analysis

7. Intellectual Property Rights:

3L

Introduction, Intellectual property rights, Plant breeder's rights, A comparison among UPOV acts, PPVER Acts., Requirement for PBR and Farmers rights, The protection of plant varieties and farmers right act,2001, Geographical indications, Indian response to the IPR upheaval, The conditions for granting breeding rights (DUS) : Novelty , Distinctness, Uniformity and stability

Suggested Readings

- Charles B. 1993. Discussions in Cytogenetics. Prentice Hall. Darlington CD & La Cour LF. 1969. The Handling of Chromosomes. Georger Allen & Unwin Ltd.
- Arun Sharma and Archana Sharma, 1988. Chromosome Techniques: Theory and Practice. Butterworth.
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- Hartl and Jones (1998) Genetics : Principal and Analysis. Sudbury, Mass. : Jones and Bartlett Publishers,
- Peter J. Russel, Genetics (5th edition), Pearson publication
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Botany Theory paper -4

M.Sc. Botany – II

Semester –III

BODT- 234: f) SEED SCIENCE- 2 Credit (30 Lectures)

Credit -1	15 L
1. Introduction:	1 L
• Scope, Importance and Definition of Seed Technology	
2. Seed:	4 L
• Definition	
• Difference between seed and grain	
• Orthodox and Recalcitrant seed	
• Classes of seed	
• Seed quality characteristics	
3. Seed Morphology:	2 L
• Seed structure (embryo, endosperm and seed coat)	
• Chemical composition of seed (carbohydrates, proteins, oils, fats and other)	
4. Seed Dormancy and Seed Germination:	6 L
• Definition of dormancy	
• Types of dormancy	
• Causes of seed dormancy	
• Methods of breaking dormancy	
• Definition of seed germination	
• Types of germination	
• Factors affecting seed germination	
• Seed vigour, Seed ageing and Seed viability,	
5. Genetic Purity	2 L
• GOT (grow out test).	
• Germination testing, its methods (paper, sand and soil), evaluation and reporting of results	
Credit 2	15L
1. Quality testing	3 L
• Moisture testing: Moisture Meter and Air oven method.	
• Physical purity analysis	
• Biochemical tests (Quick viability test (Tz), Peroxidase and Phenol colour test)	
• Aids for varietal identification: PCR, RAPD, RFLP, DNA finger printing, ELISA test.	
2. Seed Production:	8 L
• General Principles of seed production	
• Artificial pollination (Hand pollination, Dusting and Honey bee)	

- Seed production techniques in hybrids (use of Male Sterility, Self Incompatibility and gametocides)
- Procedure of seed production in tomato, okra, soybean, cotton and maize (Land requirements, isolation requirements, brief cultural practices, plant protection-physical, chemical and biological, types of chemical pesticides-systemic and contact, roguing, harvesting and threshing)
- True potato seed (TPS), Artificial Seed Production

3. Seed Testing:

4 L

- Objectives and Definition
- ISTA, CSTL and SSTL
- Seed Sampling: Definition, Sampling, Dividing and Mixing equipments
- Procedure of sampling, (Kinds-Primary, composite, submitted and working)
- Types of seed samples (Service, official and certification sample)

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3. Anonmyous. 1997. Seed Technology in Tropics. ISTA Zurich.
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5. Rai. M. and S. Mauria. 1995. Hybrid Research and Development. Indian Society of Seed Technology. IARI. New Delhi.
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12. Justice, O.L. and L.N. Basu. 1978. Principles and Practices of Seed Storage. Castle House Publications Ltd, Great Britain.
13. Khan, A.A. 1977. The Physiology and Bio-chemistry of seed Dormancy and Germination. North Holland Publishing Co., Amsterdam, New York.
14. Kozłowski, T.T. 1972. Seed Biology, Vol. 1 Academic Press, London.
15. Purseglove, J.W. 1977. Tropical crops of Monocotyledons, Longmans, Green and Co., Ltd., London.

M. Sc II Botany Practical Paper

BODP 234 Practical Paper based on BODT 234

BODP 234 based on BODT 234 a) Mycology

Sr. No	Title of practical	No.
1	Preparation of culture medium for fungi-PDA medium, CDA medium, Sabourard's medium & preparation of fungal stain & mounting medium	1
2	Isolation of aquatic and soil fungi by baiting method	2
3	Isolation of fungi from rhizosphere and non-rhizosphere soil	2
4	Study of fungi from the following groups Myxomycetes- any four Chytridiomycetes- any two Oomycetes- any four Pyrenomycetes- any four Loculoascomycetes- any two Discomycetes- any four Teliomycetes – any eight Gasteromycetes- any four Hymenomycetes- any six Deuteromycetes- any six	10

Note: 1. Compulsory visit to Western Ghats for collection and observation of fungi (2-3 days).

2. Visit to any one Mycology Institute/ Laboratory.

M. Sc II Botany Practical Paper

BODP 234 Practical Paper based on BODT 234

BODP 234 based on BODT 234 b) Angiosperm Taxonomy

Sr. No	Title of practical	No.
1	Microtome technique for study of embryological characters	2
2	Study of wood character, vessels, storied and non storied wood	2
3	Pollen preparations by Acetolysis method (Semi-permanent) and study of different pollen morphotypes.	2
4	Study of chromosomes, chromosome banding and Karyotype analysis (Any two species)	2
5	Analyses and interpretation of data of any two species for taxonomic characterization (4P) (a) flavonoid data based on PC/TLC (b) Seed protein by SDS-PAGE and interpretation of protein profiles	3
6	Study of plant surface attributes with the help of SEM photographs and sieve tube plastid and dilated cisternae of endoplasmic reticulum with the help of TEM photographs	1
7	Identification of wild and cultivated plants represented in local flora.	1
8	Two local excursions to study vegetation, ecology and flowering pattern of the region.	2

Note:

Student should submit minimum 10 conventional herbarium specimens and 20 electronic herbarium specimens. Minimum 5 permanent slides of wood anatomy and 5 slides of floral anatomy (microtomy cut sections of flower specimens).

M. Sc II Botany Practical Paper

BODP 234 Practical Paper based on BODT 234

BODP 234 based on BODT 234 c) Plant Ecology

Sr. No	Title of practical	No.
1	Visit to any one plant diversity hotspots / National Parks/ Wildlife Sanctuary/ coastal area	2p
2	Find out the minimum area of quadrat by species-area curve method	1p
3	Find out the minimum number of quadrats required to study the herbaceous ecosystem	1p
4	Study of biotic structure by List Counts Quadrat method to find out frequency and relative frequency of different plant species and prepare their frequency class diagram; compare them with Raunkiaer's normal frequency diagram.	1p
5	Study of biotic components by List Counts Quadrat method to find out abundance, density and relative density.	1p
6	Study of ecological indicator plants (any five)	1p
7	Determination of water holding capacity, moisture content, color and pH of different soils	1p
8	To study the texture of the soil.	1p
9	Determination of the temperature, pH, dissolved oxygen, and turbidity of polluted and non-polluted water sample	1p
10	Study of wetland plants: submerged, emergent, free floating, marshy (two examples each)	1p
11	Study the map of Phytogeographical regions of India	1p
12	Study of aquatic productivity by light and dark bottle method	1p

Field trip to places for study of vegetation type (including any one plant diversity hotspot/national park/wild life sanctuary/Sacred groove) prescribed in the syllabus for 2 to 5 days under the guidance of teachers. Preparation and submission of field visit report.

M. Sc II Botany Practical Paper

BODP 234 Practical Paper based on BODT 234

BODP 234 based on BODT 234 d) Plant Biotechnology

Sr. No	Title of practical	No.
1	Isolation of Plant genomic DNA using suitable method	2
2	Separation of restriction fragments using Agarose gel Electrophoresis	2
3	Enzymatic isolation of protoplast using suitable plant material	2
4	Evaluation and viability counting of the protoplasts	2
5	Physicochemical Properties of waste water	1
6	Biological assessment of waste water	1
7	Demonstration of Transgenic Plants	1
8	Visit to a Research institute and write a report on Biosafety	1
9	Visit To Commercial Tissue culture Laboratory and write a report	1
10	Visit to Waste water treatment Plant and write a report	1
11	Prepare a case study report on Patenting of any one Biotechnology Product/invention	1

M. Sc II Botany Practical Paper

BODP 234 Practical Paper based on BODT 234

BODP 234 based on BODT 234 e) Genetics and Plant breeding

Sr. No	Title of practical	No.
1	Preparation of C- metaphase / G- banding in suitable material	2
2	Studies on the meiosis in cereals /millets / pulses	1
3	Karyotype studies of any 2 plants and preparation of ideogram	2
4	Detection of polymorphism from any DNA gel photograph or suitable material	1
5	Estimation of gene and gene frequencies	1
6	Preparation of dendrogram from given polymorphic data or by using similarities matrix and explanation and analysis of dendrogram (by suitable software)	1
7	Estimation of heritability and genetic advance (by suitable software)	1
8	Estimation of Correlation Coefficients(manual / by suitable software)	1
9	Problems on Diallel cross analysis	1
10	Effect of salinity on seed germination and morphological characteristics	1
11	Effect of salinity on content of proline and glycine betane	2
12	Study of transposable elements in suitable plant material	1

Compulsory Activities:

1. Preparation of various chemicals to be used for, fixation, dehydration, embedding, different chromosomal staining, cleaning etc. and understanding use of various types of microscopes.
2. Case studies of IPR and Visit to Plant breeding station and Genetic laboratory.

Note: Use suitable software for problem solving in Genetics and Plant breeding

M. Sc II Botany Practical Paper

BODP 234 Practical Paper based on BODT 234

BODP 234 based on BODT 234 f) Seed Science

Sr. No	Title of practical	No.
1	Study of chemical composition and seed structure	1
2	Study of methods of breaking seed dormancy	2
3	Study of Sampling, dividing and mixing equipments	1
4	Grow Out Test	1
5	Study of seed germination (epigeal, hypogeal and viviparous types).	2
6	Study of seed germination testing methods (Paper, soil and sand).	2
7	Study of physical purity test	1
8	Biochemical tests (Quick viability test (Tz), Peroxidase and Phenol colour test)	2
9	Moisture Testing by moisture meter and oven method	1
10	Visit to a seed industry and research institute/apiculture	2

M. Sc II Botany Practical Paper

BOUP 235 based on BOUT 231, BOUT 232, BOUT 233

Sr. No	Title of practical	No.
BOUT 231 Computational Botany (Any 10 Practical)		
1	Measurement of central tendency (mean, mode and median), variance, standard deviation, coefficient of variance and standard error from the given grouped and ungrouped data.	1
2	Measures of skewness and measures of Kurtosis (grouped and ungrouped data).	1
3	Determination of regression lines and calculation of correlation coefficient – grouped and ungrouped data.	1
4	Examples based on t – test	1
5	Drawing a simple random sample with the help of table of random numbers	1
6	Chi-square test for goodness of fit and independent attributes.	1
7	Analysis of variance on the given data (ANOVA) using R/ SPSS/Excel	1
8	Tukey's test for pairwise comparison of treatments using R/ SPSS/Excel	1
9	Dunnet's test for comparison of treatment means with control using R/ SPSS/Excel	1
10	Duncan's multiple range test for comparing treatment means using R/ SPSS/Excel	1
11	Determination of Karl-Pearson's coefficient of correlation from the given grouped and ungrouped data.	1
12	Databases and database searching and DNA/protein sequence comparisons	1
13	Pair wise comparison of DNA and protein sequences using BLAST	1
BOUT 232 Developmental Botany		
1	Histochemical analysis of secondary growth primary to secondary axis)	1
2	Histochemical comparison between vegetative And reproductive induced SA	1
3	In-Vitro Germination of Spore/Pollen	1
4	Dissection & Isolation of Developing Embryo	1
5	Dissection Isolation of Endosperm	1
6	Stomatal development and observations on Stomatal types	1
7	Study of Induced Leaf Senescence	2
8	Observations on Microsporogenesis and Development of Male Gametophyte	1
9	Observations on Megasporogenesis and Development of Female Gametophyte	1
BOUT 233 Plant Physiology (Any 10 Practical)		
1	Preparation of standard solutions(% , ppm, molar, normal) of different concentrations, Preparation of buffers solutions, EC and pH measurements	1
2	Study of deficiency symptoms of essential elements on different crop plants.	1
3	Study of transpiration and stomatal physiology under abiotic stress	1
4	Detection of amino acids/sugars from the phloem sap using paper chromatography	1
5	To determine the chlorophyll a/chlorophyll b ratio in C3 and C4 plants.	1
6	Estimation of soluble proteins in germinating and non-germinating seed by Lowry / Bradford's method	1
7	Survey of C4 plants and CAM plants. Find out C4 pathways from the given plants	1

	by titration method(TAN)	
8	To determine the activity of enzyme amylase in germinating seeds and its induction by GA.1P	1
9	Determination of activity of nitrate reductase.	1
10	Effect of salt /Drought stress on accumulation of proline and its estimation.	1

SEMESTER IV

M.Sc. II Semester IV

BOUT 241 Botany Theory paper 1

BOUT 241: BOTANICAL TECHNIQUES

(4 CREDITS) (60 Lectures)

Credit 1 = **(15 Lectures)**

Microscopic Techniques

- A. Image formation (properties of light), Lens- refraction, dispersion of light, objects, images, image quality, magnification concept, resolution **1L**
- B. Optical microscopy- Light microscopy, Confocal microscopy, Phase Contrast microscopy, Fluorescence microscopy, Electron microscopy (SEM TEM and STEM), Flow cytometry and Atomic force microscopy **7L**
- C. Dissection, maceration, squash, peeling and whole mount- pretreatment and procedures **1L**
- D. Microtomy- serial sectioning, double or multiple staining, Lesser assisted Microtomy **2L**
- E. Histochemical and cytochemical techniques- Localization of specific Compounds/ reactions/ activities in tissues and cells **3L**
- F. Micrometry and camera lucida **1L**

Credit 2 = **(15 Lectures)**

A. Chromatography techniques:-

- a) Introduction, Types, Peak Area, Solvent systems, immobilized and mobilized phase, retention time 2L
- b) Principle, method and applications of: Paper, TLC, Column Chromatography 2L
- c) Gel filtration, Affinity, Ion exchange 2L
- d) HPLC, Gas chromatography 2L

B. Electrophoretic techniques:-

- a) History, Principles, Horizontal and Vertical Electrophoresis. 1L
- b) Agarose gel electrophoresis 1L
- c) Pulsed Field Gel Electrophoresis, Polyacrylamide Gel Electrophoresis (PAGE/ Native), Sodium Dodecyl Sulphate polyacrylamide gel electrophoresis (SDS-PAGE/ Denaturing) 4L
- d) Isoelectric focusing, 2 Dimensional Gel Electrophoresis (2-D method) 1L

Credit 3 =

(15 Lectures)

A. Spectroscopic techniques:-

- a) General principles, Beer and Lambert's Law, Molar extinction coefficient, Electromagnetic radiations (Dual nature), Wavelength, Frequency, Properties of Electromagnetic radiations, electromagnetic spectra, Light absorption and excitation of spectra 2L
- b) Spectrophotometer 1L
- c) Principle, working and applications of-UV-Visible spectroscopy 1L
- d) Nuclear Magnetic Resonance (NMR) spectroscopy, 2L
- e) X-ray crystallography, 1L
- f) Spectroflurometry, 1L
- g) AAS, MS, IR Spectroscopy 2L

B. Radioactive techniques:-

- a) Radioisotopes used in biology and their properties, Units of radioactivity. 1L
- b) Interaction of radioactivity with matter, 1L
- c) Detection and measurement of radioactivity, Scintillation counter 1L
- d) Autoradiography, Safe handling of radio isotopes, 1L
- e) Fluorochromes, Green Fluorescent Proteins 1L

Credit 4 =

(15 Lectures)

A. Centrifugation techniques:-

- a) Principles, Rotors, Speed and Unit, Factors affecting centrifugation, 1L
- b) Ultra-centrifugation, Density Gradient Centrifugation 1L

- B. Electrochemical techniques:-**
Electrical conductivity, pH meter, Oxygen electrode **2L**
- C. Immunological techniques:-**
- a) Introduction and Principles, **1L**
 - b) Antigen–antibody interaction, Immuno diffusion, **1L**
 - c) Immuno precipitation, **1L**
 - d) Radio-immuno assay, Rocket immuno-electrophoresis, ELISA **2L**
- D. Bioinformatics-**
- a) Introduction to databases and retrieving information from databases: NCBI, EMBEL **2L**
 - b) Molecular tools in protein and nucleotide sequence analysis; origin of new genes and Proteins, gene duplication and divergence **3L**
- E. Herbarium Techniques-** Digital herbarium **2L**

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12. **Srivastava S. and Singhal V.** (1995). Laboratory Methods in Microbiology. Anmol Publication Pvt. Ltd. Delhi.

13. **Pal and Ghaskadabi** (2009). Fundamentals of Molecular Biology. Oxford Publishing Co.

M.Sc. II Botany Semester IV

BOUT 242: Theory Paper-2: Advanced Plant Ecology Semester-IV (4 Credits- 60 Hrs)

Topic Details	Lectures
Credit-I	
Levels of species diversity and its measurement, indices of α -diversity, species rarefaction; β -diversity similarity & dissimilarity indices.	2
Basis of Ecosystem classification. Types of Ecosystem: Desert (hot and cold), forest, rangeland, wetlands, lotic, lentic, estuarine (mangrove), Oceanic.	2
Aquatic Ecology: Freshwater and marine, ecology of estuaries and intertidal zones, mangroves	2
Ecosystem Stability: Concept (resistance and resilience), ecological perturbations (natural and anthropogenic) and their impact on plants and ecosystems	2
Biomes: Concept, basis of classification; Holdridge life zone classification; Characteristics of different biomes: Tundra, Taiga, Grassland, Deciduous forest biome, Alpine Biome, Chapparal, Savanna, Tropical Rain forest; adaptations in plants in various biomes	3
Agro-ecological zones of India: basis of classification and characteristics	2
Forest types of India (Champion and Seth, 1968): basis of classification and characteristics	2
Credit-II	
Methods in field ecology: Methods of estimating population density of plants, ranging patterns through direct, indirect and remote observations, sampling methods in the study of habitat characterization: ground and remote sensing methods.	3
Biodiversity and its conservation: Definition, types, importance of biodiversity and threats to biodiversity; Principles of conservation, major approaches to management; methods of conservation with examples; Indian case studies on conservation and management strategy (Sanctuaries/Sacred groves/National Parks/Botanical Gardens). Concept and basis of identification of 'Hotspots'; hotspots in India.	5

Concepts of gene pool, bio-piracy and bio-prospecting; Concept of restoration ecology; Extinct, Rare, Endangered and Threatened flora of India.	2
Environmental Biotechnology: Phytoremediation – definition, types and role of plants for in-situ and ex-situ remediation; bio-indicators, bio-fertilizers, biofuels and biosensors.	2
Environmental issues: Local, regional and global; air, water, and soil pollution - kinds, sources, quality parameters; climate change and its relationship with plants; Use of plants in mitigation of pollution, effect on plants and ecosystems	3
Credit-III	
Plant relations (eco-physiology) with climatic factors such as water, precipitation, temperature, light and radiation. Plant relations with edaphic factors: types of soil, soil moisture and water holding capacity of the soil, soil nutrients, soil microbes	4
Plant-plant interaction, concept of allelopathy; Plant-animal interaction, herbivory, carnivorous plants; Plant- microbes interaction: Mutualism, parasitism	3
Ecological/Environmental Ethics: Definition, concept, nature and origin of environmental ethics, ecological consciousness, views of developed and developing countries, environment community and equity, integrating ethical values and knowledge, self centered development and environment	4
Restoration ecology, plants in conservation of soils, restoration of land and degraded water bodies	2
Overview of Environmental Laws in India: Wildlife Protection Act, 1972; Forest Conservation Act, 1982 (revised); Biological Diversity Act, 2002; National Forest Policy, 1988; National Environmental Policy, 2006	2
Credit-IV	
Environmental Impact Assessment: Aims and objectives of Environmental Impact Assessment; concept, scope, process and necessity; Environmental Impact Statement (EIS) and Environmental Management Plan (EMP).	4
EIA Guidelines; Impact Assessment Methodologies.	1
Procedure for reviewing EIA of developmental projects. Life-cycle analysis, cost-benefit analysis. Guidelines for Environmental Audit. Environmental Planning as a part of EIA and Environmental Audit;	3
Human impact on ecosystem and its consequences- Agriculture societies, degradation of natural resources. Impact of fertilizers, pesticides, fungicides and weedicides on crops and plants	2
Bio-indicators of environmental degradation- Concept of Bio-indicators, bio indicators plants, role of bio-indicators in pollution control.	2

Concept of carrying capacity; ecological foot print; sustainability	1
Biomass carbon sequestration: above ground, belowground, deadwood, litter, soil organic carbon.	2

References:

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- Ambasht R.S., and N.K. Ambasht (2003). Modern Trends in Applied Terrestrial Ecology. Springer
- Ashish Kothari (1997) Understanding Biodiversity- Life, sustainability and Equity; Orient Longman
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- Jeffries Michael J. (2005). Biodiversity and Conservation, Routledge, London

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 - Michael J. Jeffries (2005). *Biodiversity and Conservation*, Routledge, London
 - Michael P. (1984). *Ecological Methods for Field and Laboratory Investigations*. Tata McGraw-Hill Co. Ltd.
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 - Mitsch, William J. and Ames G. Gosselink (2015). *Wetlands* (5/E). John Wiley & Sons, Inc.
 - Ninan, K.N., S. Jyothis, P.Babu and V. Ramkrishnappa (2007). *The Economics of Biodiversity Conservation: Valuation in Tropical Forest Ecosystems*. Earthscan, London.
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 - Ramchandra T.V., R. Kiran, N. Ahalya (2002). *Status, Conservation and Management of Wetlands*. Allied Publ. New Delhi.
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 - Uma Shaanker, R. Ganeshiah, KN. and Bawa KS (2001). (Eds). *Forest Genetic Resources: Status, Threats and Conservation Strategies*. Oxford and IBH, New Delhi
 - Wheater C Philip, James R. Bell, Penny A. Cook (2011). *Practical Field Ecology: A Project Guide*. John Wiley
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M.Sc. II Botany Semester IV
BODT 243-Botany Paper 3
BODT 243 a) Applied Mycology (2 Cr- 30 Hrs)

Credit I:	15L
1. Fungi- Colonization strategies in fungi and their ecological role.	3L
2. Agriculture and Forest Pathology:	
a) Fungi as plant pathogens (Mildews- Powdery and Downy, Wilts, Leafspots, Root rots, Smuts and Rusts).	6L
b) Forest pathology and its significance	1L
c) Fungi as biopesticides: mycofungicides, mycoweedicides, myconematicides and mycoinsecticides.	2L
d) Seed and market pathology, its importance	2L
e) Mycorrhiza types and significance as biofertilizers.	1L
Credit II:	15L
3. Medical mycology- Superficial, Intermediate and Deep mycosis (Types, symptoms and clinical aspects).	3L
4. Industrial mycology- Medically important Fungal metabolites, production of alcohol, antibiotics, enzymes, organic acids (their production and importance).	4L
5. Fungi as food-	
A) Fermented foods- Mucoprotein, Bread, Cheese, Tempeh, Miso, Sauce.	2L
B) Mushrooms- types, their food and medicinal value, methods of production of different mushrooms in brief.	3L
6. Fungal food spoilage, Biodeterioration of organic and inorganic materials by fungi with examples.	3L

SUGGESTED READINGS

1. Introduction to Fungi- John Webster and Roland W.S. Weber
2. Introductory Mycology -Alexopoulos C.J., C.W. Mims and M. Blackwell
3. The Mycota- Esser, K. and Bennet J. W. (Eds.)
4. An Introduction to Mycology - Mehrotra, R.S. and Aneja, K.R.

5. Fundamentals of Mycology -Burnett, J. H.
 6. Chemical fungal taxonomy - Frisvad, J.C. Bridge, P.D. and Arora, D.K.
 7. The Filamentous Fungi - Smith, J.E.
 8. Fungal Nutrition and Physiology - Garraway, M. O. and Evans, R. C.
 9. Mushroom Biology - Miles, P.G. and Chang, S.T.
 10. Mycorrhizae Verma - A. and Hock, B.
 11. Ectomycorrhizal Fungi - Cairney, J.W.G. and Chambers, S.M.
 12. Industrial mycology - Berry, R.
 13. Plant Pathology - Agrios, G.N.
 14. Plant Pathology - Mehrotra, R.S.
 15. Annual Review of Phytopathology - APS Press
 16. Biotechnology in Plant Disease Control- Cheet,I.
 17. Post infectious defense mechanisms - Mahadevan, A.
 18. Pathogenesis and host specificity in plant diseases. Vol. III.-Rudra P. Singh, Uma S. Singh & Keisuke Kohmoto (eds.) 1995.
 19. The nature of disease in plants - Scheffer, R.P.
 20. Principles of Plant Pathology -Tarr, S.A.J .
 21. Edible mushrooms and their cultivation Change. S.T. and P.G. Miles -
 22. Mycorrhizae Mosses, B.V.A. -
 23. V.A. Mycorrhizae Powel, C and D. J. Bagyaraj -
 24. Industrial mycology (Vol. I) Berry, R. -
 25. Biotechnology. Dubey, S.C. -
 26. Fungal biotechnology by smith
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M.Sc. II Botany Semester IV

BODT 243-Botany Paper 3

BODT 243 b) Advanced Medicinal Botany (2 CREDITS) (30 Lectures)

Credit I- (15 L)

1. General Pharmacognosy

Definition and scope of Pharmacognosy	1L
Classification of crude drugs	1L
Processing of herbal drugs	1L
Utilization of medicinal and aromatic plants in India	1L
Indian trade in medicinal and aromatic plants	1L
Case study of any two Ayurvedic drug industries from India	1L

2. Analytical Pharmacognosy

Drug adulteration	1L
Drug evaluation –Morphological, microscopical, chemical, physical and biological methods	5L
Quality control of herbal drugs	1L
Biosynthesis of glycosides and alkaloids	1L
Biogenesis of phytopharmaceuticals	1L

Credit II- (15 L)

3. Plant Drugs

Pharmacognostic study of the following drugs w.r.t. source, cultivation, collection, macroscopic characters, and application – Isabgol (*Plantago ovata*), Aloes (*Aloe vera*), *Digitalis* (*Digitalis purpurea*), *Dioscorea* (*Dioscorea bulbifera*), Safed Musli (*Chlorophytum Borivilianum*), Shatavari (*Asparagus racemosus*), Brahmi (*Bacopa monnieri*), Arjuna (*Terminalia arjuna*), Ashwagandha (*Withania somnifera*), *Vinca* (*Catharanthus roseus*), Vasaka (*Justicia adhatoda*), and Turmeric (*Curcuma longa*)

4. Industrial Aspects

- | | |
|--|----|
| | 8L |
|--|----|
1. Phytopharmaceuticals prospects
 2. Marine drugs
 3. Nutraceuticals and cosmeceuticals
 5. Natural pesticides- Pyrethrum, neem, Deris, tobacco
 6. Immunomodulatory medicinal plants
 7. Natural excipients

References:

1. Pharmacognosy. Tylor and Brady
2. Pharmacognosy. Wallis
3. Pharmacognosy. Trees and Evans
4. Pharmacognosy. Kokate, Gokhale, and Purohit
5. Economic Botany. Hill
6. Economic Botany. Panday
7. Economic Botany. V Verma

8. Medicinal Plants of India and Pakistan. Kirtikar and Basu
9. Medicinal Plants. S K Jain
10. Phytochemistry of Plants. McDaniels
11. Plant Physiology. Salisbury and Ross

M.Sc. II Botany Semester IV

BODT 243-Botany Paper 3

BODT 243 c) Advanced Plant Physiology (2 Credits)

Credit-I: Photosynthesis and Respiration 15L

1. Organization and functioning of Photosynthetic ETS in pro(bacteria and cyanobacteria) and eukaryotic organism 1L
2. Determination of PSI and PSII efficiency using chlorophyll fluorescence kinetics and its significance 1L
3. Influence of light and CO₂ concentration on Photosynthesis(Light saturation curve, CO₂ response curve and CO₂ compensation point) 1L
4. Photoprotection: role of enzymes, pigments and water-water cycle 2L
5. Evolution of RUBISCO and PEP case 1L
6. Schematic representation of fixation of atmospheric CO₂ in C₃, C₄, C₄- subgroups and CAM pathway(Home assignment), comparative account of C₃, C₄ and CAM pathway, C₃-C₄ intermediate pathway, CO₂ assimilation in Diatoms. CAM idling and cycling in desert and aquatic plants. 3L
7. Partitioning of photosynthetic assimilate during vegetative and reproductive phase. 1L
8. Regulation of photosynthesis in C₃ and C₄. 1L
9. Comparative account of aerobic, anaerobic and cyanide resistant respiration and their significance. 1L
10. Role of respiration in plant carbon balance 1L
11. Modern concept of electron transport and ATP synthesis and inhibitors of respiration. 1L

Credit-II: Post Harvest and Stress physiology 15L

1. Post harvest physiology-ripening of fruits, storage of vegetables and flowers. 2L
2. Stress Physiology: 8L
 - a) Biotic and abiotic stress: water, salt, temperature, biotic agents
 - b) Responses and tolerance mechanisms
 - c) Developmental and physiological mechanisms that protects plants in drought, flooding, salt, light and temperature stress(cold and high temperature) and stress from pathogenic microorganisms, insects and other organisms.

3. Case studies for improvement of stress tolerance by conventional and recombinant DNA technology. **3L**
4. Mechanism of action of herbicides, fungicides and bactericides. **2L**

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- Galstone A.W. 1989. Life processes in Plants. Scientific American Library, Springer Verlag, New York, USA.
- Goodwin T.W., Mercer E.I. (1998) Introduction to Biochemistry. CBS Publishers, New Delhi.
- Heldt H. W. (2004) Plant Biochemistry. Academic Press, California.
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- Leninger A.C 1987. Principles of Biochemistry, CBS Publishers and Distributers (Indian Reprint)
- Lincoln Taiz and Eduardo Zeiger (2010) Plant Physiology, Fifth edition. Sinauer Associates, Inc. Publishers. Sunderland, USA.
- Lodish H., Berk A., Zipursky S, L., Matsudaira P., Baltimore D and Darnell J. 2000. Molecular Cell Biology (Iv Edition) W. H. Freeman and Company, New York, USA.
- Metabolism (Second Edition) Longman, Essex, England.
- Moore T.C. 1989. Biochemistry and Physiology of Plant Hormones Springer –Verlag, New York, USA.
- Nelson David and Cox Michael. (2007) Lehninger Principles of Biochemistry.W.H.Freeman and Company. New York.
- Nobel P.S 1999. Physiochemical and Environmental Plant Physiology (Second Edition) Academic Press, San Diego, USA.
- Salisbury F.B and Ross C.W 1992. Plant physiology (Fourth Edition) Wadsworth Publishing Company, California,USA.

- Singhal G.S., Renger G., Sopory, S.K. Irrgang K.D and Govindjee 1999. Concept in Photobiology; Photosynthesis and Photomorphogenesis. Narosa Publishing House, New Delhi.
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M.Sc. II Botany Semester IV

BODT 243-Botany Paper 3

BODT-243 d) INDUSTRIAL BIOTECHNOLOGY

Credits: 02 (30 Lectures)

Credit I: Microbial Biotechnology: (15L)

1. **Biotechnology:** Scope and importance, Commercial potential of Biotechnology in India.

Role of Biotechnology in Fermentation technology, Enzymes and Food supplements **2L**

2. **Microbial Biotechnology:**

A. **Fermentation Technology:** A brief outline of processes for the production of some commercially important organic acids (Citric acid); amino acids (glutamic acid & tryptophan) and alcohols (ethanol & butanol), Primary metabolites & secondary metabolites: Vitamin production, B12, Riboflavin and β -carotene: occurrence, economic significance, biosynthesis, production process. toxins, antibiotics, Microbial Food : Fermentation processes in dairy and other food products: toffu, kaffir, cheese, buttermilk, yogurt, sour cream etc, Feed production, SCP, fats, amino acid, food additives **7L**

B. Enzyme technology: Microbes involved in enzyme production, Immobilization of enzymes, applications of enzymes: Therapeutic, analytical, Manipulative and Industrial. Biosensors and its types, Biochips: Principles and applications. **6L**

Credit II: Environmental Biotechnology: (15L)

3. Introduction, Scope and importance, Application of EB in Bioremediation, Biodegradation of Xenobiotics, bioaugmentation, Bioleaching, Biofuels, Bioplastics, Biocatalysts and Bionanotechnology **2L**
4. **Bioremediation:** Introduction, types: *In situ* Bioremediation: Intrinsic and Engineered, *Ex situ* Bioremediation: Solid phase treatment, Composting, Composting process, Slurry phase treatment, Aerated lagoons, LSARs. **2L**
5. **Bioremediation of industrial wastes:** types of wastes, role of microorganisms, Bioremediation of heavy metals: Adsorption, Complexation, precipitation, Volatilization, biosorption, role of Am fungi in bioremediation. **3L**
6. **Bioremediation of other wastes:** Introduction, objectives and pathways of degradation of Xenobiotics, Hydrocarbons, Bioaugmentation, Bioleaching and Biofiltration. **3L**
7. **Nano-Bioremediation:** Applications of Nanomaterials as an effective sorbents, Nanofiltration, Nanocatalysis, use of magnetic nanoparticles in bioremediation. **3L**
8. **Bioplastic in Environment protection:** Definition, sources and types and uses. **2L**

Suggested readings:

1. R. C Dubey. A Textbook of Biotechnology. S. Chand Publications.
2. B.D. Singh. Fundamentals of Biotechnology. Kalyani Publications
3. Peter F. Stanbury, Allen Whitaker, Stephen J. Hall. Principles of Fermentation Technology Second Edition Elsevier Science Ltd

4. Michael J. Waites, Neil L. Morgan, John S. Rockey Gary Higton. Industrial Microbiology: An Introduction. Blackwell Science Ltd
5. M Nduka Okafor odern Industrial Biotechnology & Microbiology., SCIENCE PUBLISHERS, Edenbridge Ltd.,
6. H.J. Peppler and D. Perlman. Microbial Technology .Vol 1&2 . Academic Press.
7. L E Casida Jr. Industrial Microbiology. John Wiley and Sons Inc.
8. Wulf Cruger and Anneliese Cruger, "A Textbook of Industrial Microbiology",Panima Publishing Corporation
9. Michael J. Waites, Neil L.Morgan, John.S. Rockey and Grey Higton, "Industrial Microbiology": An Introduction, Blackwell science publishing house.
10. Presscott. Dunn, "Industrial Microbiology", Agrobios (India).Trevor Palmer "Enzymes", Affiliated East West Press Pvt Ltd, New Delhi,2004
11. Harvey W. Blanch, Douglas S. Clark, "Biochemical Engineering", Marcel Dekker Inc, 1996
12. James M. Lee, "Biochemical Engineering", PHI, USA, 1992
13. James. E. Bailey & David F. Ollis, "Biochemical Engineering Fundamentals", McGraw Hill, 1986
14. Christ of M.Niemeyer,Chad A.Mirkin, "Nanobiotechnology: Concepts", Applications and Perspectives, (eds.), Wiley-VCH, Weinheim, (2004)
15. Mick Wilson, Kamali Kannangara, Geoff Smith, Michelle Simmons, Burkhard Raguse, "Nanotechnology: basic science and emerging technologies" , Overseas Press (2005)
16. B. Roszek,, W.H. de Jong, and R.E. Geertsma: "Nanotechnology in medical applications": state-of-the-art in materials and devices (2005)
17. Tuan Vo-Dinh, "Nanotechnology in Biology and Medicine": Methods, devices and applications, ISBN no. 1249329494
18. Mark Ratner and Daniel Ratner, "Nanotechnology - A Gentle Introduction to the Next Big idea", Pearson Education, Inc.2005
19. Handbook of "Nanostructured Biomaterials and Their Applications in Nanobiotechnology" - Hari Singh Nalwa

M.Sc. II Botany Semester IV

BODT- 243: BOTANY THEORY PAPER 3 (2 Credit)

BODT- 243: e) SEED TECHNOLOGY

(30 Lectures)

Credit 1=

15 lectures

1. Field Inspection:

2 L

- Seed inspector, powers and duties
- Number of inspection with reference to stage of crop
- Procedure and observations during field inspection

2. Seed Pathology:

4 L

- Definition
- Mechanism of seed transmission and entry point of seed infection (soil, air, insect and nematodes)
- Quarantine for seed
- Integrated management of seed borne diseases
- Seed health testing methods

3. Seed entomology: 3 L

- Relation of insects and plants
- Pest of fibre crop, pulses, vegetable and storage grain pest (Any one example from each) with respect to their life cycle, way of infestation and control measures (Physical, Chemical and Biological)

1. Seed Processing: 6 L

1. Objectives of seed processing
2. General layout of seed processing unit
3. Steps in Seed Processing (Receiving, Drying, Pre-cleaning, Grading, Treatment, weighing, Packing and Storage)
4. Study of Seed processing machineries and its working:
 1. Pre-cleaners
 2. Scalper, Debearder and Huller
 3. Seed dryers
 4. Air screen cleaner
 5. Specific gravity separator
 6. Magnetic separator
 7. Colour separator

Credit 2=

15 lectures

1. Seed treatment: 2 L

- Importance
- Seed treating equipment- slurry, mist-o-matic and drum mixer.
- Chemicals used and precautions in seed treatment.

2. Packaging and handling of seeds 4 L

- Bagger weighed machine
- Automatic packing machine
- Material used for packing
- Handling of seeds: Conveyor and Elevators
- Precautions during packaging

3. Seed Deterioration and Seed Storage: 4 L

- Definition, manifestation and causes of seed deterioration.
- Prevention measures of seed deterioration.
- Definition of seed storage
- Factors affecting seed storage
- Ideal ware house for seed storage, sanitation, fumigation and dehumidification
- Cold storage

4. Seed legislation: 2 L

- Seed legislation in India

- Types of seed legislation.

5. Seed Certification and Quality Control:

3 L

- General procedure for seed certification
- Seed certification Board, Central Seed committee and their functions.
- Minimum seed certification Standards (Field and Seed)

Suggested Readings:

1. Ovcharov, K.E. 1977. Physiological Basis of Seed Germination. Amerind Publishing Co., New Delhi and New York.
 2. Thompson, J.R. 1977. Advances in Research and Technology of Seeds. Part - 1, 3 & 4. Centre for Agrl. Publishing and Documentation, Washington.
 3. Anonmyous. 1997. Seed Technology in Tropics. ISTA Zurich.
 4. Sinclair, T.R. and F.P. Gardner. 1997. Principles of Ecology in Plant Production, CAB international, G.K.
 5. Rai. M. and S. Mauria. 1995. Hybrid Research and Development. Indian Society of Seed Technology. IARI. New Delhi.
 6. Agrawal, R.L. 1996. Seed Technology, IBH publishing Co., New Delhi.
 7. Mayer, A.M. and A.P. Mayber. 1989. Germination of Seeds. Pergamon Press, Oxford.
 8. Desai. B.B., P.M Kotecha and D.K. Salunkha. 1997. Seeds Hand Book - Biology Production, Processing and Storage. Marcel Dekker. New York.
 9. Khairwal. P.S., C. Ram and A.K. Chabra. 1997. Pearl millet Seed Production and Technology. Manohar book service, New Delhi.
 10. Jaima Kigel, J. and G. Galili. 1997. Seed Development and Germination. Marcel Dekker, New York.
 11. Bewley, J.D. and M. Black. 1982. Physiology and Biochemistry of Seeds in relation to Germination, Vol. I & II. Springer Verlag, Berlin, Heidelberg, New York.
 12. Justice, O.L. and L.N. Basu. 1978. Principles and Practices of Seed Storage. Castle House Publications Ltd, Great Britain.
 13. Khan, A.A. 1977. The Physiology and Bio-chemistry of seed Dormancy and Germination. North Holland Publishing Co., Amsterdam, New York.
 14. Kozłowski, T.T. 1972. Seed Biology, Vol. 1 Academic Press, London.
 15. Purseglove, J.W. 1977. Tropical crops of Monocotyledons, Longmans, Green and Co., Ltd., London.
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M.Sc. II Semester IV

BODT 244 Botany Theory paper 4

BODT 244 a) Plant Tissue Culture Technology

(2 CREDITS) (30 Lectures)

Credit I: In vitro culture 15 L

- Totipotency of plant cells, de- and re-differentiation, Organogenesis and somatic embryogenesis, *In vitro* responses of plant cells, tissue and organs- effect of source of explants, nutrient medium constituents, growth regulators and environmental factors. 4L
- Protoplast culture, somatic hybridization and cybridization, applications. 3L
- In vitro production of haploids and their applications 2L
- Physiological and genetic basis of somaclonal variation and their applications 2L
- Case studies– Banana and Sugarcane: Stages of micro propagation, Factors affecting micro-propagation, Merits and demerits of in vitro propagation, 3L
- Ex-situ conservation of germplasm 1L

Credit II: In vitro production of secondary metabolites and genetic transformation 15L

- Screening and selection of high secondary metabolite producing cell lines. 1L
- Standardization of Culture media, immobilization of cells, elicitation using biotic and abiotic elicitors, Biotransformation 3L
- Case studies for production of secondary metabolite: Scaling up and use of Bioreactor 2L
- Genetic transformation of plants - transfer of foreign DNA into host plant tissues using *Agrobacterium* based vectors, mechanism of integration of DNA into plant genomes. 3L

- Factors affecting transformation, Screening and analysis of transformants. 3L
 - Direct DNA transfer to plants – Electroporation, biolistic transfer 2L
 - Modifications of plant secondary metabolism by genetic engineering: case studies 1L
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M.Sc. II Semester IV

BODT 244 Botany Theory paper 4

BODT 244 b) Herbal Technology

(2 CREDITS) (30 Lectures)

Credit I:		15L
	a) Herbal Technology: Definition, concept and prospects.	1L
	b) Herbal medicines: history and scope, role of medicinal plants in Ayurveda, Siddha, Unani and Homeopathy, Medicinal plant as source of alkaloids, flavonoids, glycosides, tannins, phenolics,	4L
	c) Selection, identification and authentication of herbal materials for medicine.	1L
	d) Processing of herbal raw material	1L
	e) Preparation and standardization of Ayurvedic formulations viz Aristas, Asawas, Ghutika, Churna and Bhasma.	3L
	f) Herbal cosmetics: Study and description of herbal plants used in products such as skin care, hair care, dyes, aromatic oil and oral hygiene products via fixed oils, waxes, gums colours, perfumes, protective agents, bleaching agents, antioxidants.	5L
Credit II		15L
	a) Herbal Nutraceuticals: Medicinal mushrooms for human health, Phytochemicals as nutraceuticals, herbs as a source of dietary fibre, Probiotics, Prebiotics, polyunsaturated fatty acids, antioxidant, vitamins, polyphenols, proteins, amino acids, carotenoids.	5L

- b) Evaluation of Drugs: WHO and International Council of Harmonization (ICH) guidelines for the assessment of herbal products, Guidelines of Materia Medica and Charak Samhita. Stability testing of herbal drugs. 3L
- c) **Herbal drugs industry:** Present scope and future prospects. A brief account of plant based industries and institutions involved in work on medicinal and aromatic plants in India. 2L
- d) **Packaging of Herbal Products:** Introduction of concept and need of packaging, Classification of Herbal Products: Classification based on product texture- dry, liquid, emulsion, aromatic oils, Classification based on product usage- cosmetic, edible, nutraceutical, pharmaceutical 3L
- e) **Patenting and Regulatory requirements of natural products:** Definition of the terms: Patent, IPR, Farmers right, Breeder's right, Bioprospecting and Biopiracy. Patenting aspects of Traditional Knowledge and Natural Products. Case study of Curcuma & Neem. 2L

Suggested readings:

Agarwal, S.S. and Paridhavi, M., Herbal Drug Technology Universities Press, Pvt Limited, 2007.

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Ayurveda and Aromatherapy. Miller, Light and Miller, Bryan, 1998. Banarsidass, Delhi.

Ayurvedic drugs and their plant source. V.V. Sivarajan and Balachandran Indra 1994. Oxford IBH publishing Co.

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Chowdhary V (2014) Fundamentals of food processing, packaging, labeling and marketing. Anmol Publications, Pune

Daniel, M., Herbal Technology: Concepts and Advances Satish Serial PublishingHouse, 2008.

Deshmukh LP (2013) Medicinal Plants of India. Oxford Book Co., New Delhi

Drury CH (2006) Ayurvedic Useful Plants in India. Asiatic Publishing House, New Delhi.

Evans, W.C., Trease and Evans Pharmacognosy 15th Edition, Elsevier HealthSciences, 2001.

Glossary of Indian medicinal plants, R.N. Chopra, S.L.Nayar and I.C.Chopra, 1956. C.S.I.R, New Delhi.

Herbal plants and Drugs Agnes Arber, 1999. Mangal Deep Publications.

Hoffmann F, Manning M (2009) Herbal Medicine and Botanical Medical Aids. Viva Books. New Delhi.

Indian System of Medicine and Homeopathy, Planning and Evaluation Cell, Govt.of India, New Delhi, 2001.

Maheshwari JK, Kunkel G, Bhandari MM, Duke J (1993) Ethnobotany in India. Scientific Publishers. Jodhpur, Rajashtan.

Nadkarni KM (2002) Indian Materia Medica Vol. I and II. Popular Prakashan, Mumbai

Pal DC, Jain SK (1998) Tribal medicine. Naya Prakash Publication, New Delhi

Pharmacognosy, Dr.C.K.Kokate et al. 1999. Nirali Prakashan.

Principles of Ayurveda, Anne Green, 2000. Thomsons, London.

Pulok K. Mukherjee., Quality control of Herbal DrugsReprintedn, Business Horizons, New Delhi, 2012.

Quality Control Methods for medicinal plant material, WHO Geneva, 1998

Roseline A (2011) Pharmacognosy. MJP Publishers, New Delhi.

The indigenous drugs of India, Kanny, Lall, Dey and Raj Bahadur, 1984. International Book Distributors.

Wallis, T.E., Textbook of Pharmacognosy 5th Edition, CBS Publishers and Distributors, 2005.

Yoga- The Science of Holistic Living by V.K.Yoga, VKY Prakashna Publishing, Bangalore, 2005.

M.Sc. II Semester IV

BODT 244 Botany Theory paper 4

BODT 244 c) Research Methodology (2 CREDITS) (30 Lectures)

Credit I **15L**

Unit I: Basic Concepts of Research **8 L**

Research definition and types of research (Descriptive vs analytical; applied vs fundamental; quantitative vs qualitative; conceptual vs empirical). Research methods vs methodology.

Literature-review and its consolidation; Library research; field research; laboratory research.

Unit II: Data Collection and Documentation of Observations **7 L**

Maintaining a laboratory record; Tabulation and generation of graphs. Imaging of tissue, specimens and application of scale bars. The art of field photography.

Credit II:

Unit III: Overview of Biological Problems **8 L**

History; Key biology research areas, Model organisms in biology (A brief overview): Genetics, Physiology, Biochemistry, Molecular Biology, Cell Biology, Genomics, Proteomics-Transcriptional regulatory network.

Unit IV: Ethics and Good Practical's and Art of Scientific Writing **7 L**

Authors, acknowledgements, reproducibility, plagiarism, Numbers, units, abbreviations and nomenclature used in scientific writing. Writing references. Power-point presentation. Poster presentation. Scientific writing and ethics, Introduction to copyright-academic misconduct/plagiarism.

Suggested Readings

1. Dawson, C. (2002). Practical research methods. UBS Publishers, New Delhi.
2. Stapleton, P., Yondeowei, A., Mukanyange, J., Houten, H. (1995). Scientific writing for agricultural research scientists – a training reference manual. West Africa Rice Development Association, Hong Kong.
3. Ruzin, S. E. (1999). Plant microtechnique and microscopy. Oxford University Press, New York, U.S.A.

M. Sc II Botany

BODP 243 Botany Practical paper

BODP 243 based on BODT 243 a) Applied Mycology (2Cr)

Sr. No	Title of practical (Any 12 practical)	No.
1	Study of plant diseases with reference to histopathology of symptoms, causal organisms of – Any four downy & powdery mildews of crops of local importance, any 3 leaf spot diseases & any 4 rusts & Smuts of local significance.	5
2	Study of any 3 diseases of forest plants for eg. Powdery mildews, rots, spots etc.	1
3	Study of any 6 post harvest diseases or market pathogens of local market.	1
4	Isolation of any 6 seed borne fungi from cereals, pulses, & oil seed crops.	2
5	Cultivation of wheat straw mushroom Pleurotus	2
6	Isolation any one mycorrhizal fungi & trichoderma as biofertilizer.	1
7	Biodeterioration of any 3 inorganic materials & any 4 foods spoilage fungi.	1
8	Isolation of any 1 plant pathogen to study Koch's postulates.	1
9	Study of any 4 fungal industrial metabolites/ antibiotics with their importance.	1

Note: 1. Compulsory visit to mushroom industry & biofertilizer production unit & submission of report.

M. Sc II Botany Semester IV

BODP 243 Botany Practical paper

BODP 243 based on BODT 243 b) Advanced Medicinal Botany (2Cr)

Sr. No	Title of practical (Any 12 practical)	No.
1	Identification of with the help of organoleptic and microscopic evaluation techniques	2
2	Percentage extractives and fluorescence analysis of drugs	1
3	Determination of ash values of drugs	1
4	Histochemical studies of drugs	1
5	Biological activity of any two drugs	2
6	Estimation of alkaloids from suitable medicinal plants	1
7	Estimation of glycosides from suitable medicinal plants	1
8	Extraction of essential oils from suitable medicinal plants	1
9	Estimation of oleoresin from suitable medicinal plants	1
10	Preparation of herbal cosmetics and foods	2
11	Visit to any two pharmaceutical industries and submission of report	1
12	Field visit to study ethnobotany and preparation of report	1

Note:

1. At least one short and one long study tour be arranged for studying medicinal plants and to explore ethnobotanical data. Students must submit the tour report and ethnobotanical data during practical examination.
2. Student must carry out detailed pharmacognostic investigation of at least one drug and should submit a report at the time of practical examination as a project.

M. Sc II Botany Semester IV**BODP 243 Botany Practical paper****BODP 243 based on BODT 243 c) Plant Physiology (2Cr)**

Sr. No	Title of practical (Any 12 practical)	No.
1	Estimation of chlorophylls and carotenoids.	1
2	Study of effect of abiotic factors on activity of RuBisco/PEPcase enzyme.	1
3	Separation of pigment using column Chromatography. Determination of absorption spectra of each pigment.	2
4	Demonstration of Hill Reaction.	1
5	Effects of auxins and cytokinin's or gibberellins on growth	1
6	Measurement of CO ₂ uptake using IRGA (Demonstration).	1
7	Screening of cultivars for biotic and abiotic stress tolerance using in vitro technique.	1
8	Determination of secondary metabolite.	1
9	Estimation of ascorbic acid in ripe and unripe fruits.	1
10	Measurement of respiration using oxygen electrode (demonstration).	1
11	Enzyme assays – extraction and estimation of enzyme activity- Catalase/acid phosphatase/ amylase/lipase/peroxidase (Any one).	1
12	Estimation of total amino acid in germinating and non germinating seed.	1
13	Separation of flavonoids using chromatography.	1
14	Estimation of MDA content.	1

M. Sc II Botany Semester IV

BODP 243 Botany Practical paper

BODP 243 based on BODT 243 d) Industrial Biotechnology (2Cr)

Sr. No	Title of practical (Any 12 practical)	No.
1	Isolation of <i>Aspergillus niger</i> from a suitable medium and its maintenance in pure culture.	2
2	Inoculation of Spore suspension of <i>Aspergillus niger</i> on a fermentation medium to prepare citric acid broth	1
3	Estimation of citric acid by Spectrophotometric and titration method	1
4	Recovery of citric acid from fermentated broth.	1
5	Fermentative production of Ethanol	2
6	Demonstration practical on microbial food.	1
7	Study of Biosorption using suitable sample	1
8	Demonstration practical on Biosensors and Biochip	1
9	Study of preparation of Biolastic using suitable material	1
10	Demonstration of various nano materials used in bioremediation	1

M. Sc II Botany Semester IV

BODP 243 Botany Practical paper

BODP 243 based on BODT 243 e) Seed Technology (2Cr)

Sr. No	Title of practical (Any 12 practical)	No.
1	Detection and identification of important seed borne fungi by various detection methods- washing, agar and blotter method	2
2	Detection and identification of seed borne bacteria	2
3	Study of important Pest of fibre crop, pulses, vegetable and storage grain (Any two example from each), with reference to their life cycle, damage and control measures	2
4	Demonstration of seed processing and treating equipments	2
5	Demonstration: Aids for varietal identification and Preparation of artificial seed	2
6	Collection, submission of crops and storage pests, different seed varieties of any three-crop plants	2
7	Visit to any two Seed industries and submission of report	2

M. Sc II Botany Semester IV

BOUP 244 Botany Practical paper / PG Dissertation based on BOUP 244

BOUP 244 based on BODT 244 a) Plant Tissue Technology (2Cr)

Sr. No	Title of practical (Any 12 Practical)	No.
1	Study of different Laboratory instruments used in Plant Tissue culture Laboratory	1
2	Study of different sterilization techniques used in Plant tissue culture	1
3	Preparation and sterilization of MS- medium	1
4	Study of different growth regulators and their role in PTC	1
5	Study of dedifferentiation of a suitable plant tissue to induce callus	2
6	Study of <i>invitro</i> production of haploid using suitable plant material	2
7	Study of the method of isolation of protoplast from suitable plant material for somatic hybridization	1
8	Study of production of secondary metabolites from suitable plant material using callus culture and qualitative estimation of the secondary metabolites	2
9	Studies on use of any one Biotic/Abiotic elicitor for enhancement of secondary metabolite production through Callus culture	1
10	Visit to any Commercial tissue culture laboratory and write a case study report.	1
11	Visit to <i>Ex situ Germplasm Bank</i> and write a visit report.	1
12	Studies on methods of DNA transfer in plant cell (Demonstration)	1

M. Sc II Botany Semester IV

BOUP 244 Botany Practical paper / PG Dissertation based on BOUP 244

BOUP 244 based on BODT 244 b) Herbal Technology (2Cr)

Sr. No	Title of practical	No.
1	To perform preliminary phytochemical screening of crude drugs.	2
2	Determination of Ash value and moisture content of crude drugs	1
3	Determination of the alcohol content of Asava and Arista.	2
4	Preparation of any one herbal cosmetics.	2
5	Preparation and standardization of any oneherbal formulation.	2
6	Monograph analysis of herbal drugs from recent Pharmacopoeias	1
7	Analysis of fixed oils.	1

8	Study of different processes of packaging of dry, liquid and aromatic herbal products.	1
9	Market study of herbal products- cosmetics, medicines, nutraceuticals.	1
10	Visits to industry related to herbal products and quality testing centres related to herbal products.	2

M. Sc II Botany Semester IV

BOUP 244 Botany Practical paper (2Cr)

OR PG Dissertation (2Cr)

BOUP 244 based on BODT 244 c) Research Methodology (2Cr)

Sr. No	Title of practical (Any 12 Practical)	No.
1	Experiments based on chemical calculations.	1
2	Plant microtechnique experiments.	1
3	The art of imaging of samples through microphotography and field photography.	1
4	Poster presentation on defined topics.	1
5	Technical writing on topics assigned.	1
6	Identification of different type of research in day by day life	1
7	Testing of a formulated hypothesis with type I and type II errors	1
8	Curation of relevant scientific literature from Google Scholar, NCBI PubMed etc	1
9	Poster presentation on defined topics	1
10	Demonstration for checking of plagiarism using recommended software	1
11	Technical writing on topics assigned.	1
12	More Practical may be added depending on the local habitats and available facilities	1

M. Sc II Botany Practical Paper (4 CR)

BOUP 245 based on BOUT 241 and BOUT 242

Sr. No	Title of practical	No.
BOUT 241 Botanical Techniques (Any 12 Practical)		
1	Use of flurochromes to visualize specific cell components	1
2	Micrometry	2
3	Maceration technique	1
4	Electrical conductivity and pH measurements	1
5	Absorption spectra of BSA/DNA and determination of absorption maxima	1
6	Rocket immune electrophoresis	1
7	Separation of leaf pigments by paper chromatography and TLC	1
8	Separation of isozymes by native polyacrylamide gel electrophoresis	2
9	Microtomy- Processing, double staining, sectioning	2
10	Cytochemical analysis- Nucleus, Golgi bodies, Mitochondria	2
11	Databases and database searching and DNA and protein sequence comparison	1
BOUT 242 Plant Ecology Ecology (Any 12 Practical, 15th is compulsory)		
1	Study of phytoplanktons and macrophytes from clean and polluted water bodies	1
2	Estimation of chlorides and alkalinity of the water sample	1
3	Prepare shoot/canopy profile of tree stand along the line transect.	1
4	Remote sensing techniques for vegetation/ plant diversity assessment using satellite imagery and aerial photographs	2
5	Methods for estimating above-ground biomass for carbon pool assessment	1
6	Find out various diversity indices with the help of computer software.	1
7	Find out the Simpson's Index of Dominance.	1
8	Find out the β -diversity, similarity and dissimilarity indices.	1
9	Comparison of stomatal index and pollen fertility of any two plants from polluted and non-polluted areas	1
10	Compare protected and unprotected herbaceous stand using community coefficients (similarity indices).	1
11	To find out relationship between two ecological variables using correlation and regression analysis.	1
12	To estimate dissolved oxygen content in eutrophic and oligotrophic water samples by azide modification of Winkler's method.	1
13	To determine percent soil organic carbon and organic matter in soils of cropland, grassland and forest.	1
14	To find out association between important herbaceous species using Chi-square test.	1
15	Visit to different types of ecosystems to understand the species composition and diversity (plateaus/grasslands/forests/wetlands/deserts/mangroves)	1

Note: A survey of a part of the town or city should be carried out by the entire class in batches. Individual student will select one avenue/road and locate the trees planted on the graph paper. They will identify the trees, mention their size, canopy shape, flowering and fruiting period and their status (healthy, diseased, infested, misused or dying) and report the situation of plants. (The purpose of this exercise is to make the students aware of the kinds of trees and value in urban ecosystem and ecological services.) Submission of report on this survey will be assessed and marks out of 15 will be added as internal marks.



Savitribai Phule Pune University

(Formerly University of Pune)

Two Year Degree Program in Botany

(Faculty of Science & Technology)

Revised Syllabi for

M.Sc. (Botany) Part-I

(For Colleges Affiliated to Savitribai Phule Pune University)

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

Title of the Course: M.Sc. Botany

Preamble :

M Sc Botany program is designed with an objective to encourage and support the growing demands and challenging trends in the educational scenario. Our training focuses on the all-round development of the students to face the competitive World.

OBJECTIVES OF THE M SC BOTANY PROGRAMME:

1. Understand the scope and significance of the discipline.
2. Imbibe love and curiosity towards nature through the living plants.
3. In order to make students open-minded and curious, we try our best to enhance and develop a scientific attitude.
4. We make the students fit for the society by enabling them to work hard.
5. Make the students exposed to the diverse life forms.
6. Make them skilled in practical work, experiments, laboratory equipment and to interpret correctly on biological materials and data.
7. Develop interest in Biological research.
8. Encourage the students to do research in related disciplines.
9. Develop a thirst to preserve the natural resources and environment.
10. Develop the ability for the application of acquired knowledge in various fields of life so as to make our country self-sufficient
11. Appreciate and apply ethical principles to biological science research and studies

PROGRAM SPECIFIC OUTCOMES (PSO) OF MSc BOTANY:

Plant science is now an amalgamation of basic and applied science. Plants besides being the unique capability of plants to trap solar energy and provide food to all cannot be replicated by any system. Conventional studies like plant identification are now being supplemented with molecular techniques like DNA Barcoding. The courses have been designed to benefit all Botany students to study various aspects of plant science including its practical applications. Keeping in mind that these students can take up teaching at different levels, research work in research institutes and or industry, doctoral work,

environment impact assessment, biodiversity studies, entrepreneurship, scientific writing relevant topics have been included in the curriculum.

PSO 1: Understanding the classification of plants from cryptogams to Spermatophyte. Identification of the flora within field enhances basics of plants. Study of biodiversity in relation to habitat will correlates with climate change, land and forest degradation. Application of Botany in agriculture is through study of plant pathology.

PSO 2: Understand the ultra structure and function of cell membranes, cell communications, signaling, genetics, anatomy, taxonomy, ecology and plant Physiology and biochemistry. To understand the multi functionality of plant cells in production of fine chemicals and their wide spread industrial applications.

PSO 3: Molecular and Physiological adaptations in plants in response to biotic and abiotic stress. Genes responsible for stress tolerance genetic engineering of plants.

Structure for M. Sc. Botany First Year:

Year	Semester	Course Type	Course code	Course Name	Credits
1	1	Core Compulsory Theory paper	BOUT 111	Botany Theory Paper 1-Plant Systematics I	4
			BOUT 112	Botany Theory Paper 2- Cell Biology and Evolution	4
			BOUT 113	Botany Theory Paper 3- Cytogenetics and Plant Breeding	4
		Choice Based optional paper	BODT 114	Botany Theory Paper 4- a) Biofertilizer and Algal Technology OR b) Pomoculture and Fruit Processing Technology	2
			BODP 114	Botany Practical Paper 4-based on BO 114	2
		Core Compulsory practical paper	BOUP 115	Botany Practical Paper based on BOUT 111, BOUT 112 and BOUT 113	4
1	2	Core Compulsory Theory paper	BOUT 121	Botany Theory Paper 1-Plant Systematics II	4
			BOUT 122	Botany Theory Paper 2- Molecular Biology	4
			BOUT 123	Botany Theory Paper 3- Biochemistry	4
		Choice Based optional paper	BODT 124	Botany Theory Paper 4- a. Floriculture and Nursery Management OR b. Mushroom Cultivation and Biopesticide Technology	2
			BODP 124	Botany Practical paper 4- based on BODP 124	2
		Core Compulsory practical paper	BOUP 125	Botany Practical paper based on BOUT 121, BOUT 122 and BOUT 123	4

Semester I

BOUT 111: Botany Theory Paper I-Plant Systematics I (4 Credit- 60 Lectures)

Credits-1.5: Algae

22 Lectures

1. Systematics and Taxonomy – Principles, Concept of species and hierarchical taxa, Classification of algae up to order level as per Fritsch system (1935). 3 L
2. Algological studies – Algal habitats, Pigment constitution in algae, Reserve food, Modes of perennation in algae, Origin and evolution of sex, Contribution of algal studies in India and world (any three Phycologists). 4 L
3. Cyanophyta – Distinguishing characters, thallus organization, ultra-structure of heterocyst and its significance. 3 L
4. Chlorophyta- Thallus organization, reproduction – asexual and sexual 3 L
5. Introduction, Comparative structure and reproduction in Charophyta, Euglenophyta, Xanthophyta, Bacillariophyta and Chrysophyta. 4 L
6. Phaeophyta and Rhodophyta–Morphology, Reproduction and life cycle pattern in any one from each. 3 L
7. Applications of algae- Commercial applications of algae- Biofertilizer, Medicine, and Pollution. 2 L

Credit-1.5: Fungi

23 Lectures

1. Thallus structure, Nutrition, Cell structure, Hyphal modifications in Fungi. Classification of fungi as per Ainsworth et al system (1973), Contribution of fungal studies in India and world. 3 L
2. Myxomycotina- Distinguishing characters, types of Plasmodium and fruit bodies, Life cycle pattern 3L
3. Mastigomycotina- Distinguishing characters, Thallus structure in Chytridiomycetes and Oomycetes. 3 L
4. Zygomycotina - Distinguishing characters, Thallus structure, Heterothallism and sexual reproduction. 3 L
5. Ascomycotina- Thallus structure, Fructifications, Comparative study of Hemiascomycetes and Euascomycetes. 3 L

6. Basidiomycotina – Distinguishing characters, thallus structure, types and structure of basidia and basidiocarps. **3 L**
7. Deuteromycotina – Distinguishing characters, thallus structure, fructifications, types of conidia, conidial ontogeny. **3 L**
8. Applications of fungi- Biofertilizers, biocotrol, food and medicine. **2L**

Credit -1: Bryophytes**15 Lectures**

1. Introduction, characters, Affinities with thallophytes and pteridophytes, Contributions of bryologists in world and India (any three), system of classification according to G.M. Smith 1955. Pteridophyean and algal hypothesis, evolution of sporophyte, theory of sterilization and reduction, apogamy and apospory. **3 L**
2. Distribution, Distinguishing characters, morphology and anatomy of gametophyte and sporophytes of following orders **11 L**
Takakiales, Calobryales and Sphaerocarpaceles (1L), Marchantiales (1L), Jungermanniales (2L), Anthocerotales (1L), Sphagnales (1L), Polytrichales (1L), Funariales (1L), Andreaeales (1L), Eubryales (2L).
3. Applications of bryophytes- Antimicrobial properties, secondary metabolites, therapeutical, horticultural applications. **1 L**

References:**Algae:**

1. Brodie J. and Lewis J. (2007). (Ed.) Unravelling the algae: the past, present and future of algal systematics. CRC press, New York, pp 335.
2. Bellinger E.G. and Sigeo D.C. (2010). Freshwater algae: Identification and use as bioindicators, Willey-Blackwell, UK, pp. 271.
3. Cole K.M. and Sheath R.G. (1990). Biology of the red algae. Cambridge University Press.USA. pp. 503.
4. Desikachary T.V. (1959). Cyanophyta. ICAR, New Delhi.
5. Graham L.E. and Wilcox L.W. (2000). Algae. Penticce-Hall, Inc, pp. 640
6. Krishnamurthy V. (2000). Algae of India and neighboring countries I. Chlorophycota, Oxford & IBH, New Delhi.
7. Lee R.E. (2008). Phycology. Cambridge University Press, pp.547.
8. Misra J.N. (1996). Phaeophyceae in India. ICAR, New Delhi.
9. Prescott G.W. (1969). The algae.
10. Smith G.M. (1950). The fresh water algae of the United States, Mc-graw Hill

New York.

11. Srinivasan K.S. (1969). Phycologia India. Vol. I & II, BSI, Calcutta.
12. Das Dutta and Gangulee. College Botany Vol I, Central Book Depot.
13. Vashista B.R, Sinha A.K and Singh V.P. (2005). Botany for degree students – Algae, S. Chand's Publication.
14. Sharma O.P. Algae

Fungi :

1. Ainsworth, Sussman and Sparrow (1973). The fungi. Vol IV A & IV B. Academic Press.
2. Alexopolous C.J., Minms C.W. and Blackwell M. (1999). (4th edn) Introductory Mycology. Willey, New York, Alford
3. R.A. Deacon J.W. (2006). Fungal Biology (4th Ed.) Blackwell Publishing, ISBN. 1405130660.
4. Kendrick B. (1994). The fifth kingdom (paperback), North America, New York Publisher: 3rd edn, ISBN- 10: 1585100226.
5. Kirk et al. (2001). Dictionary of fungi, 9th edn, Wallingford: CABI, ISBN: 085199377X.
6. Mehrotra R.S. and Aneja K.R. (1990). An introduction to mycology. New Age Publishers, ISBN 8122400892.
7. Miguel U., Richard H., and Samuel A. (2000). Illustrated dictionary of the Mycology. Elvira Aguirre Acosta, Publisher: St. Paul, Minn: APS press, ISBN 0890542570.
8. Webster J. and Rpland W. (2007). Introduction to fungi (3rd Edn) Cambridge University Press, 978-0-521-80739-5.

Bryophytes:

1. Cavers F. (1976). The interrelationships of the Bryophytes. S.R. Technic, Ashok Rajpath, Patana.
2. Chopra R.N. and Kumar P.K. (1988). Biology of Bryophytes. John Wiley & Sons, New York, NY.
3. Kashyap S.R. (1929). Liverworts of the Western Himalayas and the Punjab Plain. Part 1, Chronica Botanica, New Delhi.
4. Kashyap S.R. (1932). Liverworts of the Western Himalayas and the Punjab Plain (illustrated): Part 2. Chronica Botanica, New Delhi.
5. Parihar N.S. (1980). Bryophytes: An Introduction to Embryophyta. Vol I. Central

Book Depot, Allahabad.

6. PremPuri(1981). Bryophytes: Morphology, Growth and Differentiation. Atma Ram and Sons, New Delhi.
7. Udar R. (1975). Bryology in India.ChronicaBotanica, New Delhi.
8. Udar R. (1970). Introduction to Bryophytes.ShashidharMalaviyaPrakashan. Lucknow.
9. Watson E.V. (1971). Structure and Life of Bryophytes.3rd Edn. Hutchinson University Library, London.
10. Vashista B.R., Sinha A.K., Kumar A. (2008). Botany for degree students – Bryophyta, S.Chands Publication.

Semester I

BOUT 112: Botany Theory Paper II- Cell Biology and Evolution

(4 Credit- 60 Lectures)

Credit-I : Dynamic organization of the cell	15 L
1. Universal features of cells: cell chemistry and biosynthesis, chemical organization of cells.	1L
2. Internal organization of the cell:	
i. Cell Wall: Biogenesis, Ultra Structure and functions, primary and secondary wall, glycocalix.	1L
ii. Cell membrane: structure of cell membranes and concepts related to compartmentalization in eukaryotic cells.	1L
iii. Biogenesis, ultra structure and functions of endoplasmic reticulum and Golgi apparatus, lysosomes, vacuoles, glyoxysomes and peroxisomes, ribosomes, cellular cytoskeleton, mitochondria, chloroplasts and cell energetics; nuclear compartment: nucleus, nucleolus and chromosomes .	10L
iv. Giant chromosomes- lampbrush chromosomes, polytene chromosomes	2L
Credit-II : Cellular signaling, transport and trafficking	15L
1. Types of receptors, G-proteins and G-protein coupled receptors, Phospholipid signaling, Ca ²⁺ , Calmodulin cascade.	2L
2. Diversity in protein kinases and phosphatases, secondary messengers,	

regulation of signaling pathways.	2L
3. Specific signaling mechanisms with suitable examples- Biotic and abiotic stress, ABA induced stomatal closure, Stomatal guard cells signaling.	3L
4. Receptor Serine/ Threonine kinase, Ethylene mediated two component systems.	1L
5. Molecular mechanisms of membrane transport, nuclear transport, transport across mitochondria and chloroplasts; intracellular vesicular trafficking from endoplasmic reticulum through Golgi apparatus to lysosomes/cell exterior. Communication between cells and environment.	4L
6. Signaling at cell surface, signaling molecules, hormones and receptors signaling pathways that control gene activity, signal transduction and second messengers.	3 L
Credit-III : Cellular Processes	15L
1. Cell cycle and its regulation; cell division: mitosis, meiosis and cytokinesis; cell differentiation: stem cells, their differentiation into different cell types and organization into specialized tissues.	3 L
2. Phases of cell cycle, functional importance of each phase, Molecular events during cell cycle, Regulation of cell cycle, Cyclins and protein kinase, MPF (Maturation promoting factor).	4 L
3. Method of study of cell cycle- labeled mitotic curve, flow cytometry, use of mutants, Cell aging and cell senescence.	4 L
4. Programmed cell death-molecular aspects, regulation of cell death, PCD in response to stress, Apoptosis- Role of different genes, cell organelles during apoptosis, genetic control of apoptosis.	4 L

Credit-IV (1 Cr): Evolution**15 L****1. Theories of Evolution: (3 L)**

Steps and preview of evolution, Lamarckism, Darwinism- Concepts of variation, adaptation, struggle for fitness and natural selection; Neo-Darwinism, Spontaneity of mutations, the evolutionary synthesis,

2. Origin of cells and cellular evolution:(3L)

Origin of basic biological molecules, abiotic synthesis of organic monomers and polymers, Concepts of Oparin and Haldane, Experiment of Miller (1953), The first cell, evolution of prokaryote, origin of eukaryotic cells, evolution of unicellular

eukaryotes, anaerobic metabolism, photosynthesis and aerobic metabolism, RNA world theory

3. Molecular Evolution: (3L)

Concepts of natural evolution, molecular clocks, molecular tools in phylogeny, classification and identification, protein and nucleotide sequence analysis, origin of new genes and proteins, gene duplication and divergence

4. Paleontology and Evolutionary History: (3 L)

Evolutionary time scale; Eras, periods and epoch; Major events in the evolutionary time scale; Multicellular evolution, Major groups of plants & Animals; Fossils-Formation, Nature, Types, Geological time scale

5. The Mechanisms: (3 L)

Population genetics – Populations, Gene pool, Gene frequency; Hardy-Weinberg Law; concepts and rate of change in gene frequency through natural selection, migration and random genetic drift; Adaptive radiation; Isolating mechanisms; Speciation; Allopatricity and Sympatricity; Convergent evolution; Sexual selection; Co-evolution. 4L

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17. Arthur G (1979) (5th Edn). Cell Physiology, Toppan company Ltd., Tokyo, Japan.
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19. Powar C.B. (2005) (3rd Edn). Cell Biology, Himalaya Publishing, Mumbai.
20. Roy S.C and De K.K. (2005). (2nd Edition). Cell Biology, New central Book agency Private Ltd., Kolkata.
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22. Gerald Karp(2010). Cell Biology, 6th edition, John Wiley & Sons., USA
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25. Shukla R.S. & Chandel P.S. Cytogenetics, Evolution & Biostatistics. S.Chand Publications,
26. Tomar & Singh Evolutionary Biology, Rastogi Publications
27. Darbeshwar Roy Crop Evolution & Genetic Resources

Semester I

BOU113: Botany Theory Paper III-Cytogenetics and plant breeding (4 Credits- 60 Lectures)

Credit I: Classical Genetics	15 Lectures
1. Principles of Mendelian inheritance and Interaction of genes:	3 L
<ul style="list-style-type: none"> • Introduction, • Mendel's Laws- Dominance, Segregation, Independent assortment • Chromosomal theory of inheritance • Interaction of genes- Complementary, epistasis, inhibitory, polymeric and additive • Concept of gene, allele, multiple alleles • Applications of mendelian genetics • . Introduction to Model systems in Genetics- <i>E.coli</i>, Yeast, <i>Drosophila</i>, <i>Arabidopsis</i> 	
2. Cytoplasmic inheritance:	3 L
<ul style="list-style-type: none"> • Maternal effect (<i>Limnaea peregra</i>) • Plastid Inheritance (<i>Mirabilis jalapa</i> and <i>Zea mays</i>) • Mitochondrial Inheritance (Yeast petite and Maize-Cytoplasmic male sterility) • Interaction between nuclear and cytoplasmic genes 	
3. Quantitative inheritance:	3 L
<ul style="list-style-type: none"> • Multiple Factor Hypothesis, Polygenic Inheritance • Quantitative traits, Continuous variation • Inheritance of quantitative traits, (Corolla length in <i>Nicotiana</i>, Cob length in Maize) • Heritability and its measurement • QTL mapping 	
4. Linkage, Recombination and Crossing Over:	4 L
<ul style="list-style-type: none"> • Linkage and crossing over • Linkage maps, lod score for linkage testing, mapping by 3 point test cross • Mapping by tetrad analysis in Yeast and <i>Neurospora</i> • Recombination: RecA, RecB, RecC, RecD; homologous and non-homologous • Somatic cell Genetics • Sex linkage, sex limited and sex influenced characters 	
5. Mutation:	2 L

- Mutation- types, causes and detection
- Mutant type- lethal, conditional, biochemical; loss of function, gain of function
- Germinal versus somatic mutants
- Insertional mutagenesis, Point mutagenesis

Credit-II: Microbial Genetics & Cytogenetics**15 Lectures****1. Microbial & Phage Genetics:**

5 L

- Methods of genetic transfers- transformation, conjugation and transduction in bacteria and genetic recombination
- Mapping of bacterial genome by interrupted mating
- Lytic and lysogenic cycles in phages, Types of transduction: Generalized and Specialized
- Site specific recombination in phage, Mapping the bacteriophage genome
- Fine structure analysis of rII gene in T₄ bacteriophage

2. Karyotype and Chromosome Banding:

2 L

- Preparation of chromosome for karyotype; Ideogram
- Role of karyotype in chromosome evolution and plant species identification
- Chromosome Banding Techniques

4. Structural alterations of chromosomes:

4 L

- Deletion, duplication, inversion, translocation,
- Complex translocation heterozygotes
- Robertsonian translocations, BA translocations,

3. Numerical alterations of chromosomes:

4 L

- Aneuploids: method of production, meiotic behavior, applications
- Polyploids: cytological and genetical method of identification of autopolyploids and allopolyploids, Applications.
- Evolutionary advantages of autopolyploids versus allopolyploids and their maintenance and utilization in gene mapping and gene.

Credit-III (1 Cr): Plant breeding**15 Lectures****1. Plant Breeding:**

3 L

Concept, Objectives and applications of plant breeding, Patterns of evolution in cultivate crop species, modern concepts in plant breeding : Targeting induced local lesions in genomes (TILLING), Unigenes, Pyramiding of genes and Phenomics

2. Plant Genetic Resources

5L

Historical perspectives and need for PGR conservation; Importance of plant genetic resources; Gene pool: primary, secondary and tertiary; Centres of origin and global pattern of diversity; Basic genetic resources and transgenes. Principles, strategies and practices of exploration, collection, characterization, evaluation and cataloging of PGR; Plant quarantine and phytosanitary certification; Principles of *in vitro* and cryopreservation. Germplasm conservation- *in situ*, *ex situ*, Registration of plant genetic resources and importance of NBPGR.

3. Methods in plant breeding:

4 L

Introduction, Selection, Hybridization, Back Cross, Test Cross, modes of pollination- Self & cross pollination mechanism, Pure line theory, pure line selection and mass selection methods; Line breeding, pedigree, bulk, single seed descent and multiline method; Inter-varietal and wide/distant crosses, Principles of combination breeding and its application.

4. Asexual reproduction in crop plants-

Reproduction and apomixes. Types and Applications of Apomixis, Selection methods in asexually propagated crops, *In vitro* Double haploids, Triploids

3 L

Credit IV :**15 lectures****5. Mutation Breeding:**

6 L

Mutation Breeding and its history - Nature and classification of mutations: spontaneous and induced mutations, micro and macro mutations, - Detection of mutations in lower and higher organisms – paramutations.

Mutagenic agents: Physical mutagens, Chemical mutagens mechanism of action of mutagens. Dose determination and factors influencing chemical mutagenesis, - Treatment methods using physical and chemical mutagens, Mutagen effects in M1 generation: plant injury, lethality, sterility, chimeras *etc.*, - Observing mutagen effects in M2 generation - Estimation of mutagenic efficiency and effectiveness. *In vitro* mutagenesis – callus and pollen irradiation; Handling of segregating generations and selection procedures; Validation of mutants.

6. Mutation breeding for various traits (disease resistance, insect resistance, quality improvement, etc) in different crops- Procedures for micromutations (oligogenic)

breeding/polygenic mutations. Use of mutagens in genomics, allele mining, TILLING 4 L

7. Breeding for nutritional traits

5 L

Breeding for special traits viz. oil, protein, vitamins, amino acids, elimination of toxic substances ; Concept of biopharming and development of varieties producing targeted compounds, nutraceuticals and industrial products; Success stories in vaccines, modified sugars, gums and starch through biopharming.

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23. Phundan Singh Plant Breeding Kalyani Publications
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27. Darbeshwar Roy Crop Evolution & Genetic Resources

Semester I

BODT 114: Botany Theory paper 4-Biofertilizer and Algal Technology

(2 Credits- 30 Lectures)

Credit I (1 Cr): Biofertilizer

15 Lectures

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|--|-----|
| 1. Introduction, Definition, need and significance of biofertilizers in agriculture | 2 L |
| 2. Types and scope of biofertilizers: Rhizobium, Azotobactor, Azospirillum, Phosphate solubilizing microorganisms, Cyanobacteria, Azolla, Mycorrhizae. | 5 L |
| 3. Production technology: Strain selection, multiplication, sterilization, large-scale biomass production of various strains. | 3 L |

4. Methods of Applications: Application for field and other crops, methods of application, quality control, agronomic importance. Application methods for different biofertilizers. 4 L
5. Use of Genetically Engineered Microorganisms for improvement of biofertilizers. 1 L

Credit II (1 Cr): Algal Technology**15 Lectures**

1. Introduction to Algal Technology 2 L
2. Potential of algae as food and feed, pigments, pharmaceuticals and nutraceuticals, fine chemicals and fuel. 4 L
3. Algal biofertilizers, seaweed fertilizers – method of preparation and application 2 L
4. Biodiesel from algae- cultivation and extraction methods 2 L
5. Biohydrogen production from algae. 1 L
6. Algal Products- SCP-Spirulina mass cultivation & applications, Agar production. 4 L

References:

1. Bio-fertilizers in Agriculture and Forestry, 1995, by N.S. SubbaRao
2. Biofertilizer Manual 2006 FNCA Biofertilizer Project Group Forum for Nuclear Cooperation in Asia (FNCA)
3. N.S. SubbaRao. 1995. Bio-fertilizers in Agriculture and Forestry.
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5. N.S. Subbarao, Advances in Agril. Microbiology by, Oxford and IBH Publication Co, New Delhi
6. Tilak, K.K. Pal, RinkuDey. Microbes For Sustainable Agriculture
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Semester I**BODT 114: Botany Theory paper 4- Pomoculture and Fruit Processing Technology****(2 Credits- 30 Lectures)****Credit-I (1 Cr): Introduction to Pomology****15 Lectures**

1. Scope and Importance of Fruit crops, Nutritive value of fruits in human nutrition, Classification of Fruits based on : climate adaptability, fruit morphology, Botanical Classification 3L

2. Present status of fruit growing :- In India and Maharashtra, Scope of fruit growing in India and Maharashtra, Importance of fruit growing 2L
3. Planning and Lay out of orchards: Location & site, Soil, Climate, Planning, Layout: Square system, Rectangular system, Hexagonal system, Quincunx system, Contour system 2L
4. Growth & Fruiting Habits: Growth & fruiting habits, Fruit bud differentiation, fruit setting, fruit drop, Seedlessness, cracking of fruits, problems of fruiting, Bahar treatment, Unfruitfulness, Pruning and Training, role of plant growth substances. 5L
5. Methods of Propagation: Vegetative and sexual Methods of propagation of Fruit trees, its advantages & Disadvantages 3L

Credit-II (1 Cr): Fruit Processing Technology**15 Lectures**

1. Harvesting: Maturity indices, Estimation of Maturity, Harvesting, Method of harvesting technology for ripening, greening, Post-Harvest Handling, Packaging, Storage 5L
2. Preservation of Fruits : 2L
Principles of Preservation, Methods of Preservation
3. Processing of Fruits : 6L
 - a. Value addition:
Preparation and preservation of Fruits: JAM, Jelly, Marmalade, Candy, Sauce & Ketchup, Pickle, fruit based carbonated juices, canning, pulp extraction, chutney, beverages like squashes, ready to serve (RTS) drinks and appetizer etc. from different fruits
 - b. Fermented products:
Production of alcoholic drinks like cider, wine, vermouth, vinegar etc is now an accepted practice for utilization of different fruits. Manufacture of champagne (sparkling wine), still wine and brandy from grapes
 - c. By Product Waste Utilization:
Pomace, Seeds, Stones/Pits skin, Peel : I) Pomace II) Vinegar Extracted from Mango peel, High fibre biscuits, Peel oil, pectin powder, peel candy and animal feed are some of the citrus peel products. Oil and fiber from oil palm.

4. Marketing of fruits: systems of marketing, export potential, air transport, transport by sea, cold storage of fruits 2L

References:

1. D. P Singh 2015. Fruit Crops : Published by Agrotech Press, Jaipur & New Delhi
2. Jitendrasingh 2014. Basic Horticulture, Published by Kalyani Publishers
3. S. N Gupta 2015. Instant Horticulture, 11th Edition, published by Jain Brothers.
4. Kunte Y. N, M. P Kawthalkar and K.S Yawalkar, 2005, Principles of Horticulture and Fruit Growing 10th edition, published by Agro-horticulture Publishing House, New Delhi
5. George Acquaah, 2009. HORTICULTURE: Principles & Practices, published by PHI Learning Pvt. Ltd.

Semester I

BODP 114: Botany practical⁴ based on BODT 114 Biofertilizer and Algal Technology

Practical (2 Credits)	60 Hours
1. Study of microorganisms used in biofertilizer production	1P
2. Isolation of Nitrogen fixing cyanobacteria	1P
3. Isolation of Phosphate solubilizing micro-organisms from rhizosphere	1P
4. Isolation of Rhizobium from root nodules of leguminous crop	1P
5. Culture establishment and production of Azolla biofertilizers.	2P
6. Mass multiplication of Rhizobium, Azotobacter, and Azospirillum inoculum	2P
7. Estimation of Phycobiliproteins from Cyanobacteria	1P
8. Study of production of algal fertilizers.	1P
9. Study of any six sea weeds with applications	1P
10. Isolation and culture of <u>Spirulina</u> .	1P

Semester I

BODP 114: Botany practical 4 based on BODT 114 Pomoculture and Fruit Processing Technology

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|---|----|
| 1. Study of Growth and Fruiting habit in any one locally cultivated fruit crop. | 1P |
| 2. Study of methods of Pruning and Training of fruit plants. | 1P |
| 3. Study of effect of Growth regulators in fruit ripening in Banana/Grapes/Mango. | 1P |
| 4. Study of methods of Propagation of fruit trees. | 1P |
| 5. Study Maturity indices and estimation of Maturity in locally grown Fruit plant. | 1P |
| 6. Study of Methods of Harvesting. | 1P |
| 7. Preparation of Jam, Jelly & Marmalade from Locally available fruits. | 1P |
| 8. Preparation of Squash, Candy. | 1P |
| 9. Demonstration of any one by-product of wastes of fruits. | 1P |
| 10. Visit to Fruit Processing Industry and preparation of Case study report on any one. | 1P |
| 11. Visit to fruit market and prepare report. | 1P |
| 12. Visit to Vineyard preparation of case study report on Vine Industry. | 1P |

Semester I

BOUP 115: Botany practical paper based on BOUT 111, BOUT 112, and BOUT 113

Practical based on BOUT 111-Plant Systematics I

Practical on Algae:

1. Morphological observations, documentation (description and illustrations) and classification according to Fritsch (1935) with reasons of taxa belonging to:
 - a. Any one member from Charophyta, Euglenophyta, Bascilariophyta and Chrysophyta, Cyanophyta. 1 P
 - b. Any three members from Phaeophyta, Chlorophyta and Rhodophyta. 2 P

Practical on Fungi:

2. Study of the representative genera belonging to following sub-divisions of fungi with respect to vegetative, reproductive structures and classification with reasons according to Ainsworth *et al* (1973).
 - a. Any one member from each Sub-divisions: Myxomycotina, Mastigomycotina and Zygomycotina 1P

- b. Any three members of each Sub-divisions: Ascomycotina and Basidiomycotina and Deuteromycotina. 2P

Practical on Bryophytes:

3. Morphological, anatomical and reproductive studies of the following members:
- a. Any three members from Hepaticopsida and one member from Anthocerotopsida 1 P
- b. Any four members from Bryopsida (Musci). 1 P

Practical based on BOUT 112: Cell Biology and Evolution

4. Study of mitosis and meiosis 2P
5. Study of polytene chromosome from Chironomous larvae 1P
6. Differential centrifugation for isolation of cell fractions- Nuclear fraction 1P
7. Isolation of Chloroplasts to study 1P
- a. Hill reaction to measure intactness,
- b. Chlorophyll estimation
8. Isolation of mitochondria for: 1p
- a. Estimation of succinic dehydrogenase activity
- b. Microscopic observations using MitoTracker Green FM/ MitoTracker Red 580/ Janus green B
9. Isolation of Lysosomal fraction and estimation of acid phosphatase activity 1P
10. Study of induced cell senescence in leaf discs & Study of programmed cell death in plants 1P
11. Study of different plant fossils & Geological Time Scale. 1P

Practical based on BOUT 113: Cytogenetics and Plant Breeding

12. Karyotype analysis, preparation of C- metaphase chromosomes of appropriate material (*Allium / Aloe*). 1P
13. Study of Meiotic configuration in *Rhoeo* buds 1P
14. Study of polygenic inheritance in any suitable material (Wheat/Maize etc.) 1P
15. Problems of population genetics: Estimation of gene and genotypic frequencies, PTC testing ability in humans 1P
16. Gene mapping, *Neurospora* tetrad analysis 1P
17. Problems on Mendelian Inheritance and analysis of F₂ data by Chi-square Test. 1P
18. Study of Polytene / Salivary gland Chromosomes from *Drosophilla / Chironomous* larva, with Balbiani rings, puff balls, bands & inter bands. 1P
19. Floral Biology, Study of Pollen Viability (any two major crops). Use of Colchicine for induction of polyploidy in appropriate plant material. 1P

Note: Visit to different plant diversity regions and visit to any plant breeding centre. Submission of report is Compulsory.

Semester II
BOUT 121: Botany Theory Paper 1- Plant Systematics II
(4 Credit- 60 Lectures)

Credit I (1 Cr): Pteridophytes

15 Lectures

1. Distinguishing Characters, Classification as per Sporne System (1975), Apospory, Apogamy, Stelar evolution, Heterospory and seed habit, Contributions of Indian and world Pteridologist (any three) **3L**
2. Distribution, Distinguishing Characters, Morphology and anatomy of sporophyte and gametophyte of following orders **11L**
 Psilotales, Lycopodiales, Selaginellales, Isoetales, Equisetales, Ophioglossales, Marattiales, Osmundales, Filicales, Marsileales and Salviniales.
3. Applications of Pteridophytes: medicinal, horticultural, biotechnological and secondary metabolites **1L**

Credit II (1.5 Cr) Gymnosperms

22 Lectures

1. Classification of gymnosperms by Raizada and Sahni (1960). **2 L**
2. Affinities of gymnosperms with Pteridophytes and Angiosperms. **2 L**
3. Distribution of gymnosperms worldwide and India. **1 L**
4. Economic aspects of gymnosperms **1 L**
5. General characters, morphology and affinities of **10L**
 Pteridospermales - *Glossopteris*
 Cycadeoidales - *Cycadeoidea*
 Pentoxylales - *Pentoxylon*
 Cordaitales - *Mesoxylon*
 Cycadales
 Ginkgoales
 Coniferales
 Gnetales
 Epherales
 Welwitschiales
6. Comparative account of morphology, anatomy, sporogenesis, gametogenesis, embryology, and interrelationship of Cycadales and Ginkgoales **4 L**

7. Seed development in Gymnosperms 2 L

Credit 1.5 III Angiosperms

23 Lectures

1. Characteristic features of angiosperms, Angiosperm as a dominant group 2 L
2. Importance and need for classification, hierarchical classification. Criteria used for classification; phases of plant classification. Overview on pre- and post-Darwinian systems of classification. 3 L
3. Phylogenetic systems of classification as per Cronquist (1981). 1 L
4. APG IV system of classification. 1 L
5. Phylogeny of Angiosperms: homology and analogy, parallelism and convergence, monophyly, paraphyly, polyphyly and clades, Phylogenetic tree and cladogram, Origin and evolution of angiosperms. 3 L
6. Study of plant families with respect to general characters, morphology, economic importance and affinities following Bentham and Hooker and APG system of classification
Amborellaceae, Nymphaeaceae, Hydatellaceae, Magnoliaceae, Araceae, Arecaceae, Papaveraceae, Amaranthaceae, Leguminosae, Malvaceae, Satalaceae, Acanthaceae, Asteraceae 13 L

References-

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IMPORTANT WEBSITES

THE FAMILIES OF FLOWERING PLANTS- L. Watson and M.J. Dallwitz

<https://www.delta-intkey.com/angio/index.htm>

ANGIOSPERM PHYLOGENY WEBSITE, version 14.

<http://www.mobot.org/MOBOT/research/APweb/>

THE PLANTS OF THE WORLD ONLINE PORTAL

<http://www.plantsoftheworldonline.org/>

INTERNATIONAL PLANT NAME INDEX (IPNI)

<https://www.ipni.org/>

TROPICOS

<https://www.tropicos.org/home>

BIODIVERSITY HERITAGE LIBRARY

<https://www.biodiversitylibrary.org/>

BOTANICUS DIGITAL LIBRARY

<https://www.botanicus.org/>

INTERNET ARCHIVE- DIGITAL LIBRARY

<https://archive.org/>

DATABASE OF PLANTS OF INDIAN SUBCONTINENT

<https://sites.google.com/site/efloraofindia/>

BOTANICAL SURVEY OF INDIA

https://bsi.gov.in/content/1416_1_FloraofIndia.aspx

FLOWERS OF INDIA

<http://www.flowersofindia.net/>

eFLORAS OF WORLD

<http://www.efloras.org/>

Semester II
BOU 122: Botany Theory Paper II- Molecular Biology
(4 Credit- 60 Lectures)

Credit I (1 Cr): Techniques and Tools in Molecular Biology **15 Lectures**

1. Introduction, Scope and Applications 1 L
2. Enzymes in molecular Biology 3 L
 - 1.1: DNA Degrading Enzymes: Nucleases- Endo-nucleases and Exo-nucleases
 - 1.2: DNA modifying enzymes: Polymerases, Ligases, Phosphatases and polynucleotide kinases, Phosphorylase, Methylase
3. Minor equipments: 2 L
 Vortex, magnetic stirrer, Micropipettes, Incubator, Microfuge, microwave oven, pouch sealer and refrigerator.
4. Major equipments: 5 L
 PCR - Thermal Cycler, Gel Documentation System, ELISA reader, Millipore Distillation Apparatus, Lyophilizer, Refractometer, Liquid handling system and Gene sequencer
5. Molecular Techniques: 4 L
 - 5.1. Polymerase Chain Reaction: quality of template DNA and overall reaction conditions
 - 5.2 Sequencing Techniques: DNA sequencing 1. Sanger's dideoxy chain termination sequencing method and 2. Maxam –Gilbert sequencing method
 - 5.3 Blotting techniques- Southern, Northern and Western blotting

Credit –II (1 Cr): DNA – Structure, Functions and Damage **15 Lectures**

1. DNA Structure, Forms of DNA (A, B, Z), Properties of DNA: chemical, physical, spectroscopic and thermal properties of DNA (e. g. Buoyant density, effect of acid and alkali, UV- absorption, hyperchromicity and hypochromicity),Dissociation and association kinetics, Cot – curve, C-value paradox. 4 L
2. Packaging of (DNA) genome e.g. Viruses, prokaryotic, eukaryotic, Organelles genome (Mitochondria and Chloroplast), structure of Nucleosome . 4 L
3. Replication: General factors of DNA replication, Replication apparatus, structure of DNA polymerases, Mechanism of replication in Prokaryotes and Eukaryotes, Regulation of replication and fidelity. 4 L
4. DNA damage and repair: Types of DNA damages, multiple repair pathway- Nucleotide excision repair, Base excision repair and Mismatch repair system. 3 L

Credit- III (1 Cr) Gene structure and Function **15 Lectures**

1. Gene Structure 3 L
 - a. Organization and structure of Prokaryotic and Eukaryotic gene:
 - b. Promotor, Initiator, Enhancer, Terminator, Classes of Promoter
2. Transcription 6 L
 - a. Transcription apparatus, Enzymes and factors involved in transcription
 - b. Transcription in Prokaryotes and Eukaryotes
 - c. RNA processing - m-RNA, r-RNA and t-RNA editing
 - d. Post – transcriptional events : Capping, Methylation, Polyadenylation, Splicing, Structure of spliceosome and Fidelity
3. Translation 6 L
 - a. Structure of m-RNA, r-RNA and t-RNA, Ribosomal assembly, Genetic code – Concept and Properties
 - b. Coenzymes and factors involved in translation
 - c. Mechanism of protein synthesis: Initiation, elongation and termination
 - d. Post – translational control, Protein folding and processing, Protein targeting, Chaperons and Post – translational modifications

Credit- IV (1 Cr): **15 Lectures**

1. Gene Regulation: Concept and importance , Positive and Negative regulation, Mechanism of regulation and concept: Lactose, Tryptophan and Arabinose 5 L
2. Transposable elements: Concept of Mobile DNA elements: Prokaryotes and Eukaryotes, Transposons, IS elements, SINES and LINES, Ac-Ds system in Maize, Examples of transposable elements, Importance of Transposons in Transposon mediated gene tagging. 5 L
3. Genomics and Proteomics: The human genome project: Clone by clone Strategy and Shotgun sequencing and applications of genomics, Objectives of Proteomics and Methodologies of proteomics (2D Gel Electrophoresis). 5 L

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1. Pal Jayanta and Saroj S. Ghaskadabi Fundamentals of Molecular Biology, Oxford Higher Education.
2. Lewin B. (2000). Genes VII. Oxford University Press, New York.
3. Alberts, B., Bray, D Lewis, J., Raff, M., Roberts, K and Walter (1999). Molecular Biology of the Cell. Garland Publishing, Inc., New York.
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6. Kleinsmith L.J and Kish V.M (1995). Principles of Cell and Molecular Biology (Second Edition). Harper Collins College Publishers, New York, USA.
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8. David Freifelder (1996). Essentials of Molecular Biology, Panima Publishing Company, New Delhi.
9. Malacinski G.M (2006) (Fourth Edition).Freifelders Essentials of Molecular Biology, Narosa Publishing House, New Delhi.
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11. Twyman R.M (2003) (Third Reprint).Advanced Molecular Biology. Viva Books Pvt. Ltd., New Delhi.
12. Watson J.D. et al. Molecular Biology of Gene. Forth Edition, Benjamin and Cummings Publishing Co., California.

Semester II

BOUT 123: Botany Theory Paper III- Biochemistry (4 Credit- 60 Lectures)

Credit-I (1 Cr): Fundamental aspects

15 Lectures

- | | |
|---|-----|
| 1. Water: Properties of water, Ionization of water | 3 L |
| 2. Buffers: pH, weak acids and weak bases, Handerson - Hasselback equation, buffers, buffer concentration & Biological Buffers. | 5 L |
| 3. Solutions: Molarity, Normality, Molality | 2 L |
| 4. Bioenergetics:Laws of Thermodynamics, free energy, energy changes, Redox reactions, chemical bonds. | 5 L |

Credit- II (1 Cr): Biomolecules

15Lectures

- | | |
|---|-----|
| 1. Carbohydrates: General classification, structure and properties of carbohydrates, synthesis and breakdown of glucose, starch and glycogen. | 5 L |
| 2. Lipids: General classification, structure and properties of lipids, types of lipids, biosynthesis and oxidation of lipids. | 4 L |
| 3. Nucleic acids: Structure and biosynthesis of purines and pyrimidines, structure of DNA and RNA | 6 L |

Credit III (1 Cr): Protein Biochemistry

15Lectures

- | | |
|--|-----|
| 1. Amino Acids: Classification, structure and properties of amino acids. | 2 L |
| 2. Proteins – Structure and Function, General classification, primary, secondary, tertiary and quaternary structures, Structure and function of myoglobin, keratin, haemoglobin, Ramchandran plot. | 5L |
| 3. Enzymology: General classification, mechanism of action, factors affecting enzyme activity, enzyme kinetics, Michaelis-Menton equation, competitive, non-competitive, uncompetitive inhibition. | 4L |
| 4. Nitrogen Metabolism: Nitrate and ammonium assimilation, nitrogen uptake, biological nitrogen fixation, NOD factors, <i>nif</i> genes, root nodulation and nitrogen fixation, leg heamoglobin. | 4L |

Credit-IV (1 Cr): Phytochemistry and Metabolomics**15Lectures**

1. Metabolomics: Overview of primary and secondary metabolites, integration of metabolism. 5L
2. Phytochemistry: Primary metabolites as precursors of secondary metabolites, study of secondary metabolites – structure, classification, properties and therapeutic plant sources, biosynthetic pathways - alkaloids, phenols, terpenes, glycosides, pigments. 6L
3. Phytochemical investigation: Extraction methods, qualitative and quantitative analysis of alkaloids, glycosides, terpenes, phenols, pigments. 4L

References:

1. Buchanan B. B., Gruissem W. and Jones R. L. (2000), *Biochemistry and Molecular Biology of Plants*, American Society of Plant Physiologists, Maryland, USA.
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5. Nobel P. S. (1998), *Physiochemical and Environmental Plant Physiology* (Second Edition), Academic Press, San Diego, USA.
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8. Taiz L. and Zeiger E. (2010), *Plant Physiology* (Fourth Edition), Sinauer Associates Inc. Publishers, Massachusetts, USA.
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11. Lehninger A. L. (1987), *Principles of Biochemistry*, CBS Publishers and Distributors (Indian Reprint).
12. Hapse and Acharya (1999), *Treaties on AgroElectronics and Agrophysics*, VSI.

Semester II**BODT 124: Botany Theory paper 4- Floriculture and Nursery Management**

(2 Credits- 30 Lectures)**Credit-I (Cr 1): Floriculture****15 Lectures**

1. Floriculture : Concept, definition, Scope and Importance of floriculture, global scenario of flowers, scope of floriculture in India 2L
2. Pre-requisites of commercial floriculture: soil and climate requirements, field preparation, systems of planting, water and nutrient management, weed management, rationing, training and pruning, pinching and disbudding, special horticultural practices, use of growth regulators, physiological disorders and remedies 3L
3. Harvesting and processing of flowers: harvesting indices, harvesting techniques, postharvest handling and grading, pre cooling, packing and storage, value addition, concrete and essential oil extraction, transportation and marketing, export potential, agri-export zones 5L
4. Commercial production of flowers: varietal wealth and diversity, climate, soil preparation, aftercare and manuring, pruning and training, harvesting, yield, important pests and diseases, control measures, harvesting, grading, packing and marketing, storage and transport, export potential of cut flowers: Chrysanthemum, Gerbera, Tuberose, Anthurium; Loose flowers- Scented Rose and Jasmine 5L

Credit II (Cr 1): Nursery Management**15 Lectures**

1. Introduction 1 L
2. Nursery Site: Types of Nurseries, Water, Location, Topography, Size of Nursery, Soil 2 L
3. Preparation of the Site: Clearing of surface, Removal of Top Soil, Erosion Control and Wind Damage, Surface Dressing, Shape, Fencing. 2 L
4. Design and Layout of Nursery: Administration Area, Operations Area, Production Areas, Germination Section, Transplanting Area. 2 L
5. Producing Plants from Seed: Seed Handling, Seed Procurement and Storage, Seed Dormancy and Pre-Treatment, Germination Process, Time of Sowing, Method of Sowing, Care of Seed Bed and Direct Sown Container, Transplanting the Young Seedlings, Light and Shade, Transplanting Natural Regeneration Seedlings, Tending the Seedlings, Watering, Germination Beds and Transplants, Weed Control. 4 L
6. Producing Plants Vegetatively: Cuttings, Air Layering, Grafting and Budding, Cleft or V Grafting, Shield or Inverted T-budding. 2 L
7. Growing Media: Growing Media for Propagation and Germination Beds, Growing Media for Transplant Beds, Growing Media for Container Seedlings, Organic Material, Compost, Mixing the Growing Media, Media Compaction in Pots, Mulching. 2 L

References:

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2. Bhattacharjee SK. 2006. Advances in Ornamental Horticulture. Vols. I-VI. Pointer Publ.

3. Bose TK & Yadav LP. 1989. Commercial Flowers. NayaProkash.
4. Bose TK, Maiti RG, Dhua RS & Das P. 1999. Floriculture and Landscaping. NayaProkash.
5. Chadha KL & Choudhury B. 1992. Ornamental Horticulture in India. ICAR.
6. Chadha KL. 1995. Advances in Horticulture. Vol. XII. Malhotra Publ. House.
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12. Evans Julian 1992. Plantation Forestry in the Tropics, Ch 10. Clarendon Press. Oxford.
13. Jaenicke, H. 1999. Practical Guidelines for Research Nurseries. International Centre for Research in Agroforestry. Nairobi, Kenya.
14. Mc.Donald, B. 1986. Practical Plant Propagation for Nursery Growers.
15. Schmidt, L. 2000. Guide to Handling of Tropical and Subtropical Forest Seed. DANIDA Forest Seed Centre.

Semester II

BODT 124: Botany Theory paper 4- Mushroom cultivation and Bio-pesticides

(2 Credits- 30 Lectures)

Credit-I (1 Cr): Mushroom culture

15 Lectures

- | | |
|---|-----|
| 1. History of mushroom cultivation | 1 L |
| 2. Present status of mushroom cultivation in India and abroad | 1L |
| 3. Edible and Poisonous mushrooms | 1L |
| 4. Nutritional and medicinal values of mushrooms | 2L |
| 5. Mushrooms spawn- spawning, running and cropping | 1L |
| 6. Cultivation of paddy straw mushroom- <i>Volvariella</i> and wood mushroom- <u>Lentinus</u> . | 2L |
| 7. Cultivation of Wheat straw mushroom- <i>Pleurotus</i> | 1L |
| 8. Cultivation of Button mushroom- <i>Agaricus</i> | 2L |
| 9. Management of pest in mushroom cultivation | 1 L |
| 10. Recipes of edible mushrooms | 1 L |
| 11. World commerce of mushrooms | 2 L |

Credit-II (1 Cr): Bio-pesticides

15 Lectures

- | | |
|--|-----|
| 1. Biological control of plant pathogens- concept and brief history | 2 L |
| 2. Antagonism- Mechanism of biocontrol- Amensalism, Predation, Parasitism | 2 L |
| 3. Applications of biological control in field- Crop rotation, irrigation, alteration of soil pH, Organic amendments, Introduction of Antagonists, Seed inoculation, Use of Mycorrhizal fungi and biofertilizers | 3 L |

- | | |
|--|-----|
| 4. Bacterial pesticides, Viral pesticides, Mycopesticides, Mycoherbicides, Mycoweedicides, Myconematicides, Insects as biocontrol agents | 3 L |
| 5. Botanical pesticides- Pyrethrum, Nicotine, Rotenone, Neem, Karanja | 3 L |
| 6. Commercialization of biopesticides | 2 L |

References

- | | |
|---|---------------------|
| 1. A Textbook of Biotechnology | - R.C. Dubey |
| 2. Biopesticides and pest management | - Dhaliwal and Kaul |
| 3. Introduction to mushroom science | - T. N. Kaul |
| 4. Beneficial fungi and their utilization | - M. C. Nair |
| 5. Beneficial fungi | - S. K. Sharma |
| 6. Mushroom cultivation | - Nita Bahl |

Semester II

BODP 124: Practical based on BODT 124 Floriculture and Nursery Management

Practical (2 Credits):

- | | |
|--|----|
| 1. Study of methods of post harvest technology for flowers (cut flowers) | 1P |
| 2. Study of different protective structures with respect to design, components, orientation and construction for cut flower production | 1P |
| 3. Study of special cultural practices for flower crops under protected structure | 1P |
| 4. Gerbera–identification and description of species/varieties – propagation and planting –pruning management | 1P |
| 5. Study of response of micronutrients and macronutrients on growth of cut flowers. | 1P |
| 6. Preparation of project on Cut flower production including diseases and Pests management. | 1P |
| 7. Preparation of Bed for nursery | 1P |
| 8. Study of different method of seed germination | 2P |
| 9. Preparation of growing media | 1P |
| 10. Study of Grafting and budding method | 1P |
| 11. Study of Air Layering and cutting method | 1P |

Note: Visit to any Local Nursery and Preparation of report is compulsory

BODP 124: Practical based on BODT 124 Mushroom cultivation and bio-pesticides Practical (2 Credits):

- | | |
|--|-----|
| 1. Morphology of any six mushrooms | 1 P |
| 2. Preparation of spawn for mushroom cultivation | 2 P |
| 3. Cultivation of Dhingri mushroom | 3 P |
| 4. Any six recipes of mushroom | 2 P |
| 5. Visit to mushroom industry and report preparation | 1 P |
| 6. Any six botanical pesticides | 2 P |
| 7. Mycoherbicides- <i>Aspergillus</i> , <i>Penicillium</i> to control <i>Alternanthera</i> ,
<i>Fusarium</i> to control water hyacinth. | 2 P |
| 8. Mycofungicides- Mycorrhizal fungi to control soil borne pathogens- <i>Trichoderma</i> to control soil borne pathogens. | 2 P |

Semester II

BOUP 125: Botany practical paper based on BOUT 121, BOUT 122, and BOUT 123

(4 Cr)

Practical based on BOUT 121: Plant Systematics II

- Studies on the families as per Bentham and Hooker's system of classification– any one example from each series available locally and their identification up to Genus and species level with the help of Regional Flora 4P
Dicotyledonae:
a) Polypetalae: Thalamiflorae, Disciflorae, Calyciflorae
b) Gamopetalae: Inferae, Heteromerae, Bicarpellatae
c) Monochlamydae: Curvembryae, Microembryae, Unisexuales
Monocotyledonae:
Epigynae, Coronariae, Calycinae, Glumaceae
- Morphological, anatomical and reproductive studies of the following with the help of live material/or herbarium specimens and/or museum specimens and/or permanent slides of the following orders: 2P
i) Cycadales
ii) Coniferales
iii) Gnetales
- Morphological, anatomical and reproductive studies of the following *Psilotum*, *Lycopodium*, *Selaginella*, *Equisetum*, *Pteris*, *Adiantum*, and *Marsilea* 2P
- Study of available fossils - At least 5 specimens from Gymnosperms and Pteridophytes. 1P

Practical Based on BOUT 122: Molecular Biology

- | | |
|--|-----|
| 1. Isolation and quantification of plant genomic DNA | 2 P |
| 2. Effect of temperature and alkali on absorption of DNA : hyperchromicity | 1 P |

3. Separation of seed storage proteins from legumes and its quantitative study and qualitative study by SDS-PAGE. 1 P
4. Electrophoretic separation of plasmid isoforms 1 P
5. Restriction digestion study of plasmid DNA and separation by Electrophoresis 2 P
6. Study of instruments or equipment's used in Molecular Biology techniques (by photographs / by power point / by Animation): PCR thermal cycler, Gel documentation system, ELISA reader, Millipore distillation apparatus, Lyophilizer, Refractometer 1 P

Practical Based on BOUT 123: Biochemistry

1. Preparation of solutions and buffers. 1P
2. Thin Layer chromatography- sugars, amino acids. 1P
3. Spectrophotometry: Absorption spectra of protein and nucleic acid. 1P
4. Effect of pH and enzyme concentration on enzyme activity. 1P
5. Defatting and dialysis of proteins 1P
6. Separation of seed storage proteins by SDS PAGE 2P
7. Estimation of proteins by Lowry and Bradford Method 1P

1.3 CURRICULUM ENRICHMENT

1.3.1 CROSS CUTTING ISSUES RELEVANT TO PROFESSIONAL ETHICS, GENDER, HUMAN VALUES, ENVIRONMENT AND SUSTAINABILITY INTO THE CURRICULUM

Sr. No.	Program Name	Course title and Code	Cross cutting issue addressed
1	F.Y.B.Sc. Math	Algebra (MT 111) Calculus-I (MT 112) Analytical Geometry (MT 121) Calculus-II (MT 122)	Computational skills
2	F.Y.B.Sc. Math	Mathematics Practical (MT 113) Mathematics Practical (MT 123)	Computational and Programming skills
3	F.Y.B.Sc. Statistics	Descriptive Statistics-I (ST 111) Discrete Probability and Probability Distributions – I (ST 112) Statistics Practical (ST 113) Descriptive Statistics-II (ST 121) Discrete Probability And Probability Distributions - II (ST 122) Statistics Practical (St 123)	Collection, Classification, Presentation and Analysis of data
4	S.Y.B.Sc.	Calculus Of Several Variables (MT 231) Numerical Methods And Its Applications (MT-232(A)) Linear Algebra (MT 241) Vector Calculus (MT-242(A))	Computational skills
5	S.Y.B.Sc.	Mathematics Practical (MT 233) Mathematics Practical (MT-243)	Computational and Programming skills
6	T.Y.B.Sc.	Operations Research (MT-355(A)) Optimization Techniques (MT-365(A))	Industrial skills
7	T.Y.B.Sc.	Programming in Python I (MT-3510). Latex for Scientific Writing (MT-3511) Programming in Python II (MT-3610) Mathematics into Latex(MT-3611)	Programming skills
8	F.Y.B.Com.	Business Mathematics and Statistics I and II (114A and 124A)	Computational and Industrial skills

SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)



M. Sc. Degree Course in
MICROBIOLOGY

Syllabus for M. Sc. Second Year for Colleges

Choice Based Credit System [CBCS]
2019 Pattern

Board of Studies (Microbiology)
Savitribai Phule Pune University [SPPU] Pune-411007

Title of the Course:**M.Sc. (Microbiology) Preamble:**

The main theme of teaching Microbiology courses is the application of basic principles of life sciences related to upcoming technology. Modern biology combines the principles of chemistry and biological sciences (Immunology, Molecular biology and Clinical Microbiology along with electives Cell Culture Techniques, Bioremediation and Biomass utilization and Microbial Virus Technology) with technological disciplines (engineering, computer science). The objective of the Master's Programme in Microbiology is to equip the students with updated knowledge of Pharmaceuticals like drug designing and drug development, molecular biology and Microbial technology.

The Board of Studies in Microbiology has identified the following thrust areas and prospective plans for syllabi reforms at postgraduate level:

- Immunology: It includes recent BRM therapy, tumor and its microenvironment and also immunological tolerance.
- Molecular Biology:
- Clinical Microbiology: It includes understanding various bacterial, viral, fungal and protozoal diseases with respect to causative agents, general characters, detection methods and prophylaxis.
- Pharmaceutical Microbiology: It provides recent advancements in drug discovery and drug development.
- Microbial Technology: It provides the knowledge of the latest strategies in fermentation.
- Research Methodology: It includes use of search engines for scientific data mining, use of reference management tools, statistical data analysis using software.

To enrich students' knowledge and train them in the above-mentioned areas; we feel certain topics in the present syllabus need to be supplemented and strengthened by inclusion of a few additional topics. Areas that need to be introduced in syllabi have been identified as:

➤ Immunology

➤ Clinical Microbiology

MSc Microbiology

➤ Advanced Molecular Biology Techniques

➤ Pharmaceutical Microbiology

➤ Microbial Technology

CBOS 2019 Pattern In addition, **Pattern** is a need that the students **M.Sc.** should be well acquainted with **Microbiology** methodology which includes different skill developments in scientific writing, data handling and processing, development of research ideas and planning / designing of research projects. The skill sets thus evolved will help the students in overall research. This syllabus aims to give the student a significant level of theoretical and practical understanding of the subject.

Introduction:

With the changing scenario, the syllabus orientation should be altered to keep pace with developments in the education sector. The need of the hour is proper syllabi that would emphasize on teaching of latest technological aspects as well as its applications in various sectors. Theory supplemented with laboratory expertise and hands-on training will help students to get better job opportunities. Both these aspects i.e theory as well as practical needs are considered, such that a postgraduate student can start working directly in different industries or institutions, without any additional training.

Thus, the college itself would try to develop trained and skilled manpower. The restructured syllabus will combine the principles of chemistry and biological sciences (molecular and cell biology, genetics, immunology, clinical Microbiology) with technological disciplines to produce goods and services and for wastewater treatment and management.

Microbiology curricula are operated at two levels viz. undergraduate and postgraduate. The undergraduate curricula are prepared to impart basic knowledge of the respective subject from all possible aspects. In addition, students are to be trained to apply this knowledge particularly in day- to-day applications of Microbiology and to get a glimpse of research.

Objectives to be achieved:

- To enrich students' knowledge and train them in life sciences
- To introduce the concepts of Nanobiotechnology
- To inculcate research aptitude
- To inculcate a sense of scientific responsibilities
- To help students build-up a progressive and successful career in Microbiology

Program Specific Outcome

The objectives of PG Microbiology are to get students familiarized to versatile tools and techniques employed in Molecular Biology. They are introduced to the concepts of Clinical Biology. The objective is also to inculcate research aptitude and carry out academic and applied research. They will gain an insight on Clinical Microbiology, Pharmaceutical Microbiology; Molecular biology, Microbial Virus Technology, Advances in Microbial Technology, Industrial waste water treatment and industrial production of vaccines.

Savitribai Phule Pune University
Syllabus for M. Sc. Microbiology Part II (2019 Pattern)
(Affiliated Colleges)

1. M. Sc. Second year Microbiology syllabus, equivalence with 2013 Pattern and assessment of credits:

1. A) M. Sc. Second year Microbiology Semester III syllabus and equivalence with 2013 Pattern:-

Course Type	2013 Pattern Course Code	2013 Pattern Course Name	2019 Pattern Course Code	2019 Pattern Course Name	2019 Pattern Corrected Course Code	
Core Compulsory Theory Papers	MB 701	Immunology	CCTP 7 (MB 701)	Immunology	MBCT 231	
	MB 702	Molecular Biology-I	CCTP 8 (MB 702)	Molecular Biology	MBCT 232	
	MB703	Industrial Waste Water Treatment	CCTP 9 (MB 703)	Clinical Microbiology	MBCT 233	
Core Compulsory Practical paper	MB711	Practical course based on Immunology, Pharmaceutical Microbiology and Environmental Microbiology	MBCP 3	Practicals based on Compulsory Theory Credits.	MBCP 234	
	MB712	Practical course based on Molecular Biology (I and II) and Microbial Technology	--	--	--	
Choice Based Optional Papers Elective/ Departmental Course Any one group	--	--	Group I	MBTE 31	Cell Culture Techniques	MBET 235
	--	--		MBPE 31	Practical based on Cell Culture Techniques	MBEP 235
	OR					
	--	--	Group II	MBTE 32	Bioremediation and Biomass utilization	MBET 236
	--	--		MBPE 32	Practical based on Bioremediation and Biomass utilization	MBEP 236
	OR					
	--	--	Group III	MBTE 33	Microbial Virus Technology	MBET 237
	--	--		MBPE 33	Practical based on Microbial Virus Technology	MBEP 237

1. B) M. Sc. Second year Microbiology syllabus semester III assessment of credits: -

Course Type	Course Code	Course Name	Credit	Assessment		
				IA	UA	Total
Core Compulsory Theory Papers (CCTP)	MBCT 231	Immunology	4	30	70	100
	MBCT 232	Molecular Biology	4	30	70	100
	MBCT 233	Clinical Microbiology	4	30	70	100
Core Compulsory Practical Paper	MBCP 234	Practicals based on Compulsory Theory Credits	4	30	70	100
Choice Based Optional Papers (CBOP)	MBET 235	Cell Culture Techniques	2	15	35	50
	MBEP 235	Practicals based on Cell Culture Techniques	2	15	35	50
Elective /Departmental Course	OR					
	MBET 236	Bioremediation and Biomass utilization	2	15	35	50
	MBEP 236	Practicals based on Bioremediation and Biomass utilization	2	15	35	50
	OR					
	MBET 237	Microbial Virus Technology	2	15	35	50
	MBEP 237	Practicals based on Microbial Virus Technology	2	15	35	50

1. C) M. Sc. Second year Microbiology Semester IV syllabus and equivalence with 2013 Pattern: -

Course Type	2013 Pattern Course Code	2013 Pattern Course Name	2019 Pattern New Course Code	2019 Pattern Course Name	2019 Pattern Corrected Course Code	
Core Compulsory Theory Papers	MB801	Pharmaceutical and medical Microbiology	CCTP 10 (MB 801)	Pharmaceutical Microbiology	MBCT 241	
	MB802	Molecular Biology II	-	-	-	
	MB803	Microbial Technology	CCTP 11 (MB 802)	Microbial Technology	MBCT 242	
Core Compulsory Practical paper	MB 811	Dissertation I	MBCP 4	Dissertation	MBCP 243	
	MB 812	Dissertation II	--	--	--	
Choice Based Optional Papers Elective/ Departmental Course Any two group	--	--	Group I	MBTE 41	Quality Assurance and Validation in Pharmaceutical Industry and Development Of Anti Infectives	MBET 244
	--	--		MBPE 41	Practicals based on Quality Assurance And Validation In Pharmaceutical Industry And Development Of Anti infectives	MBEP 244
	OR					
	--	--	Group II	MBTE 42	Advances in Microbial Technology	MBET 245
	--	--		MBPE 42	Practicals based on Advances in Microbial Technology	MBEP 245
	OR					
	--	--	Group III	MBTE 43	Industrial Waste Water Treatment and Industrial Production of Vaccines	MBET 246
	--	--		MBPE 43	Practicals based on Industrial Waste Water Treatment and Industrial Production of Vaccines	MBEP 246
	OR					
			Group IV	MBTE 44	Bioethics, Biosafety, Quality Control and Quality Assurance	MBET 247
				MBPE 44	Practicals based on Bioethics, Biosafety, Quality Control and Quality Assurance	MBEP 247

1. D) M. Sc. Second year Microbiology Semester IV assessment of credits:-

Course Type	Course Code	Course Name	Credit	Assessment		
				IA	UA	Total
Core Compulsory Theory Papers (CCTP)	MBCT 241	Pharmaceutical Microbiology	4	30	70	100
	MBCT 242	Microbial Technology	4	30	70	100
Core Compulsory Practical Paper	MBCT 243	Dissertation	4	30	70	100
Any Two: Choice Based Optional Papers (CBOP)	MBET 244	Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti infectives	2	15	35	50
	MBEP 244	Practicals based on Quality Assurance And Validation In Pharmaceutical Industry And Development Of Anti Infectives	2	15	35	50
Elective /Departmental Course	OR					
	MBET 245	Advances in Microbial Technology	2	15	35	50
	MBEP 245	Practicals based on Advances in Microbial Technology	2	15	35	50
	OR					
	MBET 246	Industrial Waste Water Treatment and Industrial Production of Vaccines	2	15	35	50
	MBEP 246	Practicals based on Industrial Waste Water Treatment and Industrial Production of Vaccines	2	15	35	50
	OR					
	MBET 247	Bioethics, Biosafety, Quality Control and Quality Assurance	2	15	35	50
	MBEP 247	Practicals based on Bioethics, Biosafety, Quality Control and Quality Assurance	2	15	35	50

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester III (2019 Pattern)

Course/ Paper Title	Immunology Core Compulsory Theory Paper
Course Code	MBCT -231
Semester	III
No. of Credits	4

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To enrich students' knowledge related to basic concepts of Immunology
2.	To aware students' about host immune response
3.	To acquaint students with the cell surface receptors present on various cells for signal transduction pathways.

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will understand the concepts of Immunology
2.	They will be able to understand the different effector mechanisms of host immune response
3.	This course will elucidate the concepts of signal transduction pathways to students

Core Compulsory Theory Paper

Total: 4 Credits

Workload: -15 hrs /credit

(Total Workload: - 4 credits x 15 hrs = 60 hrs in semester)

Credit	Credit Title and Contents	Lectures
Credit I	Cell surface molecules and receptors <ol style="list-style-type: none"> Definition, general Structure and mechanism (dimerization and rotation), components of signal transduction (extracellular signaling molecule, receptor proteins, intracellular signaling proteins and target proteins) Adhesion molecules in immune activation, structure and function of B Cell Receptor, TCR-CD3 complex, Toll-like receptors, Cytokine receptors, G-protein coupled receptors Signal transduction pathways: IL-2 pathway(JAK/STAT, Ras /MAP Kinase Pathways, TCR-CD3 activation pathway) 	15
Credit II	Regulation of Immune response <ol style="list-style-type: none"> Negative regulation-Immunological tolerance, Mechanisms of tolerance induction (related experimentation using transgenic animals), T cell mediated suppression of immune response Regulation of immune responses by antigen, Antigen-antibody complexes, Network theory and its experimental evidence Cytokine mediated cross regulation of TH subsets (TH1-TH2) Regulation of complement system – Classical and alternative pathway Biological Response Modifiers for cancer therapy and autoimmune disorders 	15
Credit III	Experimental Immunology <ol style="list-style-type: none"> <i>In vitro</i> systems – Quantification of cytokines (ELISPOT assay), functional assays for phagocytes and cytokines (cytotoxicity and growth assays) <i>In vivo</i> systems – Experimental animals in immunology research (Inbred animal strains, Knockout mice, transgenic animals), Animal models for autoimmunity and AIDS 	15
Credit IV	Tumor Immunology <ol style="list-style-type: none"> Cellular transformations during neoplastic growth, Classification of tumors based on histological, Tumors of lymphoid system (lymphoma, myeloma, Hodgkin's disease) Escape mechanisms of tumor from host defense, Host immune response to tumor – Effector mechanisms, Immuno- surveillance theory Diagnosis of tumors – biochemical and immunological tumor markers Approaches in cancer immunotherapy: Immune adjuvant and tumor vaccine therapy 	15

Suggested references MBCT 231 Immunology Semester III

Credit I	<p>Cell surface molecules and receptors</p> <ol style="list-style-type: none"> 1. Austyn J. M. and Wood K. J. (1993). Principles of Molecular and Cellular Immunology. First edition Oxford University Press, New York. 2. Barret J. T. (1983). Text Book of Immunology. Fourth edition. Saint Louis, Mosby, London. 3. Boyd W. C. (1966). Fundamentals of Immunology, Interscience Publishers, New York. 4. Gangal S. and Sontakke S. (2013). Textbook of Basic and Clinical Immunology. University Press, India. 5. Garcia K. C. and Adams E. J. (2005). How the T cell Receptor Sees Antigen- A Structural View. Cell. 122(3): 333–336. 6. Hafler D. A. (2007). Cytokines and interventional immunology, Nature Reviews, Immunology. 7(6): 423-423. 7. Kindt T. J., Osborne B. A. and Goldsby R. A. (2006). Kuby Immunology, Sixth edition, W. H. Freeman & Co. 8. Yoshimura A., Naka T. and Kubo M. (2007). SOCS proteins, cytokine signalling and immune regulation. Nature Reviews, Immunology, 7(6): 454-465.
Credit II	<p>Regulation of Immune response</p> <ol style="list-style-type: none"> 1. Abbas A. K. and Lichtman A. H. (2004). Basic Immunology. Functions and Disorders of Immune System. Second edition. Elsevier Inc. 2. Carroll M. C. (2004). The complement system in regulation of adaptive immunity. Nature Immunology. 5(10): 981-986. 3. Kindt T. J., Osborne B. A. and Goldsby R. A. (2006). Kuby Immunology. Sixth edition. W. H. Freeman & Co 4. Patwardhan B., Gautam M. and Diwanay S. (2006). Botanical immunomodulators and chemoprotectants in cancer therapy. In Drug Discovery and Development Volume I: Drug Discovery. Ed. Chorghade Mukund S. Wiley- Interscience, John Wiley and Sons Inc. USA. 405-424. 5. Roitt I. M. (1984) Essentials of Immunology. P. G. Publishers Pvt. Ltd., New Delhi. 6. Roitt I. M. 1988. Essentials of Immunology. ELBS, London. 7. Yoshimura A., Naka T. and Kubo M. (2007). SOCS proteins, cytokine signalling and immune regulation. Nature Reviews. Immunology. 7(6): 454-465
Credit III	<p>Experimental Immunology</p> <ol style="list-style-type: none"> 1. Gangal S. and Sontakke S. (2013). Textbook of Basic and Clinical Immunology. University Press, India. 2. House R. V. (1998). Therapeutic Manipulation of Cytokines, Biotechnology and Safety Assessment. Second edition. Taylor & Francis. 81-105. 3. Kindt T. J., Osborne B. A. and Goldsby R. A. (2006). Kuby Immunology. Sixth edition. H. Freeman and Co. 4. Mather J. P. and Roberts P. E. (1998). Introduction to Cell and Tissue Culture Theory and Technique. Plenum Publishing Corporation, New York.

CBCS: 2019	<p>5. Parrott I., Brostoff J. and Male D. (1993). Immunology. Sixth edition. Mosby & Co.London.</p> <p>6. Talwar G. P. (1983). Handbook of Immunology. Vikas Publishing Pvt. Ltd. New Delhi.</p> <p>7. Paul W. E. (2003). Fundamental Immunology. 5th Ed. Lippincott. Williams and Wilkins Publishers.</p>
Credit IV	<p>Tumor Immunology</p> <p>1. Bendelac A., Savage P. B. and Teyton L. (2007). The Biology of NKT Cells. Annu. Rev.Immunol. 25: 297–336.</p> <p>2. Chatterjee C. C. (1992). Human Physiology Tenth edition Vol. 1 and 2. Medical Allied Agency, Calcutta.</p> <p>3. Diwanay S., Gautam M. and Patwardhan B. (2004). Cytoprotection and Immunomodulation in Cancer Therapy. Current Medicinal Chemistry - Anti-Cancer Agents. 4(6): 479-490.</p> <p>4. Guyton A. C. and Hall J. E. (1996). Text Book of Medical Physiology. Goel Book Agency, Bangalore.</p> <p>5. Leen A. M., Rooney C. M. and Foster A. E. (2007). Improving T cell therapy for cancer. Annu Rev. Immunol. 25 (1): 243–265.</p> <p>6. Malati T. (2007). Tumor Markers: An Overview, Indian Journal of Clinical Biochemistry. 22(2): 17-31.</p> <p>7. Patwardhan B. Gautam M. and Diwanay S. (2006). Botanical Immunomodulators and Chemoprotectants in Cancer Therapy. In Drug discovery and development Volume I: Drug Discovery. Ed. Chorghade Mukund S. Wiley- Interscience, John Wiley and Sons Inc. USA. 405-424.</p> <p>8. Stuhler G. and Walden P. 2002. Cancer Immune Therapy - Current and Future Strategies. Wiley-VCH.</p>

Savitribai Phule Pune University (2019 Pattern)**Syllabus M.Sc. II Semester III**

Course/ Paper Title	Molecular Biology Core Compulsory Theory Paper
Course Code	MBCT -232
Semester	III
No. of Credits	4

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To enrich students' knowledge related to Molecular Biology
2.	To inculcate the concepts of cell and Molecular Biology of cancer
3.	To make students well acquainted with the concepts of RNA interference and RNA splicing

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	The concepts of Molecular Biology will be familiar to students
2.	Students will be able to understand the concept of Metabolomics.
3.	Detail knowledge about the concept and applications of transgenic plants and transgenic animals will be gained.

MBCT -232 Molecular Biology: Semester III Core Compulsory Theory Paper Total: 4 Credits Workload: -15 hrs /credit (Total Workload:- 4 credits x 15 hrs = 60 hrs. in semester)		
Credit	Description	Lectures
Credit I	1. Genomics a) Gene sequencing, conserved genes, finding base sequences which form genes b) Many proteins from one gene, alternative gene expression: DNA imprinting and Epigenetics. c) Genomic variation -SNPs, SNPS and diseases, SNPS detection and medical therapies. Eukaryotic and prokaryotic SNPs d) Role of genomic variation in aging, Recognition of trade offs associated with genomic variation.	15
Credit II	2. Genetically modified plants and animals a) Genetically modified organisms-social and ethical issues b) Gene augmentation and gene therapy c) Applications in medicine – prevention, early detection and cure of diseases d) Applications of transgenic plants and animals - advantages and disadvantages	15
Credit III	3. Mobile DNA elements a) Transposable elements in bacteria, IS elements, composite transposons, Integrons. b) Replicative, nonreplicative transposons, and Mu transposition c) Controlling elements in Tn A, Tn 5 and Tn 10 transposition d) Transposons in maize and Drosophila e) Retroviruses and retrotransposon, Ty elements in yeasts SINES, LINES and Alu elements	15
Credit IV	4. Proteomics a) Basic concept of proteomics Expression, analysis and characterization of Protein. b) Analysis of protein structure c) Protein interaction. d) Basic concept of Metabolomics with examples and global biochemical networks	15

Suggested References MBCT 232 Molecular Biology : Semester III

Credit I	<p>Genomics</p> <ol style="list-style-type: none"> Alwi Z. B. (2005). The Use of SNPs in Pharmacogenomics Studies. <i>Malays J Med Sci.</i> 12(2):4-12. Brown TA. (2002). Genomes. 2nd edition. Oxford: Wiley-Liss; Chapter 7, Understanding a Genome Sequence. Available from: https://www.ncbi.nlm.nih.gov/books/NBK21136/ Butler J. M. (2012). Single Nucleotide Polymorphisms and Applications In: Advanced Topics in Forensic DNA Typing: Methodology. Academic Press: United States.347-369 Isenbarger T.A., Carr C.E., Johnson S.S., et al. (2008). The most conserved genome segments for life detection on Earth and other planets. <i>Orig Life Evol Biosph.</i> 38(6): 517-533. Kaeberlein M. (2013). Longevity and aging. <i>F1000Prime Rep.</i> 5: 5. Lemaître J. F., Berger V., Bonenfant C., Douhard M., Gamelon M., Plard F. and Gaillard J.M. (2015). Early-late life trade-offs and the evolution of ageing in the wild. <i>Proc Biol Sci.</i> 7; 282(1806): 20150209. Morris B. J., Willcox B. J and Donlon T.A. (2019). Genetic and epigenetic regulation of human aging and longevity. <i>Biochim Biophys Acta Mol Basis Dis.</i> 1; 1865(7): 1718-1744. Primrose S. B. and Twyman R. M. (2006). Principles of Gene Manipulation and Genomics, 7th Edition. S. B. Primrose & R. M. Twyman. Blackwell Publishing: U.S. 626 pp. Ramírez-Bello J. and Jiménez-Morales M. (2017). Functional implications of single nucleotide polymorphisms (SNPs) in protein-coding and non-coding RNA genes in multifactorial diseases. <i>Gac Med Mex.</i> 153(2): 238-250. Shaw V., Bullock K. And Greenhalf W. (2016). Single-Nucleotide Polymorphism to Associate Cancer Risk. <i>Methods Mol Biol.</i> 1381: 93-110. Stojanovic N., Florea L., Riemer C., Gumucio D., Slightom J., Goodman M., Miller W., and Hardison R. (1999). Comparison of five methods for finding conserved sequences in multiple alignments of gene regulatory regions, <i>Nucleic Acids Research</i>, 27 (19)1: 3899–3910. Watson J. D., Baker T. A., Gann A., Bell S. P., Levine M. and Losick R. (2014). <i>Molecular Biology of the Gene.</i> 7th Edition. Pearson-USA Yashin A. I., Ukraintseva S. V., Akushevich I. V., Arbeevev K. G., Kulminski A. and Akushevich L. (2009). Trade-off between cancer and aging: what role do other diseases play? Evidence from experimental and human population studies. <i>Mech Ageing Dev.</i> 130(1-2): 98-104
Credit II	<p>Genetically modified plants and animals</p> <ol style="list-style-type: none"> Agnès E. Ricroch, Michèle Guillaume-Hofnung and Marcel Kuntz (2018). The ethical concerns about transgenic crops. <i>Biochem J</i> 475 (4): 803–811. Cotrim A.P. and Baum B. J. (2008). Gene therapy: some history, applications, problems, and prospects. <i>Toxicol Pathol.</i> 36(1): 97-103. Gene Therapy Tools and Potential Applications- Francisco Martin Molina

CBCS: 2019 Pat (2013).	<p>Janeza Trdine 9, 51000-Rijeka, Croatia (online book) Microbiology</p> <ol style="list-style-type: none"> 4. Glick B. R. and Pasternak J. J. (1998). <i>Molecular Biotechnology: Principles and Applications of Recombinant DNA</i>. Washington D C, ASM Press. http://library.um.edu.mo/ebooks/b28045804.pdf 5. Maghari B. M. and Ardekani A.M. (2011). Genetically modified foods and social concerns. <i>Avicenna J Med Biotechnol</i>. 3(3): 109-17. 6. Ormandy E.H., Dale J. and Griffin G. (2011). Genetic engineering of animals: ethical issues, including welfare concerns. <i>Can Vet J</i>. 52(5): 544-550. 7. Weaver R. (2007). <i>Molecular Biology</i>. 4th Edition. Mc-Grew Hill Publication 8. Worgall S. and R. G. (2014). <i>Gene Therapy In: Principles of Tissue Engineering (Fourth Edition)</i>. Academic Press: United States. Chapter 34. 657-686.
Credit III	<p>Mobile DNA elements</p> <ol style="list-style-type: none"> 1. Carnell A. M. and Goodman J.I. (2003). The Long (LINEs) and the Short (SINEs) of It: Altered Methylation as a Precursor to Toxicity. <i>Toxicological Sciences</i>. 75(2): 229–235 2. Griffiths A. J. F., Gelbart W. M., Miller J. H., et al. (1999). <i>Modern Genetic Analysis</i>. New York: W. H. Freeman; Ty Elements in Yeast. Available from: https://www.ncbi.nlm.nih.gov/books/NBK21285/ 3. Kaminker J.S., Bergman C.M., Kronmiller B. <i>et al.</i> (2002). The transposable elements of the <i>Drosophila melanogaster</i> euchromatin: a genomics perspective. <i>Genome Biol</i> 3, research0084.1 (2002). 4. Konkel M. K., Walker J. A. and Batzer M. A. (2010). LINEs and SINEs of primate evolution. <i>Evol Anthropol</i>. 1; 19(6): 236-249. 5. Kramerov D. A. and Vassetzky N. S. (2011). Origin and evolution of SINEs in eukaryotic genomes. <i>Heredity (Edinb)</i>. 107(6): 487-95. 6. Krastanova O, Hadzhitodorov M. and Pesheva M. (2005). Ty Elements of the Yeast <i>Saccharomyces Cerevisiae</i>, <i>Biotechnology & Biotechnological Equipment</i>, 19(2): 19-26 7. Lewin B. (2011). <i>Genes X</i>. Jones and Bartlett Publication. 8. Lodish H. F. (2003). <i>Molecular Cell Biology</i> 5th Edition. New York: W H and Freeman Company. 9. Reddy, A.R., Peterson, P.A. Transposable elements of maize. <i>Molec Gen Genet</i> 192: 21–31 10. Watson J. D., Baker T. A., Gann A., Bell S. P., Levine M. and Losick R. (2014). <i>Molecular Biology of the Gene</i>. 7th Edition. Pearson-USA 11. Weiner A. M. (2002). SINEs and LINEs: The art of biting the hand that feeds you. <i>Current Opinion in Cell Biology</i>. 14(3): 343-350
Credit IV	<p>Proteomics</p> <ol style="list-style-type: none"> 1. Baidoo E. E. K. (2019). Microbial Metabolomics: A General Overview. <i>Methods Mol Biol</i>. 1859: 1-8. 2. Banaei-Esfahani A, Nicod C, Aebersold R, Collins BC. (2017). Systems proteomics approaches to study bacterial pathogens: application to Mycobacterium tuberculosis. <i>Curr Opin Microbiol</i>. 39:64-72. 3. Chen B, Zhang D, Wang X, Ma W, Deng S, Zhang P, Zhu H, Xu N, Liang S. (2017). Proteomics progresses in microbial physiology and clinical antimicrobial therapy. <i>Eur J Clin Microbiol Infect Dis</i>. 36(3): 403-

4. Chen F, Ma R, Chen XL. (2019). Advances of Metabolomics in Fungal Pathogen-Plant Interactions. *Metabolites*. 15; 9(8): 169.
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<https://analyticalscience.wiley.com/do/10.1002/sepspec.10201education/full/>
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12. Ramanathan M., Porter D.F. and Khavari P.A. (2019). Methods to study RNA-protein interactions. *Nat Methods*. 16(3): 225-234.
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14. Villas-Bôas S. (2012). *Katya Ruggiero Microbial Metabolomics* CABI.
15. Webster D. (2000). *Protein Structure, Prediction methods and Protocols*. *Methods in Molecular Biology* Vol 143 Humana Press.
16. Wilson K. And Walker J. (2005). *Principles and Techniques of Biochemistry and Molecular Biology*, 6th Edn., Cambridge University Press, New York.
17. Zhao J., Wang G., Chu J. and Zhuang Y. (2019). Harnessing microbial metabolomics for industrial applications. *World J Microbiol Biotechnol*. 36(1): 1-8.

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester III (2019 Pattern)

Course/ Paper Title	Clinical Microbiology Core Compulsory Theory Paper
Course Code	MBCT -233
Semester	III
No. of Credits	4

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To enhance students' knowledge related to Clinical Biology
2.	To inculcate the basic principles and application relevance of clinical disease.
3.	To aware and understand the details about bacterial, viral, fungal and protozoal pathogens related with infectious diseases in humans.

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	The concepts of medical microbiology and medically important micro-organisms will add on to students knowledge.
2.	Pupil will get to know about knowledge of morphology, cultural characteristics, biochemical tests, epidemiology, laboratory diagnosis etc of bacterial pathogens
3.	They will also understand the basics and applications of various chemotherapeutic agents and their mode of action

Core Compulsory Theory Paper

Total: 4 Credits

Workload: -15 hrs. /credit

(Total Workload: - 4 credits x 15 hrs. = 60 hrs. in semester)

Credit	Credit Title and Content	Lectures
Credit I	<p>A. Determinants of Microbial Pathogenicity</p> <ul style="list-style-type: none"> i. Adhesion ii. Invasion iii. Evasion iv. Toxigenesis (mode of action –In vivo and Invitro assay systems for diphtheria, cholera, tetanus toxoid and endotoxins of Gram negative bacteria) v. Bacterial resistance to host defenses- Phagocytosis, specific and nonspecific humoral factors) vi. Molecular basis of bacterial pathogenicity – Cytoskeletal modulation of host cell. Virulence genes and pathogenicity islands. 	15
	<p>B. Disease Prediction Epidemiological Models:</p> <ul style="list-style-type: none"> i. Introduction to epidemiological modeling for infectious disease dynamics ii. Types of Models: <ul style="list-style-type: none"> a. Susceptible infectious recovered (SIR) b. Susceptible exposed infectious recovered(SEIR) iii A case study: Disease Prediction Epidemiological Models COVID 19 	
Credit II	<p>Bacterial diseases with respect to causative agents, general characters, detection methods, therapeutic agents and prophylaxis. Handling and disposing of infectious material</p> <ul style="list-style-type: none"> i. <i>Helicobacter pylori</i> ii. <i>Campylobacter jejuni</i> iii. <i>Mycobacterium tuberculosis</i> iv. <i>Acinetobacter baumannii</i> v. <i>Actinomyces bovis/israelii</i> 	15
Credit III	<p>Viral diseases with respect to causative agents, general characters, detection method, therapeutic agents and prophylaxis. Handling and disposing of infectious material.</p> <ul style="list-style-type: none"> i. Hepatitis B ii. H1N1 iii. HIV iv. Oncoviruses v. Ebola Virus 	15

Credit IV	CBCS: 2019 Pattern M.Sc. Microbiology	15
	<p>Fungal and protozoal diseases with respect to causative agents, general characters, detection methods, therapeutic agents and prophylaxis.</p> <p>Handling and disposing of infectious material</p> <ol style="list-style-type: none"> i. <i>Candida albicans</i> ii. <i>Trichophyton metagrophytes</i> iii. <i>Aspergillus flavus</i> iv. <i>Entamoeba histolytica</i> v. <i>Ascaris lumbricoides</i> vi. <i>Giardia lamblia</i> 	

Suggested References MBCT 233 Clinical Microbiology Semester III	
Core Compulsory Theory Paper	
Credit	References
Credit I	<p>A. Determinants of Microbial Pathogenicity</p> <ol style="list-style-type: none"> 1. Gal-Mor B. and Finlay B. B. (2006). Pathogenicity islands: a molecular toolbox for bacterial virulence. <i>Cellular Microbiology</i>. 8 (11): 1707-1719. 2. Iglewski B. H. (1990). <i>Molecular Basis of Bacterial Pathogenesis</i>, first edition, Academic Press: United States. 3. Kudva I. T., Cornick N. A., Plummer P. J., Zhang Q., T. L., Bannantine J.P. and Bellaire B. H. (2016). <i>Virulence Mechanisms of Bacterial Pathogens</i>. Fifth Edition, ASM: Washington. 4. Peterson J. W. (1996). <i>Bacterial Pathogenesis In: Medical Microbiology</i>. 4th Edition. Editor by Samuel Baron, Galveston, Texas, Link to the book: https://www.ncbi.nlm.nih.gov/books/NBK8526/ 5. Rosenberg E. (2005). The diversity of bacterial pathogenicity mechanisms. <i>Genome Biol.</i> doi: 10.1186/gb-2005-6-5-320 6. Schmidt H. and Hensel M. (2004) Pathogenicity islands in bacterial pathogenesis. <i>Clin Microbiol Rev.</i> 17(1): 14-56. <p>B. Disease Prediction Epidemiological Models:</p> <ol style="list-style-type: none"> 1. Hethcote H. W. (1989). The basic epidemiology models: models, expressions for r_0, parameter estimation, and applications mathematical understanding of infectious disease dynamics. © World Scientific Publishing Co. Pte. Ltd. 1-61 2. Li L., Yang Z., Dang Z., Meng C., Huang J., Meng H., Wang D., Chen G., Zhang J., Peng H. and Shao Y. (2020). Propagation analysis and prediction of the COVID-19. <i>Infect Dis Model</i>, 5: 282-292 3. Siettos C.I. and Russo L. (2013). Mathematical modeling of infectious disease dynamics. <i>Virulence</i>. 4(4): 295-306. 4. Wearing H. J., Rohani P. and Keeling M. J. (2005). Appropriate models for the management of infectious diseases. <i>PLoS Med</i> 2(7): e174 5. Yang Z., Zeng Z., Wang K., Wong S., <i>et al.</i>, (2020). Modified SEIR and AI prediction of the epidemics trend of COVID-19 in China under public health interventions. <i>Journal of Thoracic Disease</i>. 12(3): 165-174

Credit
II

1. Asif M., Alvi I.A. and Rehman S.U. (2018). Insight into *Acinetobacter baumannii*: pathogenesis, global resistance, mechanisms of resistance, treatment options, and alternative modalities. *Infect Drug Resist.* 11:1249-1260.
<https://www.intechopen.com/books/mycobacterium-research-and-development/virulence-factors-and-pathogenicity-of-mycobacterium>.
2. Delogu G., Sali M. and Fadda G. (2013). The biology of *Mycobacterium tuberculosis* infection. *Mediterr J Hematol Infect Dis.* 16; 5(1): e2013070.
3. Echeverria-Valencia G., Flores-Villalva S. and Espitia C.I. (2017). Virulence Factors and Pathogenicity of *Mycobacterium*. Chapter 12. *Mycobacterium - Research and Development*. Editor-Wellman Ribón, IntechOpen.
4. Idowu A., Mzukwa, A., Harrison, U., Palamides P., Haas R., Mbaio M., Mamdoo R., Bolon J., Jolaiya T., Smith S., Ally R., Clarke A. and Njom H. (2019). Detection of *Helicobacter pylori* and its virulence genes (*cagA*, *dupA* and *vacA*) among patients with gastroduodenal diseases in Chris Hani Baragwanath Academic Hospital, South Africa. *BMC Gastroenterol.* 19:73.
5. Jianjun S., Champion P. A. and Bigi F. (2019). Cellular and Molecular Mechanisms of *Mycobacterium tuberculosis* Virulence. *Frontiers in Cellular and Infection Microbiology.* 9:331.
6. Joly-Guillou ML. (2005). Clinical impact and pathogenicity of *Acinetobacter*. *Clin Microbiol Infect.* 11(11):868-873.
7. Kao C. Y., Sheu B. S. and Wu J. J. (2006). *Helicobacter pylori* infection: An overview of bacterial virulence factors and pathogenesis. *Biomedical Journal.* 39(1): 14-23
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11. Misawa N. and Blaser M. J. (2000) Detection and characterization of autoagglutination activity by *Campylobacter jejuni*. *Infection and Immunity.* 68(11): 6168-6175.
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Credit III	<ol style="list-style-type: none"> 1. Chauhan N., Narang J., Pundir S., Singh S. and Pundir C. S. (2012). Laboratory diagnosis of swine flu: A review. <i>Artificial cells, blood substitutes and immobilizationbiotechnology.</i> 41(3): 189-195 2. Chisari F.V., Isogawa M. and Wieland S.F. (2010). Pathogenesis of Hepatitis B virus infection. <i>Pathol Biol (Paris).</i> 58(4): 258-66. 3. Falasca L., Agrati C., Petrosillo N., Di Caro A., Capobianchi M. R., Ippolito G. and Piacentini M. (2015). Molecular mechanisms of Ebola virus pathogenesis: focus on celldeath. <i>Cell Death Differ.</i> 22(8): 1250-1259. 4. Jilani T. N., Jamil R. T. and Siddiqui A. H. (2020). H1N1 Influenza (Swine Flu) In: StatPearls [Internet]. Treasure Island (FL): StatPearls. Available from: https://www.ncbi.nlm.nih.gov/books/NBK513241/ 5. Kawai Y., Kimura Y., Lezhava A, <i>et al.</i> (2012). One-step detection of the 2009 pandemic influenza A (H1N1) virus by the RT-SmartAmp assay and its clinicalvalidation. <i>PLoS One.</i> 7(1): e30236. 6. Khalafallah M. T., Aboshady O. A., Moawed S. A. and Ramadan M. S. (2017). Ebola virusdisease: Essential clinical knowledge. <i>Avicenna J Med.</i> 7(3): 96-102. 7. Krajden M., McNabb G. and Petric M. (2005). The laboratory diagnosis of Hepatitis Bvirus. <i>Can J Infect Dis Med Microbiol.</i> 16 (2): 65-72 8. Ravina R., Dalal A, Mohan H., Prasad M. and Pundir C.S. (2020). Detection methods for influenza A H1N1 virus with special reference to biosensors: a review. <i>Biosci Rep.</i> 40(2): BSR20193852 9. Rewar S., Mirdha D. and Rewar P. (2015). Treatment and prevention of pandemic H1N1 influenza. <i>Ann Glob Health.</i> 81(5): 645-653. doi:10.1016/j.aogh.2015.08.014. 10. Simon V., Ho D.D. and Abdool Karim Q. (2006). HIV/AIDS epidemiology, pathogenesis, prevention, and treatment. <i>Lancet.</i> 5; 368(9534):.489-504. 11. Sullivan N., Yang Z.Y. and Nabel G. J. (2003). Ebola virus pathogenesis: implications for vaccines and therapies. <i>J Virol.</i> 77(18): 9733-9737. 12. Wilkins T., Sams R. and Carpenter M. (2019). Hepatitis B: Screening, prevention, diagnosis, and treatment. <i>Am Fam Physician.</i> 99(5): 314-323. 13. Wu C.C., Chen Y.S., Cao L., Chen X.W. and Lu M.J. (2018). Hepatitis B virus infection: Defective surface antigen expression and pathogenesis. <i>World J Gastroenterol.</i> 21; 24(31): 3488-3499.
Credit IV	<ol style="list-style-type: none"> 1. de Lima Corvino D.F. and Horrall S. Ascariasis.(2020). In: StatPearls [Internet]. Treasure Island (FL): StatPearls Available from: https://www.ncbi.nlm.nih.gov/books/NBK430796/ 2. Elewski B.E. (1998). Onychomycosis: pathogenesis, diagnosis, and management. <i>ClinMicrobiol Rev.</i> 11(3): 415-29.

CBCS: 2019	<p>3. Farthing M. J. G. (1993). Pathogenesis of giardiasis. <i>Transactions of The Royal Society of Tropical Medicine and Hygiene</i>. 87(3): 17–21.</p> <p>4. Hedayati M. T., Pasqualotto A. C., Warn P. A., Bowyer P. and Denning D. W. (2007) <i>Aspergillus flavus</i>: human pathogen, allergen and mycotoxin producer. <i>Microbiology</i>. 153(Pt 6): 1677-1692.</p> <p>5. Hooshyar H., Rostamkhani P., Arbabi M. and Delavari M. (2019) <i>Giardia lamblia</i> infection: review of current diagnostic strategies. <i>Gastroenterol Hepatol Bed Bench</i> 12(1): 3-12.</p> <p>6. Jabra-Rizk M. A., Kong E. F., Tsui C., Nguyen M. H., Clancy C. J., Fidel P. L., Jr. and Noverr M. (2016). <i>Candida albicans</i> Pathogenesis: Fitting within the Host-Microbe Damage Response Framework. <i>Infect Immun</i>. 84(10): 2724-2739.</p> <p>7. Kantor M., Abrantes A., Estevez A, Schiller A., Jose Torrent J., Gascon J., Hernandez R. and Ochner C. (2018). <i>Entamoeba Histolytica</i>: Updates in clinical manifestation, pathogenesis, and vaccine development. <i>Can J Gastroenterol Hepatol</i>. 4601420.</p> <p>8. Kaufman G., Horwitz B. A., Duek L., Ullman Y. and Berdicevsky I. (2007). Infection stages of the dermatophyte pathogen <i>Trichophyton</i>: microscopic characterization and proteolytic enzymes. <i>Medical Mycology</i>. 45(2): 149-155.</p> <p>9. Martins N., Ferreira I., Barros L., Silva S. and Henriques M. (2014). Candidiasis: Predisposing factors, prevention, diagnosis and alternative treatment. <i>Mycopathologia</i>. 177 (5-6): 223-240</p> <p>10. Petri W. A., Jr. and Singh U. (1999). Diagnosis and Management of Amebiasis. <i>Clinical Infectious Diseases</i>. 29(5): 1117–1125.</p> <p>11. Rudramurthy S. M., Paul R. A., Chakrabarti A., Mouton J. W. and Meis J. F. (2019). Invasive Aspergillosis by <i>Aspergillus flavus</i>: Epidemiology, diagnosis, antifungal resistance, and management. <i>J Fungi (Basel)</i>. 5(3): 55</p> <p>12. Rumsey P. and Waseem M. (2020). <i>Giardia Lamblia</i> Enteritis In: StatPearls [Internet]. Treasure Island (FL): StatPearls Available from: https://www.ncbi.nlm.nih.gov/books/NBK531495/</p> <p>13. Scott M. (2008). <i>Ascaris lumbricoides</i>: a review of its epidemiology and relationship to other infections. <i>Annales Nestlé (English Ed.)</i>. 66. 7-22.</p>
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Savitribai Phule Pune University (2019 Pattern)**Syllabus M.Sc. Microbiology II Semester III**

Course/ Paper Title	Practicals based on Immunology, Molecular Biology and Clinical Microbiology Core Compulsory Practical Paper
Course Code	MBCP -234
Semester	III
No. of Credits	4

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To make students familiar to Techniques in Immunology
2.	To make them aware about Molecular Biology techniques
3.	To attain some expertise in techniques in Clinical Microbiology

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Familiarity about techniques Immunology will be increased among students
2.	They will learn about Molecular Biology techniques
3.	Students will be acquainted with techniques in Clinical Microbiology

MBCP 234: Practicals based on Immunology, Molecular Biology and Clinical Microbiology - Semester III		
Core Compulsory Practical Paper		
Total Workload: - 4 credits = 120 hrs. in semester		
Units	Description	Lectures
Unit I	Practicals based on MBCT 231: Immunology 1. Precipitation reactions of Antigen - Antibody: Single radial diffusion. 2. Rocket Immuno - electrophoresis 3. Preparation of serum from the blood sample and analysis of its proteins by electrophoresis a) Preparation of serum from whole blood sample. b) Separation of serum proteins by agarose gel electrophoresis. c) Analysis of separated protein fractions by densitometry (by Image J software). 4. Demonstration of Western Blotting 5. Visit to institute/industry for demonstration of ELISPOT/CFT/FACS/animal inoculation	40
Unit II	Practicals based on MBCT 232 Molecular Biology 1. Isolation of Plasmid from Bacteria by Alkaline lysis method 2. Preparation of competent cells by CaCl ₂ method 3. To Perform Transformation by using suitable Plasmid 4. To check the efficiency of transformation using Blue white screening method 5. Demonstration of gene transfer by bacterial conjugation	40
Unit III	Practicals based on MBCT 233: Clinical Microbiology A. Isolation, identification and antibiotic sensitivity testing of (any three) 1. <i>Actinomycetes</i> 2. <i>Acinetobacter</i> 3. <i>Clostridium</i> 4. <i>Corynebacterium</i> 5. <i>Vibrio</i>	21
	B. Isolation, identification and antibiotic sensitivity testing of (any two) 1. <i>Candida albicans</i> 2. <i>Trichophyton mentagrophytes</i> 3. <i>Aspergillus flavus</i>	14
	C. Demonstration of cultivation of viruses by egg inoculation technique with pock and plaque detection	05

Semester III

Unit	References
Unit I	<ol style="list-style-type: none"> 1. Axelsen N. H., Kroll J. and Weeke B. (1973). A manual of quantitative immunoelectrophoresis: methods and applications. Scand. J. Immunol. 2(Suppl. 1): 37- 46 2. Galvão de França N.D., Cristovão Poli M.C., Almeida Ramos P.G., Rocha Borsoi C.S. and Colella R. (2011). Titers of ABO antibodies in group O blood donors. Rev Bras Hematol Hemoter. 33: 259–262 3. Kang S.J., Lim Y.A. and Baik S.Y. (2014). Comparison of ABO antibody titers on the basis of the antibody detection method used. Ann Lab Med. 34: 300–306. 4. Laurell C. B. (1966). Quantitative estimation of proteins by electrophoresis in agarose gel containing antibodies. Anal. Biochem. 15: 45–52 5. Vaerman J. P. (1981). Single radial immune diffusion, in methods in enzymology: 73(Langone, J. J. And Van Vunakis, H, Eds.) New York: 291-305.
Unit II	<ol style="list-style-type: none"> 1. Green M. R. and Sambrook J. (2018). The Hanahan Method for Preparation and Transformation of Competent <i>Escherichia coli</i>: High-Efficiency Transformation. ColdSpring Harb Protoc. (3): 10. 2. Griffiths A. J. F., Miller J. H., Suzuki D. T., et al. (2000). An Introduction to Genetic Analysis. 7th edition. New York: W. H. Freeman; Bacterial conjugation. https://www.ncbi.nlm.nih.gov/books/NBK21942/ 3. Phornphisutthimas S., Thamchaipenet A. and Panijpan B. (2007). Conjugation in <i>Escherichia coli</i>: A laboratory exercise. Biochem Mol Biol Educ. 35(6): 440-445. 4. Sambrook J. and Russell D. (2001). Molecular Cloning: A Laboratory Manual, 3rd edn. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press. 5. Wilson K. and Walker J. (2005). Principles and Techniques of Biochemistry and Molecular Biology. 6th Edition., Cambridge University Press, New York
Unit III	<p>A. Isolation and identification of</p> <ol style="list-style-type: none"> 1. Meera Kumari, Bat-Erdene Myagmarjav, Birendra Prasad and Madhusudan Choudhary (2013). Identification and characterization of antibiotic-producing actinomycetes isolates. American Journal of Microbiology 4 (1): 24-31, 2013 ISSN: 1948-982x © 2013 Science Publications doi:10.3844/ajmsp.2013.24.31 2. Anupama Sapkota, Aishwarya Thapa, Anupa Budhathoki, Muskan Sainju, Prativa Shrestha and Sagar Aryal (March 2020). Isolation, Characterization, and Screening of Antimicrobial-Producing Actinomycetes from Soil Samples. International Journal of Microbiology Volume 2020 Article ID 2716584 https://doi.org/10.1155/2020/2716584. 3. Neetu Gupta, Nageswari Gandham, Savita Jadhav and Ravindra Nath Mishra (2015). Isolation and identification of Acinetobacter species with special reference to antibiotic resistance. J Nat Sci Biol Med. 2015 Jan-Jun; 6(1): 159–162. doi: 10.4103/0976-9668.149116 4. Shojadoost, B.; Peighambari, S.M. and Nikpiran, H. (2010). Isolation, identification and antimicrobial susceptibility of <i>Clostridium perfringens</i> isolates from acute necrotic enteritis of broiler chickens. Int.J.Vet.Res. (2010), 4; 3: 147-151 5. BS Reddy, A Chaudhury, U Kalawat, R Jayaprada, GSK Reddy, BV Ramana (2012). Isolation, speciation and antibiogram of clinically relevant non-diphtherial

B. : Isolation and identification of

1. Baxter M. (1966) Isolation of *Trichophyton mentagrophytes* from British soil. *Sabouraudia*. 4: 207–209.
2. Joshi K. R. and Gavin J. B. (1974). A simple laboratory method for the rapid identification of *Candida albicans*. *Pathology*. 6(3): 231-233.
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5. Sinski J. T., Kelley L. M., Flynt P. M. and Miegel J. (1977). Dermatophyte isolation media: quantitative appraisal using skin scales infected with *Trichophyton mentagrophytes* and *Trichophyton rubrum*. *J Clin Microbiol*. 5(1): 34-38.
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Syllabus M.Sc. II Semester III

Course/ Paper Title	Cell Culture Techniques Choice based Optional Theory Paper (Elective)
Course Code	MBET: 235
Semester	III
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To aware students about the different Cell Culture Techniques
2.	To keep them informed about the applications of Cell Culture Systems and cell Lines in immunological studies
3.	To make them understand the Immuno-modulation which encompasses all therapeutic interventions aimed at modifying the immune response

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students' understanding about the methods of Cell Culture Techniques will increase
2.	The knowledge related to Immuno-modulation caused by agents those activate or suppress immune system function will be achieved

Choice based Optional Theory Paper (Elective)

Total: 2 Credits

Workload: -15 hrs /credit

(Total Workload :- 2 credits x 15 hrs = 30 hrs in semester)

Credit	Credit Title and Contents	Lectures
Credit I	<p>Animal Cell Culture Techniques:</p> <p>A. Definition of terms: Primary cell cultures and cell lines, established cell lines, suspension and anchorage dependent cell cultures.</p> <p>B. Transformation of cells in culture, culture media, factors affecting cells in culture.</p>	15
Credit II	<p>Commonly used cell culture systems and cell lines in immunological studies:</p> <p>A. Cell culture systems and their applications: primary lymphoid cell culture cloned lymphoid cell lines, hybridlymphoid cell lines.</p> <p>B. Immuno-modulation</p>	15

Suggested References MBET: 235 Cell Culture Techniques Semester III

Choice based Optional Theory Paper (Elective)

Credit	References
Credit I	<p>Animal Cell Culture Techniques:</p> <ol style="list-style-type: none"> 1. Freshney R. I. (2005). Culture of Animal Cells: A Manual of Basic Technique. 5th Ed. John Wiley and Sons, Inc. 2. Masters J. R. W. (2000). Animal Cell Culture – A Practical Approach. 3rd Ed. Oxford University Press. 3. Mather J. P. and Penelope E. R. (1998). Introduction to Cell and Tissue Culture Theory and Technique. Plenum Press, New York
Credit II	<p>Commonly used cell culture systems and cell lines in immunological studies:</p> <ol style="list-style-type: none"> 1. Kindt T. J., Goldsby R. A., Osborne B. A. and Kuby J. (2007). Kuby Immunology. 6th Ed. W. H. Freeman and Co. 2. Patwardhan B., Diwanay S. and Gautam M. (2006). Botanical immunomodulators and chemoprotectants in cancer therapy. In Drug Discovery and Development Volume I: Drug Discovery. Ed. Chorghade Mukund S. Wiley Interscience, John Wiley and Sons Inc. USA. 405-424.

Savitribai Phule Pune University (2019 Pattern)**Syllabus M.Sc. Microbiology II Semester III**

Course/ Paper Title	Practicals based on Cell Culture Techniques Choice based Optional Practical Paper (Elective)
Course Code	MBEP: 235
Semester	III
No. of Credits	2

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To aware students about the different Cell Culture Techniques
2.	To help them understand the applications of Cell Culture Techniques
3.	To teach Chick embryo fibroblast cell culture

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will be able to get hands-on in Cell Culture Techniques
2.	This will increase the knowingness about the techniques used for Chick embryofibroblast cell culture.

MBEP: 235 Practicals based on Cell Culture Techniques : Semester III		
Choice based Optional Practical Paper (Elective)		
Total: 2 Credits		Workload: -30 hrs./credit
(Total Workload) :- 2 credits x 30 hrs = 60 hrs in semester		
Credit	Credit Title and Contents	Lectures
Credit I	Practicals based on Animal Cell Culture Techniques: A. Density gradient based separation of peripheral lymphocytes(1) B. Preparation of Lymphocyte culture (1) C. Effect of immunomodulators on lymphocyte proliferation (Stimulatory and inhibitory effect) (2)	30
Credit II	Practicals based on Commonly used cell culture systems and cell lines in immunological studies: A. Chick embryo fibroblast cell culture (1)	30

Suggested References MBEP: 235 Practicals based on Cell Culture Techniques : Semester III	
Choice based Optional Practical Paper (Elective)	
Credit	References
Credit I	Practicals based on Animal Cell Culture Techniques: 1. Freshney R. I. (2005). Culture of Animal Cells: A Manual of Basic Technique, 5th Ed., John Wiley and Sons, Inc 2. Masters J. R. W. (2000). Animal Cell Culture – A Practical Approach. 3rd Ed. Oxford University Press.
Credit II	Practicals based on Commonly used cell culture systems and cell lines in immunological studies: 1. Mather J. P. and Penelope E. R. (1998). Introduction to Cell and Tissue Culture Theory and Technique. Plenum Press, New York 2. Hernandez R. and Brown D.T. (2010). Growth and maintenance of chick embryo fibroblasts (CEF). Curr Protoc Microbiol.17: A.4I.1–A.4I.8

Savitribai Phule Pune University (2019 Pattern)**Syllabus M.Sc. Microbiology II Semester III**

Course/Paper Title	Bioremediation and Biomass Utilization Choice Based Optional Theory Paper (Elective)
Course Code	MBET: 236
Semester	III
No. of Credits	2

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To introduce the concepts of bioremediation
2.	To get across students about the concepts of biomass utilization
3.	To set out the concepts of microbial degradation

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will develop an interest in the field of bioremediation
2.	They understand the concepts of biomass utilization
3.	The ideology behind concepts and use of microbial degradation will be clear to them

MBET: 236 Bioremediation and Biomass Utilization : Semester III		
Choice Based Optional Theory Paper (Elective)		
Total: 2 Credits		Workload: -15 hrs /credit
Total Workload: - 2 credits x 15 hrs. = 30 hrs. in semester		
Credit	Credit Title and Contents	Lectures
Credit I	Bioremediation A. Microbial Degradation of xenobiotics, B. Engineered bio- degradative pathways: Camphor, octane, xylene, naphthalene degradation pathway C. Aromatic compound degradation: Manipulation by plasmid transfer Manipulation by gene alteration	15
Credit II	Biomass utilization A. Utilization of starch and cellulose; B. Isolation of the prokaryotic and eukaryotic cellulase genes, manipulation of the cellulase gene, advantages of using <i>Zymomonas mobilis</i> C. Alcohol, fructose, and silage production; advantages of each D. Improvisation of the processes of alcohol production E. Improvisation of the processes of fructose production F. Commercial production processes of alcohol and fructose	15

Suggested References MBET: 236 Semester III	
Bioremediation and Biomass Utilization	
Choice Based Optional Theory Paper (Elective)	
Credit	References
Credit I	Bioremediation 1. Glick B. R., Pasternak J. J., Cheryl L. and Patten C. L. (1998). Molecular Biotechnology: Principles and Applications of Recombinant DNA. Washington DC, ASM Press 2. Jaiswal S., Singh D. K. and Shukla P. (2019). Gene Editing and Systems Biology Tools for Pesticide Bioremediation: A Review. Front Microbiol. 10:87 3. Karpouzias D. G. and Singh B. K. (2006) Microbial degradation of organophosphorus xenobiotics: metabolic pathways and molecular basis. Adv Microb Physiol. 51: 119-185. 4. Ramos J. L., González-Pérez M. M. and Caballero A., van Dillewijn P. (2015). Bioremediation of polynitrated aromatic compounds: plants and microbes put up a fight. Curr Opin Biotechnol. 16(3): 275-281. 5. Weaver R. (2007). Molecular Biology. 4 th Edition. Mc-Graw Hill Publication

II

1. Glick B. R., Pasternak J. J., Cheryl L. and Patten C. L. (1998). Molecular Biotechnology: Principles and Applications of Recombinant DNA. Washington DC, ASM Press
2. Gupta G. V. (2016). New and Future Developments in Microbial Biotechnology and Bioengineering. *Aspergillus* System Properties and Applications. Elsevier Book Publication.
3. Lal P .B., Wells F. M., Lyu Y., Ghosh I. N., Landick R. and Kiley P. J. (2019). A markerless method for genome engineering in *Zymomonas mobilis* ZM4. Front Microbiol. 10: 2216
4. Sarris, D. and Papanikolaou S. Biotechnological production of ethanol: Biochemistry, processes and technologies. Engineering Life Sciences. 16: 307-329
5. Weaver R. (2007) Molecular Biology. 4th Edition. Mc-Graw Hill Publication

Savitribai Phule Pune University (2019 Pattern)

Syllabus M.Sc. Microbiology II Semester III

Course/ Paper Title	Practicals based on Bioremediation and Biomass Utilization Choice Based Optional Practical Paper
Course Code	MBEP: 236
Semester	III
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To introduce the concepts of bioremediation
2.	To aware about concepts of biomass utilization
3.	To educate them on the concepts of microbial degradation

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	An interest will be developed in the field of bioremediation
2.	They will understand the concepts of biomass utilization
3.	Students will understand the concepts and use of microbial degradation

MBEP: 236 Practicals based on Bioremediation and Biomass Utilization : Semester III		
Choice Based Optional Practical Paper		
Total: 2 Credits		Workload: -30 hrs /credit
(Total Workload) :- 2 credits x 30 hrs = 60 hrs in semester		
Credit	Credit Title and Contents	Lectures
Credit I	Bioremediation 1. Degradation of para nitrophenol using <i>Pseudomonas putida</i> 2. Low density plastic/bioplastic degradation using bacterial isolates 3. Demonstration of DNA finger-printing technique	30
Credit II	Biomass utilization 1. Biodiesel production using micro-algae 2. Isolation of bio-emulsifier producing organisms for degradation of aromatic compounds	30

Suggested References MBEP: 236 Semester III	
Practicals based on Bioremediation and Biomass Utilization	
Choice Based Optional Practical Paper	
Credit	References
Credit I	Bioremediation 1. Arora P. K., Srivastava A., and Singh V. P. (2014). Bacterial degradation of nitrophenols and their derivatives. <i>J Hazard Mater.</i> 266: 42-59. 2. Bánfalvi G and Antoni F. (1990). DNA-based diagnosis. <i>Orv Hetil.</i> 131(18): 953-964. 3. Kulkarni M. and Chaudhari A. (2006). Biodegradation of p-nitrophenol by <i>P. putida</i> . <i>Bioresour Technol.</i> 97(8): 982-988. 4. Kumar Khanna V. (2007). Existing and emerging detection technologies for DNA (Deoxyribonucleic Acid) finger printing, sequencing, bio- and analytical chips: a multidisciplinary development unifying molecular biology, chemical and electronics engineering. <i>Biotechnol Adv.</i> 25(1): 85-98. 5. Li J., Kim H. R., Lee H. M. and Yu H. C., Jeon E., Lee S. and Kim D. (2020). Rapid biodegradation of polyphenylene sulfide plastic beads by <i>Pseudomonas</i> sp. <i>Sci Total Environ.</i> 720: 137616. 6. Qiu X., Wu P., Zhang H., Li M. and Yan Z. (2009). Isolation and characterization of <i>Arthrobacter</i> sp. HY2 capable of degrading a high concentration of p-nitrophenol. <i>Bioresour Technol.</i> 100(21): 5243-5248 7. Bano K. R., Kuddus M., Zaheer M. R., Zia Q., Khan M. F., Ashraf G. M., Gupta A. and Aliev G. (2017). Microbial enzymatic degradation of biodegradable plastics. <i>Curr Pharm Biotechnol.</i> 18(5): 429-440. 8. Sangeetha Devi R., Ramya R., Kannan K., Robert Antony A. and Rajesh Kannan V. (2019). Investigation of biodegradation potentials of high density polyethylene degrading marine bacteria isolated from the coastal regions of

CBCS: 2019 Pattern	Tamil Nadu, India Mar Pollut Bull. 138: 549-560. Microbiology 9. Wilkes R. A. and Aristilde L. (2017). Degradation and metabolism of synthetic plastics and associated products by <i>Pseudomonas</i> sp.: capabilities and challenges. J Appl Microbiol. 123(3): 582-593.
Credit II	Biomass utilization <ol style="list-style-type: none"> 1. Larkum A. W., Ross I. L., Kruse O. and Hankamer B. (2012). Selection, breeding and engineering of microalgae for bioenergy and biofuel production. Trends Biotechnol. 30(4): 198-205. 2. McGinn P. J., Dickinson K. E., Bhatti S., Frigon J. C., Guiot S. R. and O'Leary S. J. (2011). Integration of microalgae cultivation with industrial waste remediation for biofuel and bioenergy production: opportunities and limitations. Photosynth Res. 109(1-3): 231-247. 3. Muhonja C. N., Makonde H., Magoma G. And Imbuga M. (2018). Biodegradability of polyethylene by bacteria and fungi from Dandora dumpsite Nairobi-Kenya. PLoS ONE 13(7): e0198446. 4. Parmar A., Singh N. K., Pandey A., Gnansounou E. and Madamwar D. (2011). Cyanobacteria and microalgae: a positive prospect for biofuels. Bioresour Technol. 102(22): 10163-10172. 5. Viramontes-Ramos S., Cristina Portillo-Ruiz M., Ballinas-Casarrubias Mde L, Torres-Muñoz J. V., Rivera-Chavira B. E. and Nevárez-Moorillón G. V. (2010). Selection of biosurfactan/bioemulsifier-producing bacteria from hydrocarbon-contaminated soil. Braz J Microbiol. 41(3): 668-675.

Savitribai Phule Pune University (2019 Pattern)

Syllabus M.Sc. Microbiology II Semester III

Course/Paper Title	Microbial Virus Technology Choice based Optional Theory Paper (Elective)
Course Code	MBET: 237
Semester	III
No. of Credits	2

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To acquaint students with the concept of isolation and characterization of bacteriophages.
2.	To inculcate various concepts of bacteriophage growth kinetics.
3.	To teach them about Phage typing.

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will understand the basics of isolation and characterization of bacteriophages.
2.	They will be able to know various concepts of bacteriophage growth kinetics
3.	Pupil shall also learn about Phage typing.

MBET: 237 Microbial Virus Technology : Semester III Choice based Optional Theory Paper (Elective)		
Total: 2 Credits		Workload: -15 hrs. /credit
(Total Workload) :- 2 credits x 15 hrs = 30 hrs in semester		
Credit	Topic	Lectures
Credit I	A. Isolation and characterization of bacteriophages i. Abundance of bacteriophages in the environment ii. Bacteriophage Lifecycle-Lytic, Lysogeny and chronic cycle. Genetic basis of lytic and lysogeny cycles	05
	B. Isolation of bacteriophages from various environmental samples-(Different methods) i River, Intestine, Lakes, Tooth plaque, Ponds, High temp.env. Cockroaches, Raw vegetables, Activated sludge, Fecal matter, Sewage , Soil, Flies, Sewage Treatment plant	03
	C. Bacteriophage growth kinetics i. Concept and calculations of EoP, MOI ii. Adsorption rate constant iii. One step growth curve-(Latent period, Eclipsed period, Rise period, Plateau, burst size)	05
	D. Phage based bacterial detection: Phage typing	02
Credit II	A. Bacteriophage as biocontrol agent i. Phage based technology for decontamination of water (drinking water, recreational water, medical waste water) ii. Phage based technology for pathogen control in aqua systems iv. Bacteriophages for the biocontrol of biofilms on medical devices v. Bacteriophage based technology for pathogen control in Poultry	05
	B. Bacteriophage Therapy i. Use of bacteriophages as therapeutic agent ii. Phage lysine therapy and prophylaxis	04
	C. Mycoviruses: A new dimension in Microbiology i. Occurrence ii. Taxonomy of Mycoviruses iii. Mycovirus-host interaction mechanisms iv. Characterization Techniques v. Mycoviruses as biocontrol agents against fungal plant pathogens	05
	D. Introduction of algal viruses	01

Choice based Optional Theory Paper (Elective)

Credit	References
<p>Credit I</p>	<p>A</p> <ol style="list-style-type: none"> 1. Ahiwale S. (2013). Bacteriophages against enteric bacterial pathogens and their potential for bioremediation of pathogen infested water bodies. PhD thesis, University of Pune, Pune, Maharashtra 2. Rohwer F., Youle M., Maughan H. and Hisakawa N. (2014). Life in Our Phage World. A centennial field guide to the Earth's most diverse inhabitants. Illustrations by Leah L Pantéa and Benjamin Darby (Book) 3. Hobbs Z. and Abedon S. T. (2016). Virology Diversity of phage infection types and associated terminology: the problem with Lytic or lysogenic. Minireview. FEMS Microbiology Letters, 363, , fnw047 doi: 10.1093/femsle/fnw047, 2016
	<p>B</p> <ol style="list-style-type: none"> 1. Ahiwale S. (2013) .Bacteriophages against enteric bacterial pathogens and their potential for bioremediation of pathogen infested water bodies. PhD thesis, University of Pune, Pune, Maharashtra 2. Azeredo J. and Sillankorva S. Editors. (2018) Bacteriophage Therapy from Lab to Clinical Practice. In Methods in Molecular Biology. Walker J. M. Series Editor. Humana Press Book. Springer. 3. Clokie M. R. J. and Kropinski A. M. Editors (2009). Bacteriophages: Methods and Protocols. Volume1: Isolation, Characterization and Interactions. Springer Book
	<p>C</p> <ol style="list-style-type: none"> 1. Clokie M. R. J. and Kropinski A. M. Editors (2009). Bacteriophages: Methods and Protocols. Volume1: Isolation, Characterization and Interactions. Springer Book Effect of bacterial growth rate on bacteriophage population growth rate, Dominik Nabergoj, Petra Modic, Ales Podgornik, Wiley Microbiology open, 2017
	<p>D</p> <ol style="list-style-type: none"> 1. Schofield D.A., Sharp N.J. and Westwater C. (2012). Phage-based platforms for the clinical detection of human bacterial pathogens. Bacteriophage. 2(2): 105-283
<p>Credit II</p>	<p>A. i.</p> <ol style="list-style-type: none"> 1. Ahiwale S. (2013) Bacteriophages against enteric bacterial pathogens and their potential for bioremediation of pathogen infested water bodies. PhD thesis, University of Pune, Pune, Maharashtra 2. McLaughlin M. R. and Brooks J. P. (2008) EPA worst case water microcosms for testing phage biocontrol of <i>Salmonella</i>. J Environ Qual. 37: 266-271 3. Sharma S., Soumya Chatterjee S., Datta S., Rishika Prasad R., Dubey D., Prasad R. K. and Vairale M.G. (2017). Bacteriophages and its applications: an overview. Folia Microbiol. 62(1):17-55 4. Singh M.K., Maurya A. and Kumar S. (2020). Bioaugmentation for the treatment of waterborne pathogen contamination water. Waterborne

A. ii.

1. Culot A., Grosset N. and Gautier M. (2019). Overcoming the challenges of phage therapy for industrial aquaculture: A review. *Aquaculture*. Elsevier. 513:734423.
2. Kutter E. and Sulakvelidze A. Editors. (2004). *Bacteriophages: Biology and Applications*. Edition-illustrated. Publisher-CRC Press.
3. Nakai T. and Park S. C. (2002). Bacteriophage therapy of infectious diseases in aquaculture. Mini-review. *Research in Microbiology*. 153: 13–18
4. Vinod M. G., Shiva M.M., Umesha K.R., Rajaveera B.C., Krohne G. and Karunasagar J. (2006). Isolation of *Vibrio harveyi* bacteriophage with potential for biocontrol of luminous vibriosis in hatchery environments. *Aquaculture*. 55: 117-124

A. iii.

1. Ahiwale S. S. (2011). *In vitro* management of hospital *Pseudomonas aeruginosa* biofilm using indigenous T7-like lytic phage. *Curr. Microbiology*. 62: 335-340
2. Haradaa L. K., Silvaa E.C., Camposa W. F., Del Fiola F. S., Vilaa M., Dąbrowskab K., Krylovc V. N. and Balcão V. M. (2018). Applications of bacteriophages: State of the art, Review article. *Microbiol Res*. 212- 213: 38-58
3. Lu T. K. and Collins J. J. (2007). Dispersing biofilms with engineered enzymatic bacteriophage. *Proceedings of National Academy of Science*. 104: 11197-11202

A. iv.

1. Gorski A., Miedzybrodzki R. and Borysowski J. (Editors). (2019). *Phage Therapy: A Practical Approach*. Springer International Publishing
2. Żbikowska K, Michalczuk M. and Dolka B. (2020). The Use of Bacteriophages in the Poultry Industry. *Review. Animals (Basel)*.10(5): 872

B. Bacteriophage Therapy

1. Eric E. C. and Adhya S. L. (2015). *Phage Therapy: Current Research and Applications*. *Clinical infectious diseases: an official publication of the Infectious Diseases Society of America*. 61(1): 141–142
2. Gorski A., Miedzybrodzki R. and Borysowski J. (Editors). (2019). *Phage Therapy: A Practical Approach*. Springer International Publishing
3. Hyman P. and Abedon S. T. Editors. (2012). *Bacteriophages in Health and Disease*. Volume 24 of *Advances in molecular and cellular microbiology*. Contributor C.A.B. International. Edition- illustrated. Publisher CABI.
4. Kutter E. and Sulakvelidze A. Editors. (2005). *Bacteriophage Therapy in Humans*. Chapter 14. *Bacteriophages, biology and applications*. CRC Press.
5. Principi N., Silvestri E. and Esposito S. (2019). Advantages and Limitations of Bacteriophages for the Treatment of Bacterial Infections. *Front. Pharmacol*. 10: 513
6. Vázquez R., García E. and García P. (2018). Phage lysins for fighting bacterial respiratory infections: a new generation of antimicrobials. Mini review article. *Front. Immunol*. 9: 2252

C. Mycoviruses: A new dimension in Microbiology

1. Abbas J. (2016) A Review Paper Mycoviruses. *Journal of Plant Pathology and Microbiology*. 7 (12): 1-4

CBCS: 2019	<p>2. PaAbid M., Khan M., Mushtaq S., Afzaal S., and Haider M. (2018) biology comprehensive review on mycoviruses as biological control agent. World Journal of Biology and Biotechnology, 3(2): 187-192.</p> <p>3. Kondo H., Chiba S., Toyoda K. and Suzuki N. (2013). Evidence for negative-strand RNA virus infection in fungi. Virology, 435: 201–209</p> <p>4. Niu Y., Yongze Yuan Y., Mao J., Yang Z., Cao Q., Zhang T., Wang S. and Liu D. (2018) Characterization of two novel mycoviruses from <i>Penicillium digitatum</i> and the related fungicide resistance analysis. Scientific Reports. 8: 5513</p> <p>5. Zoll J., Verweij P. E. and Melchers W. J. G. (2018): Discovery and characterization of novel <i>Aspergillus fumigatus</i> mycoviruses. PLoS ONE 13(7): e0200511.</p>
	<p>D. Introduction of algal viruses</p> <p>1. Coy S. R., Gann E. R., Pound H. L., Short S. M. and Wilhelm S. W. (2018). Viruses of eukaryotic algae: Diversity, Methods for detection and future directions. Viruses. 10 (9): 487</p>

Savitribai Phule Pune University (2019 Pattern)

Syllabus M.Sc. Microbiology II Semester III

Course/Paper Title	Practicals based on Microbial Virus Technology Choice based Optional Practical Paper (Elective)
Course Code	MBEP: 237
Semester	III
No. of Credits	2

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To aware students with the concept of isolation, purification and preservation of bacteriophages
2.	To inculcate various concepts of bacteriophage growth kinetics
3.	To teach them about applications of bacteriophages

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students' knowledge will grow up with isolation, purification and preservation of bacteriophages
2.	They will be acquainted with various concepts of bacteriophage growth kinetics
3.	It will also help to learn about applications of bacteriophages

MBEP: 237 Practicals based on Microbial Virus Technology : Semester III		
Choice based Optional Practical Paper (Elective)		
Total: 2 Credits		Workload: -30 hrs /credit
(Total Workload) :- 2 credits x 30 hrs = 60 hrs in semester		
Credit	Description	Lectures
Credit I	A. Isolation and purification of lytic bacteriophages from various environmental samples (Phages specific for E.coli /Salmonella SPP./Klebsiella Spp.). B. Isolation and enumeration of actinophages from soil sample C. Isolation of phyco viruses from various sources in nature D. Determination of Adsorption Rate Constant for phage and One step growth Curve Experiment	30
Credit II	A. Negative staining (Sample preparation) for electron microscopic studies (Demonstration) B. Biocontrol of any plant pathogen using plant Bioassay technique C. In-vitro use of lytic bacteriophages specific against Klebsiella spp. biofilm (Micro- titre plate experiment) D. In-vitro use of lytic bacteriophages for decontamination of water sample (Microcosm Studies). E. Bacteriophage Formulation technique-Carrier based phage formulation and their shelf-life study(3 months)	30

Suggested References MBPE: 237	
Practicals based on Microbial Virus Technology Semester II	
Credit	References
Credit I	1. Ackerman H. W. (2009). Phage classification and characterization. In: Clokie MRJ, Kropinski AM (Eds) Bacteriophages: methods and protocols, Volume: Isolation, characterization and interactions, Vol. 501. Humana Press, New York. 2. Ahiwale S. (2013). Bacteriophages against enteric bacterial pathogens and their potential for bioremediation of pathogen infested water bodies PhD thesis, University of Pune,Pune, Maharashtra. 3. Marei E .M. and Elbaz R. M. (2013) Isolation and molecular characterization of three virulent actinophages specific for <i>Streptomyces flavovirens</i> . Journal of Virology Research. 2(1): 12-17 4. Coy S. R., Gann E. R., Pound H. L., Short S. M. and Wilhelm S. W. (2018). Viruses of eukaryotic algae: Diversity, Methods for detection and future directions. Viruses.10: 487. 5. Lanning S. and Williams S.T. (1982). Methods for the direct isolation and enumeration of Actinophages in soil. Journal of General Microbiology, 128: 2063-2071 6. Nabergoj D., Modic P. and Podgornik A. (2018). Effect of bacterial growth rate on bacteriophage population growth rate. Microbiology Open, 7, e00558.

Credit II	<p style="text-align: right; color: orange; font-weight: bold;">CBCS: 2019 Pattern</p> <p style="text-align: center; color: orange; font-weight: bold;">M. Sc.</p> <p style="text-align: right; color: orange; font-weight: bold;">Microbiology</p> <ol style="list-style-type: none"> 1. Ahiwale S.S. (2011). <i>In vitro</i> management of hospital <i>Pseudomonas aeruginosa</i> biofilm using indigenous T7-like lytic phage. <i>Curr. Microbiology</i>. 62: 335-340 2. Balan A. and Padilla G. (1997). New thermal inducible phages isolated from tropical soils. <i>Brazilian Journal of Genetics</i>. 20: 4 3. Ahiwale S. (2013) Bacteriophages against enteric bacterial pathogens and their potential for bioremediation of pathogen infested water bodies PhD thesis, University of Pune, Pune, Maharashtra. 4. McLaughlin M.R. and Brooks J.P. (2008). EPA worst case water microcosms for testing phage biocontrol of <i>Salmonella</i>. <i>J Environ Qual</i>. 37: 266-271 5. Umrao P. D., Kumar V. and Kaistha S. D. (2021). Biocontrol potential of bacteriophage -sp1 against bacterial wilt-causing <i>Ralstonia solanacearum</i> in Solanaceae crops <i>Egyptian Journal of Biological Pest Control</i> 31:61 https://doi.org/10.1186/s41938-021-00408-3 6. Vinod M. G., Shiva M. M., Umesha K. R., Rajaveera B. C., Krohne G. and Karunasagar J. (2006). Isolation of <i>Vibrio harveyi</i> bacteriophage with potential for biocontrol of luminous vibriosis in hatchery environments. <i>Aquaculture</i>. 55: 117-124
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Savitribai Phule Pune University
Syllabus reconstructing 2020
M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Pharmaceutical Microbiology Core Compulsory Theory Paper
Course Code	MBCT 241
Semester	IV
No. of Credits	4

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To enrich students' knowledge related to basic concepts in drug discovery and drug development.
2.	To inculcate the knowledge regarding the drug designing , pharmacokinetics and pharmacodynamics
3.	To aware students with the concepts of pharmaceuticals.

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	In addition to drug development students will also understand the concepts of drug discovery
2.	They will be able to know pharmacokinetics and pharmacodynamics.
3.	Besides this students will know the recent trends for MDR therapy also

MBCT 241: Pharmaceutical Microbiology Semester IV Core Compulsory Theory Paper Total: 4 Credits Workload :-15 hrs /credit (Total Workload :- 4 credits x 15 hrs = 60 hrs in semester)		
Credit	Description	Lectures
Credit I	General introduction to medicinal chemistry A. Definition and explanation of terms used in medicinal chemistry (HITS, Lead compound, Toxicity studies, HTS, ADME). Nomenclature of drugs B. Historical perspectives, significance of medicinal chemistry C. Introduction to modern drug discovery, rational drug design, molecular modeling, gene and DNA technology in chemotherapy D. Classification of drugs based on therapeutic classes, target, mechanism of action, chemistry, etc.	15
Credit II	Drug development A. Lead optimization: lead likeness, drug likeness, determination of biological, biochemical properties of drug, pharmacovigilance. B. Drug designing: Ligand based receptor based drug design. (Protein Crystallography, molecular docking) C. Drug development: Preclinical development. Toxicity testing – acute, sub acute, chronic. D. Clinical development: Clinical trials (aims, objectives and conduct). Clinical trials I, II, III and IV.	15
Credit III	Biopharmaceuticals: Regulations and sources A. Regulatory authorities and its role: FDA, WHO and CLSI B. Introduction to pharmacopeia: IP, USP, and BP C. Formulation of following pharmaceutical preparation as per IP: i. Antibiotics (with any one example) ii. Antipyretics (with any one example) iii. Steroids (with any one example) iv. Injectables (Distilled water, Saline) v. Vitamins (with any one example)	15
Credit IV	Physicochemical properties of drug and drug metabolism A. Passage of molecules through biological barriers. Membrane transport (paracellular, transcellular). B. Drug absorption: Drug dosages, from gastric emptying to gastric	15

CBCS: 2019 Pattern	permeability to drug, first pass effect, bioavailability. C. Drug distribution: Drug-plasma/ serum binding, blood brain barrier, accumulations in tissues. D. Drug elimination: Drug excretion, Drug biotransformation, Biotransformation reactions, Functionalization, Conjugation reaction, Reactions leading to toxic metabolites	Microbiology
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Suggested References MBCT 241: Pharmaceutical Microbiology-Semester IV	
Core Compulsory Theory Paper	
Credit	Reference
Credit I	<p>General introduction to medicinal chemistry</p> <ol style="list-style-type: none"> 1. Agarwal S. S. and Paridhavi M. (2007). Herbal drug technology. Universities Press (India) Pvt. Ltd 2. Altreuter D. and Clark D. S. (1999) Combinatorial Biocatalysis: Taking the lead from nature. Curr. Opin. Biotechnol. 10: 130-136 3. Burn J. H. (1957) Principles of Therapeutics. Blackwell Scientific Pub. O. Ltd. Oxford. 4. Chatwal G. P. (2003) Bio-pharmaceutics and Pharmacokinetics. Himalaya Publishing House, Mumbai. 5. Committee for the Purpose of Control and Supervision on Experiments on Animals (CPCSEA). www.cpcsea.com 6. Dewick P. M. (2002). Medicinal natural products: A biosynthetic approach, 2nd Ed., John Wiley and Sons 7. Erhardt P. W. (2006). Medicinal Chemistry in the New Millennium: A Glance into the Future, Ed. Chorghade M. S. in Drug discovery and Development Volume I: Drug Discovery. Wiley-Interscience, John Wiley and Sons Inc. USA. 17-102. 8. Graly J. O. and Joubert P.H. (1997). Handbook of Phase I /II clinical drug trials, CRC Press 9. Iyengar M. A. (1993). Pharmacology of Powdered Crude Drugs. Iyengar series. Manipal, India 10. Micheles P. S., Khmelnitsley Y. L., Dordick J. S. and Clark D. S. (1998). Combinatorial biocatalysis, a natural approach to drug discovery. Trends in Biotechnol. 16(5): 210-215 11. Rawlins E. A., (Ed). (2002). Bentley's Textbook of Pharmaceutics. 8th Ed. Bailliere Tindall, London 12. Satoskar R. S. and Bhandarkar S. D. (1991). Pharmacology and Pharmacotherapeutics. 12th Ed., Vol. 1 and 2. Popular Prakashan, Mumbai. 13. Vyas S. P and Dixit V. R. (2002). Pharmaceutical Biotechnology, CBS Publishers and Distributors, New Delhi
Credit II	<p>Drug development</p> <ol style="list-style-type: none"> 1. Franklin T. J. and Snow G. A. (1975). Biochemistry of Antimicrobial Action. Chapman and Hall, London. 1-22 and 160-174 2. Gale E. F., Cundliffe E., Reynolds P. E., Richmond M. H. and Waring M. J. (1972). The molecular basis of antibiotic action. John Wiley and Sons.

CBCS: 2019	Patil London	M. Sc.	Microbiology
	<ol style="list-style-type: none"> 3. Goldstein A., Aronow L., and Kalman S. M. (1969). Principles of Drug Action. The Basis of Pharmacology. Harper international edition New York. 4. Lorian V. (1986). Antibiotics in laboratory medicine. 2nd Ed. Williams & Wilkins Publication 5. National Committee for Clinical Laboratory Standards (now Clinical and Laboratory Standards Institute, CLSI). NCCLS: 1997. Methods for dilution antimicrobial susceptibility testing for bacteria that grows aerobically. Approved Standards M7-A4. Villanova, PA: 6. National Committee for Clinical Laboratory Standards (now Clinical and Laboratory Standards Institute, CLSI). NCCLS: 2002. Performance standards for antimicrobial susceptibility testing; 12th information supplement (M100-S1). Villanova, PA 		
Credit III	<p>Biopharmaceuticals: Regulations and sources</p> <ol style="list-style-type: none"> 1. Blondelle S. E., Perez Paya E. and Houghten R. A. (1996). Synthetic Combinatorial Libraries: Novel Discovery Strategy for Identification of Antimicrobial Agents. Antimicrobial Agents and Chemotherapy. 1067–1071 2. Holliger M. A. (2008). Introduction to Pharmacology. 3rd Ed. CRC Press. Taylor and Francis. 3. Indian Pharmacopoeia (IP 2018). 8th Edition. Four Volumes with addendum 2019. Published by the Indian Pharmacopoeia Commission (IPC) on behalf of the Government of India, Ministry of Health and Family Welfare. 4. Kokate C. K., Purohit A. P., Gokhale A. B. (2000). Pharmacology. 4th Ed., Nirali Prakashan. 5. Micheles P. S., Khmelnitsley Y. L., Dordick J. S. and Clark D. S. (1998). Combinatorial biocatalysis, a natural approach to drug discovery. Trends in Biotechnol. 16(5): 210-215 6. Osol A. (1980). Remington's Pharmaceutical Sciences, 16th Ed., Easton, Pennsylvania: Mack Publishing Company. 7. Satoskar R. S. and S. D. Bhandarkar (1991). Pharmacology and Pharmacotherapeutics. 12th Edition. Vol. 1 and 2. Popular Prakashan, Mumbai. 8. Vyas S. P. and Dixit V. R. (2002). Pharmaceutical Biotechnology. CBS Publishers and Distributors, New Delhi 9. Walsh G. (2006). Biopharmaceuticals: Biochemistry and Biotechnology. 2nd edition. Wiley (E-Book, 2013). 		
Credit IV	<p>Physicochemical properties of drug and drugmetabolism</p> <ol style="list-style-type: none"> 1. Holliger M. A. (2008). Introduction to Pharmacology. 3rd Ed. CRC Press. Taylor and Francis. 2. Kokate C. K., Purohit A. P., Gokhale A. B. (2000). Pharmacology. 4th Ed. Nirali Prakashan. 3. Micheles P. S., Khmelnitsley Y. L., Dordick J. S. and Clark D. S. (1998). Combinatorial biocatalysis. A natural approach to drug discovery. Trends in biotechnol. 16(5): 210-215 		

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Microbial Technology Core Compulsory Theory Paper
Course Code	MBCT 242
Semester	IV
No. of Credits	4

Aims and Objectives of the Course

Sr. No.	Objectives
1.	To aware students about of microbial technology.
2.	To make them familiar with various techniques in fermentation.
3.	To teach them applications of microorganisms in various industries.

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will learn about microbial technology and its applications
2.	They shall acquire knowledge about various process control methods in fermentation.
3.	Students will be acquainted with the applications. of microorganisms in different industries.

MBCT 242: Microbial Technology Semester IV Core Compulsory Theory Paper Total: 4 Credits Workload: -15 hrs /credit (Total Workload :- 4 credits x 15 hrs = 60 hrs in semester)		
Credit	Credit Title and Contents	Lectures
Credit I	Bioreactor design and operation A. Designing of bioreactors Design aspects CSTRs: The dimensional ratios of the outer shell, and the operational aspects such as working volume, baffles and impellers. B. The configuration (placement) of impellers in a vessel and the different types of impellers (types of turbines and propellers, and their combinations)	15
	C. Immobilized cell reactors and air-lift reactors– Design and operation. D. Batch, Fed-batch and Continuous operation: Applications, advantages and limitations of each type.	
Credit II	Process Variables and Monitoring A. Process Variables: i. Aeration Theory of oxygen transfer in bubble aeration, Oxygen transfer kinetics (Oxygen Uptake Rate –OUR; Oxygen Transfer Rate OTR;Ccrit), determination of KLa. ii. Agitation Functions of agitation. Flow patterns with different types of impellers. a) Fermentation broth rheology and powerrequirements for agitation – Concept ofNewtonian and non Newtonian fluids, b) Effect of broth rheology on heat, nutrient andoxygen transfer, c) Reynold’s number, Power number, Aeration number: working out examples using differentsoftware. B. Monitoring of process variables: i. Use of various types of sensors and biosensors for monitoring environmental parameters (pressure, pH, temperature, DO and DCO ₂) ii. Basic principles of operation, types of biosensors	15
Credit III	Microbial Fermentation Processes: Upstream, Fermentation and Downstream Processing for the following: i. Antibiotics (Rifamycin) ii. Microbial enzymes (Chitinase) iii. Exopolysaccharides (Pullulan) iv. Use of immobilized cells / enzymes for bioconversion v. Use of fungi in agriculture and environmental applications	15

Credit IV	<p style="text-align: center;">Principle concepts of IPR, ISO and Validation Process:</p> <p>A. Intellectual Property Rights (IPR):</p> <ol style="list-style-type: none"> i. Basic concepts of IPR ii. Introduction to forms of IPR – Patents and Designs <p>B. The concept of ISO Certification.</p> <p>C. Preparation of SOPs</p> <p>D. Validation protocols for methods in:</p> <ol style="list-style-type: none"> i. Quality Control ii. Process validation <p>The above should be discussed within WHO Norms. Exercises on preparation of SOPs, operation and validation for analytical methods</p>	15
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Suggested References MBCT 242: Microbial Technology Semester IV	
Core Compulsory Theory Paper	
Credit	References
Credit I	<p>Bioreactor design and operation</p> <ol style="list-style-type: none"> 1. BIOTOL series. (1992). Bioreactor Design and Product Yield. Butterworths Heinemann. 2. Doran P. M. (1995). Bioprocess Engineering Principles. Imprint-Academic Press. Copyright-Elsevier. 3. Lydersen B. K., D’Elia N. A. and Nelson K. M. (Eds.) (1993). Bioprocess Engineering: Systems, Equipment and Facilities. JohnWiley and Sons Inc. 4. Maiti B. R. (2018). Principles of Bioreactor Design. Publisher: Viva books 5. McDuffie N. G. (1991). Bioreactor Design Fundamentals 1st Edition, Elsevier:eBook ISBN: 9781483221083 6. Ratledge C. and Kristiansen B. eds. (2001). Basic Biotechnology. 2nd Ed. Cambridge Univ. Press. Cambridge 7. Singh L., Mahapatra D. and Yousuf A. (2019). Bioreactors: Sustainable Design and Industrial Applications in mitigation of GHG emissions. Elsevier. ISBN-0128212640, 9780128212646
Credit II	<p>Process Variables and Monitoring</p> <ol style="list-style-type: none"> 1. Aiba S., Humphrey A. E. and Millis N. F. (1982). Biochemical Engineering. Second Edition. Academic Press. 2. Chand S. (1998). Fermentation Biotechnology: Industrial Perspectives. Industrial Perspectives: Proceedings of the Symposium on Biotech Industry - a Challenge for 2005 A.D. -with Special Reference to Fermentations. November4-6, 1998. Publisher: All India Biotech Association 3. Jozala A. F. (2017). Fermentation Processes. Publisher-BoD. Books on Demand. ISBN-9535129279, E-Book 9789535129271 4. Mandenius C-F. (2016). Bioreactors: Design, Operation and Novel Applications. Reprint. Publisher-John Wiley & Sons. ISBN 3527683372 E-Book- 9783527683376 5. Larroche C., Sanroman M., Du G. and Pandey A. (Editors). (2016). Current Developments in Biotechnology and Bioengineering: Bioprocesses,

CBCS: 2019	<p>Bioreactors and Controls. Publisher-Elsevier, ISBN 0444636749, Microbiology 9780444636744</p> <ol style="list-style-type: none"> 6. Lydersen B. K., D' Elia N. A. and Nelson K. M. (Eds.) (1993) Bioprocess Engineering: Systems, Equipment and Facilities. John Wiley and Sons Inc. 7. BIOTOL series. (1992). Operational Modes of Bioreactors Butterworths – Heinemann. 8. Stanbury P., Whitaker A. and Hall S. (2016). Principles of Fermentation Technology. 3rd Edition Imprint: Butterworth-Heinemann
Credit III	<p>Microbial Fermentation Processes:</p> <ol style="list-style-type: none"> 1. Arora D. K. (2005). Fungal Biotechnology in Agricultural, Food and Environmental Applications (Mycology), Marcel Dekker, Inc. New York. Basel 2. Belter P. A., Cussler E. L. and Hu W. S. (1994). Bioseparations Downstream processing for Biotechnology. John Wiley and Sons. N.Y. ISBN: 978-0-471-12113-8 3. Crueger W. and Crueger A (1990). Biotechnology: A textbook of Industrial Microbiology. 2nd edition. Sinauer associates, Inc 4. Klegerman M. E. and Groves M. J. (1992). Pharmaceutical Biotechnology: Fundamentals and Essentials. Interpharm Press Ltd. Buffalo Grove, Illinois 5. Meshram S. U. and Shinde G. B. (2009). Applied Biotechnology. I.K. International Pvt. Ltd. 6. Mishra C. S. K. (Editor) and Pascale Champagne (Associate editor). (2009) . Biotechnology applications. I. K. International Pvt. Ltd. 7. Pepler H. J. and Perlman D. (1970). Microbial Technology. Volume 1 and 2. Academic Press, New York. 8. Ponkhshe S. (1988). Management of Intellectual Property, Bhate and Ponkhshe Prakasham, Pune 9. Reed G. (Editor). Prescott and Dunn's Industrial Microbiology. 4th Ed., CBSPub. New Delhi. 10. Van Damme E. J. (1984.) Biotechnology of Industrial Antibiotics. Marcel Dekker Inc., New York. 11. Wiseman A. (1985). Topics in Enzyme and Fermentation Biotechnology. Vol. 1 and 2. John Wiley and Sons, New York
Credit IV	<p>Principle concepts of IPR, ISO and Validation Process:</p> <ol style="list-style-type: none"> 1. Calnan N., Redmond A. and O'Neill S. (2009). The FDA's draft process validation Guidance A perspective from industry. Process Validation Guidance. Pharmaceutical Engineering. GMP Publishing. 7(4): 1-17 2. Supplementary Training Modules on Good Manufacturing Practice. Validation WHO Technical Report Series, No.937, 2006, Annex 4.

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Dissertation
Course Code	MBCP: 243
Semester	IV
No. of Credits	4

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To enable students to choose a dissertation topic of research or application orientation
2.	To apply the theoretical knowledge into practical dissertation work.
3.	To inculcate the knowledge of Research designs, tools and techniques of gathering data.
4.	To make students acquainted to analyze qualitative and quantitative data with explanation of how evidence gathered supports an initial hypothesis.
5.	To help out students to write an extensive and comprehensive piece of written work so as to convey dissertation in the most proficient and effective way

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will be able to choose a dissertation topic of research or application orientation
2.	They will get an experience for gathering literature survey and apply it into practical dissertation work
3.	They shall also be educated for use of statistical analysis and graphical presentations
4.	Besides this they will also be able to analyze qualitative and quantitative data with evidence based explanation gathered supports the initial hypothesis.
5.	This course will help students to craft an extensive and comprehensive piece of dissertation work with research or application orientation

Savitribai Phule Pune University
Guidelines for MBCP: 243
Semester IV: Dissertation (2019 Pattern)

1. A dissertation can be carried out by a single student or by group of students where the group should not contain more than two students.
 2. The dissertation report will be prepared as per the thesis format.
 3. Submission of the dissertation report will be at least ten days before the date of examination.
 4. One copy of the report will be preserved in the department, in college.
 5. If there are more than one student carrying out a single dissertation, a single report can be submitted to the department and these students will be assessed based on single oral presentation.
 6. In such case, presentation should be carried out by all the students carrying out the same work; dividing the presentation equally among them.
 7. At the time of presentation, the external and internal examiners appointed by the university will be present; the dissertation guide may or may not be present.
 8. Presentation should be carried out in the presence of an audience comprising of examiners appointed by the university, departmental teaching staff and the postgraduate students of the department (M.Sc. I and II).
 9. Oral presentation can be carried out using posters, blackboard, transparencies, model or LCD projector.
 10. The allotted time for each oral presentation (one project) should be 10 to 12 minutes, followed by question and answer session of 5 to 8 minutes. The audience can participate in this session.
 11. **The assessment of the dissertation is for total of 100 marks (IA-30 and UA-70) out of which the university examinations assessment – end semester will be for 70 marks and the in semester assessment will be for 30 marks.**
 12. The assessment of first 30 marks (in semester) will be carried out by the guide(s) who has supervised the work of the candidate(s) throughout the semester. The assessment will be carried out on the basis of the points, as per the accompanied format of the mark sheet. Head of the department should communicate this point wise assessment system to the dissertation supervisor, well in advance. Guide(s) will give appropriate marks, point-wise and submit it in a sealed envelope(s) to the Head of the respective department, three days prior to examination and project presentation. On the day of examination, Head of the department will hand over these unopened envelopes to the examiners.
 13. Assessment of remaining 70 marks (end semester examination for both courses) will be carried out for individual student at the time of examination jointly by Internal and External examiners by the means of oral presentation. The assessment will be carried out on the basis of the points as per the accompanied format of the mark sheet.
 14. Students should be made aware of the assessment parameters, on which they will be assessed throughout the semester and at the end of the fourth semester.
- Note: The external and internal examiners by mutual agreement will appropriately settle the marks given by the guide (reconsider, if necessary) and marks of oral presentation, and submit the mark lists to the Coordinator of the M. Sc. Examination Panel for that examination or directly to SPPU.

Savitribai Phule Pune University
Practical Examination in M. Sc. Microbiology
Course MBCP 243- (Dissertation)

Name of the center: _

Name of the student:

Examination No.: _

Sr. No.	Points for Evaluation	Max. Marks	Evaluation
1	Intellectual potential – Understanding of the research problem by the student (topic selection)	5	
2	Research aptitude –		
	a) Depth of literature survey for the proposed work.	3	
	b) Inputs of student in development of plans and protocols for the experimentation (methodology)	5	
	c) Ability to analyze data and formulate a solution (statistical analysis)	5	
	d) Analytical and reasoning abilities of the student for interpretation of data, inputs in discussion	5	
3	Motivation – punctuality, meeting dead-lines and seriousness (attendance)	2	
4	Ability to work with others	2	
5	Communication skill – oral and written (conferences, oral, ppt., publication)	3	
Total		30	

Point wise mark sheet – to be filled in by the **Guide** (Based on the evaluation carried out throughout the period of dissertation)

Place of work:

Name of the Guide:

Date and Signature:

Savitribai Phule Pune University
Practical Examination in M. Sc. Microbiology
Course MBCP 243 (Dissertation)

Name of the center:

Name of the student: _

Examination No.:

Sr. No.	Points for Evaluation	Max. Marks	Evaluation
1	Proficiency of presentation skills – use of audio-visual aids, preparation of graphs, charts, models, statistical analysis etc., use of scientific language	10	
2	Research potential of the work, results and interpretation, outcome of the study and possible future plans, publication potential of the work towards society	10	
3	The dissertation report preparation (scientific writing) and its contents	5	
4	Abilities of satisfactory responses to the queries from the audience (defense)	10	
Total		35	

Point wise mark sheet – to be filled in by External examiner (Based on oral presentation and *viva voce* of the dissertation as end semester evaluation)

Place of work:

Name of the External Examiner:

Signature:

Date:

Practical Examination in M. Sc. Microbiology

Course MBCP 243 (Dissertation)

Name of the center: _

Name of the student:

Examination No.:

Point wise mark sheet – to be filled in by Internal Examiner (Based on oral presentation and *viva voce* of the dissertation as end semester evaluation)

Sr. No.	Points for Evaluation	Max. Marks	Evaluation
1	Proficiency of presentation skills – use of audio-visual aids, preparation of graphs, charts, models, statistical analysis etc., use of scientific language	10	
2	Research potential of the work, results and interpretation, outcome of the study and possible future plans, publication potential of the work towards society	10	
3	The dissertation report preparation (scientific writing) and its contents	5	
4	Abilities of satisfactory responses to the queries from the audience	10	
Total		35	

Place of work:

Name of the Internal Examiner:

Signature:

Date:

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants Choice based Optional Theory Paper (Elective)
Course Code	MBET 244
Semester	IV
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To aware students on Quality Assurance in Pharmaceutical Industry and the concepts of validation in Pharmaceutical Industry
2.	To inculcate the insight of quality assurance and quality management in pharmaceuticals
3.	To give them the knowledge of Therapeutic ratio, MIC and MBC Susceptibility Testing:

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students. will have knowledge of Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP) in pharmaceutical industry.
2.	They will be accustomed with ISO, WHO and US certification and also Safety in microbiology laboratory.
3.	The knowledge of Therapeutic ratio, MIC and MBC Susceptibility Testing will be obtained by students

MBET 244: Semester IV Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants Choice based Optional Theory Paper (Elective)		
Total: 2 Credits		Workload :-15 hrs /credit (Total Workload :- 2 credits x 15 hrs = 30 hrs in semester)
Credit	Description	Lectures
Credit I	Quality Assurance and Validation in Pharmaceutical Industry A. Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP) in pharmaceutical industry. Quality assurance and quality management in pharmaceuticals ISO, WHO and US certification. Safety in microbiology laboratory. B. Safety profile of drugs: i. Sterility Testing ii. Pyrogenicity testing iii. Mutagenicity and Carcinogenicity testing iv. Teratogenicity testing C. Safety profile of drugs: i. Sterility Testing ii. Pyrogenicity testing iii. Mutagenicity and Carcinogenicity testing iv. Teratogenicity testing	15
Credit II	Development of Anti infectives: Therapeutic ratio, MIC and MBC Susceptibility Testing: A. Use of liquid and solid media B. Factors affecting susceptibility testing, CLSI guidelines C. Diffusion methods – agar dilution technique, gradient plate techniques, E-test, Kirby Bauer, Stokes method D. Susceptibility testing for: i. Anti-mycobacterial agents ii. Anti-fungal agents iii. Anti-protozoan agents iv. Anti-viral agents	15

Suggested References MBET 244: Semester IV Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti-Infectives from plants Choice based Optional Theory Paper (Elective)	
Credit	References
Credit I	<ol style="list-style-type: none"> 1. Blondelle S. E., Pérez-Payá E. and Houghten R. A. (1996). Synthetic combinatorial libraries: novel discovery strategy for identification of antimicrobial agents. <i>Antimicrobial Agents and Chemotherapy</i>. 1067–1071 2. Holliger M. A. (2008). <i>Introduction to Pharmacology</i>. Third Ed., CRC Press. ISBN9781420047417 3. Kokate C. K., Purohit A. P. and Gokhale A. B. (2000). <i>Pharmacology</i>, 4th Edition. NiraliPrakashan. 4. Maron D. M. and Bruce N. A. (1983). Revised methods for the Salmonella mutagenicity test. <i>Mutation Research</i>. 113: 173-215 5. Osol A. and Hoover J. E. (1975). <i>Remington's Pharmaceutical Sciences</i>, 15th Ed., MackPub. Co., Pennsylvania. 6. Vyas S. P and Dixit V. R. (2002). <i>Pharmaceutical Biotechnology</i>, CBS Publishers andDistributors, New Delhi
Credit II	<ol style="list-style-type: none"> 1. Franklin T. J. and Snow G. A. (1975). <i>Biochemistry of Antimicrobial Action</i>. Chapman and Hall, London. 1-22 and 161-200. 2. Gale E. F., Cundliffe E., Reynolds P. E., Richmond M. H. and Waring M. J. (1972). <i>The molecular basis of antibiotic action</i>, John Wiley and Sons, London 3. Goldstein A., Aronow L., and Kalman S. M. (1969) <i>Principles of Drug Action, TheBasis of Pharmacology</i>, Harper international edition New York. 4. Lorian V. (1986). <i>Antibiotics in laboratory medicine</i>. 2nd Ed, Williams & WilkinsPublication 5. National Committee for Clinical Laboratory Standards (now Clinical and Laboratory Standards Institute, CLSI). NCCLS: 1997. Methods for dilution antimicrobial susceptibility testing for bacteria that grows aerobically. Approved Standards M7-A4. Villanova, PA. 6. National Committee for Clinical Laboratory Standards (now Clinical and Laboratory Standards Institute, CLSI). NCCLS: 2002. Performance standards for antimicrobial susceptibility testing; 12th information supplement (M100-S1). Villanova, PA

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Practicals based on Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants Choice based Optional Practical Paper (Elective)
Course Code	MBEP 244
Semester	IV
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To make students aware of Quality Assurance in Pharmaceutical Industry.
2.	To inculcate the concepts of validation in Pharmaceutical Industry.
3.	To give acquaintance about development of anti- infectives from plants

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students will have knowledge of Quality Assurance in the Pharmaceutical Industry.
2.	Understanding about validation processes in the Pharmaceutical Industry will become easy.
3.	They will be acquainted with the knowledge of development of anti- infectives from plants

MBEP 244: Semester IV		
Practicals based on Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants		
Choice based Optional Practical Paper (Elective)		
Total: 2 Credits		Workload :-30 hrs /credit
(Total Workload :- 2 credits x 30 hrs = 60 hrs in semester)		
Credit	Description	Lectures
Credit I	Sterility testing of following pharmaceutical preparations as per IP: i. Oral preparations preparation: Antipyretic or antibiotic tablets ii. Liquid preparation: water soluble vitamin or cough syrup or ophthalmic drops iii. Bulk preparation: (any two) Surgical Cotton rolls/ gauze/ surgical sutures/ disposable syringes.	30
Credit II	Detection and isolation of anti-infectives from plant i. Extraction of bioactive principles from plant and activity fractionation ii. Estimation of its antimicrobial activity using standard guidelines (CLSI)	30

Suggested References MBEP 244: Semester IV	
Practicals based on Quality Assurance and Validation in Pharmaceutical Industry and Development of Anti Infectives from plants	
Choice based Optional Practical Paper(Elective)	
Credit	References
Credit I	Sterility testing of following pharmaceutical preparations as per IP 1. Holliger M. A. (2008). Introduction to pharmacology. 3 rd Edition. CRC Press 38 2. Indian Pharmacopoeia. (2007). Government of India, Ministry of Health and Family Welfare. The Indian Pharmacopoeia commission. Ghaziabad. 1:53 3. Knudsen L. F. (1949). Sample size of parenteral solutions for sterility testing. J Amer Pharm Assoc. 38: 332–337. 4. McGuire J. and Kupiec T.C. (2007). Quality-control analytical methods: the quality of sterility testing. Intl J Pharm Compounding. 11(1): 52–55. 5. Madsen R. E. (1994). US vs. Barr Laboratories: a technical perspective. PDA J Pharm Sci Tech. 48(4): 176–179. 6. Moldenhauer J. and Sutton S.V.W. (2004). Towards an improved sterility test. PDA J Pharm Sci Tech. 58 (6): 284–286. 7. Moldenhauer J. (2006). Viability-based rapid microbiological methods for sterility testing and the need for identification of contamination. PDA J

	<p>CBCS: 2019 Pattern Pharm SciTech. 60(2): 81–88. Ph. Sc. Microbiology</p> <ol style="list-style-type: none"> 8. Schroeder H. G. (2005). Sterility failure analysis. PDA J Pharm Sci Tech. 59(2):89–95. 9. Sykes G. (1956). The technique of sterility testing. J Pharm Pharmacol. 8: 573
<p>Credit II</p>	<p>Detection and isolation of anti infectives from plant</p> <ol style="list-style-type: none"> 1. Lorian V. (1986). Antibiotics in laboratory medicine. 2nd Ed. Williams and WilkinsPublication 2. National Committee for Clinical Laboratory Standards (now Clinical and Laboratory Standards Institute, CLSI). NCCLS: 1997. Methods for dilution antimicrobial susceptibility testing for bacteria that grows aerobically. Approved Standards M7-A4. Villanova, PA. 3. National Committee for Clinical Laboratory Standards (now Clinical and Laboratory Standards Institute, CLSI). NCCLS: 2002. Performance standards for antimicrobial susceptibility testing; 12th information supplement (M100-S1). Villanova, PA.

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Advances in Microbial Technology Semester IV Choice based Optional Theory Paper (Elective)
Course Code	MBET 245
Semester	IV
No. of Credits	2

Aims & Objectives of the Course

Sr. No.	Objectives
1.	To aware about Advances in Microbial Technology
2.	To increase familiarity with various techniques used for animal cellculture technology.
3.	To teach applications of animal cell culture technology.

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students will learn about Advances in Microbial Technology
2.	They will get to know applications of animal cell culture technology
3.	Students will be accustomed with the latest techniques and their applications.

MBET 245: Advances in Microbial Technology Semester IV		
Choice based Optional Theory Paper (Elective)		
Total: 2 Credits		Workload: -15hrs /credit
(Total Workload :- 2 credits x 15hrs = 30 hrs in semester)		
Credit	Credit Title and Contents	Lectures
Credit I	Microbial Growth characteristics and product formation i. Concept of primary (growth associated) and secondary (growth on associated) metabolites and their control, ii. Kinetics of growth and product formation (growth rate, yield coefficient, efficiency etc.) iii. Effect of type of growth on fermentation: The type of growth (mycelia pellet form, mycelia filamentous form, free cell, cells producing exopolysaccharides) affects mass transfer of nutrients, oxygen and heat; as also cell proliferation can be affected by shearing of cells. At least one example of each type may be explained to show these effects in any suitable fermentation.	15
Credit II	i. Animal cell culture technology to produce: ii. Recombinant forms of natural proteins (insulin, erythropoietin), iii. Recombinant vaccines (protein: HIV, hepatitis B and DNA: HIV, malaria), Recombinant enzymes (lipase, restriction endonuclease), iv. Monoclonal antibodies v. Nucleic acid based products (introduction to gene therapy)	15

Suggested References MBET 245: Advances in Microbial Technology Semester IV	
Choice based Optional Theory Paper (Elective)	
Credit	References
Credit I	1. Gupta V. K., Schmoll M., Maki M., Tuohy M. and Mazutt M. A (Editors). (2013) Applications of Microbial Engineering. CRC Press 2. Rao D. G., (2010) Introduction to Biochemical Engineering. Tata Mcgraw Hill Education 3. Stanbury P. F. (2009) Principles of Fermentation Technology. 2 Edition. Elsevier (A Division of Reed Elsevier India Pvt. Limited).
Credit II	1. Moo Young M. ed. (1985). Comprehensive Biotechnology Vol: III and IV, Pergamon Press. N. Y 2. Ratledge C. and Kristiansen B. (ediyors). (2001) Basic Biotechnology. 2nd Ed. Cambridge Univ. Press. Cambridge 3. Satyanarayana U. (2005). Biotechnology. Books and Allied (p) limited.

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Practicals based on Advances in Microbial Technology Semester IV Choice based Optional Practical Paper (Elective)
Course Code	MBEP 245
Semester	IV
No. of Credits	2

Aims & Objectives of the Course:

Sr. No.	Objectives
1.	To aware students about Advances in Microbial Technology
2.	To make them familiar with various techniques used for animal cellculture technology.
3.	To teach applications of animal cell culture technology.

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students will study about Advances in Microbial Technology
2.	They will get knowledge about applications of animal cell culturetechnology.
3.	This will help them acquainted with the latest techniques and their applications.

MBEP 245: Practicals based on Advances in Microbial Technology Semester IV

Choice based Optional Practical Paper(Elective)

Total: 2 Credits

Workload :-30 hrs/credit

(Total Workload :- 2 credits x 30 hrs = 60 hrs in semester)

Credit	Credit Title and Contents	Lectures
Credit I	<p>A Bioconversion</p> <p>Bioconversions using immobilized systems (cells / enzyme)</p> <p>Parameter testing:</p> <p>i. Effect of gel concentration</p> <p>ii. Effect of cell / enzyme concentration</p> <p>B. Laboratory scale production</p> <p>Laboratory scale production and media optimization for:</p> <p>exopolysaccharide / bioemulsifier production</p>	30
Credit II	<p>Animal Cell Culture Technology</p> <p>A. Preparation of Hybridoma from tumour cell lines.</p> <p>B. Production of monoclonal antibodies from hybridoma of tumour cell lines</p>	30

Suggested References MBEP 245: Semester IV

Practicals based on Advances in Microbial Technology

Choice based Optional Practical Paper(Elective)

Credit	References
Credit I	<p>A. Bioconversion:</p> <ol style="list-style-type: none"> Arana-Peña S., Rios N. S., Carballares D., Mendez-Sanchez C., Lokha Y., Gonçalves L. and Fernandez-Lafuente R. (2020). Effects of enzyme loading and immobilization conditions on the catalytic features of lipase from <i>Pseudomonas fluorescens</i> immobilized on octyl-agarose beads. <i>Frontiers in bioengineering and biotechnology</i>. 8: 36. Brena B, González-Pombo P and Batista-Viera F. (2013). Immobilization of enzymes: a literature survey. <i>Methods Mol Biol</i>. 1051: 15-31. Gedam P. S., Raut A. N. and Dhamole P. B. (2019). Effect of operating conditions and immobilization on butanol enhancement in an extractive fermentation using non-ionic surfactant. <i>Appl Biochem Biotechnol</i>. 187: 1424–1436 Mahajan R., Gupta V. K. and Sharma J. (2010). Comparison and suitability of gel matrix for entrapping higher content of enzymes for commercial applications. <i>Indian J Pharm Sci</i>. 72(2): 223-228. <p>B. Laboratory scale production</p> <ol style="list-style-type: none"> Biswas J. and Paul A. K. (2017). Optimization of factors influencing exopolysaccharide production by <i>Halomonas xianhensis</i> SUR308 under batch culture. <i>AIMS Microbiology</i>, 3(3): 564–579. Hereher F., El-fallal A. and Abou-Dobara M. (2018). Cultural optimization of a new exopolysaccharide producer. “<i>Micrococcus roseus</i>”. <i>Beni-Suef University Journal of Basic and Applied Sciences</i>. 7(4): 632-639

CBCS: 2019 Pattern	<p>3. Maia P., Santos V., Ferreira A., Luna M., Silva T., Andrade R. and Campos T. G. (2018). An efficient bioemulsifier-producing <i>Bacillus subtilis</i> UCP 0146 isolated from mangrove sediments. <i>Colloids and Interfaces</i>. 2. 58. 10.3390/colloids2040058</p> <p>4. Rosero Neira-Gladys; Pimienta Astrid-Lorely.; Dugarte F. and Carvajal Fredy-Gonzalo. (2003). Parameters examination of a biosurfactant production at laboratory scale. <i>C.T.F Cienc. Tecnol. Futuro</i> [online]. 2(4): 35-42</p>	Microbiology
Credit II	<p>Animal Cell Culture Technology</p> <p>Carvalho L. S., da Silva O. B., de Almeida G. C., de Oliveira J.D., Parachin N. S. and Carmo T. S. (2017). Production Processes for Monoclonal Antibodies. <i>Fermentation Processes</i>, Angela Faustino Jozala. IntechOpen. Chapter 10: 181-198</p> <p>Greenfield E. A. (2014). Generating Monoclonal Antibodies. Chapter 7. <i>Antibodies: A laboratory Manual</i>. 2nd edition. Cold Spring Harbour Laboratory Press. New York. 629-644</p> <p>Kavyasudha C., Joel J. P. and Devi A. (2018). Differential expression of nucleostemin in the cytoplasm and nuclei of normal and cancerous cell lines. <i>Turk J Biol</i>. 42: 250-258</p> <p>Pandey S. (2010) Hybridoma technology for production of monoclonal antibodies. <i>Pharmaceutical Sciences Review and Research</i>. 1(2): Article 017. 88-94</p>	

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/Paper Title	Industrial waste water treatment and Industrial production of vaccines Choice based Optional Theory Paper (Elective)
Course Code	MBET 246
Semester	IV
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To aware students about the concepts of Industrial Waste Water Treatment
2.	To make them understand about sludge treatment
3.	To teach pupil about the Industrial Production of Vaccines

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students will get to know the concepts of Industrial Waste Water Treatment
2.	They will also learn about sludge treatment
3.	The concept of Industrial Production of Vaccines will also be clear to them

Industrial waste water treatment and Industrial production of vaccines**Choice based Optional Theory Paper (Elective)**

Total: 2 Credits

Workload: -15 hrs. /credit

(Total Workload :- 2 credits x 15hrs = 30 hrs in semester)

Credit	Description	Lectures
Credit I	<p>A. Concept and Introduction to Primary, Secondary and Tertiary treatment of Wastewater.</p> <p>B. Biological Treatment- Aerobic and Anaerobic, Suspended and Attached growth processes.</p> <p>C. Activated Sludge treatment and analysis (reactions and Kinetics, mass balance analysis, Hydraulic characters) Critical Operating parameters like DO, Hydraulic retention time, Mean cell retention time, F/M ratio.</p> <p>D. Current industrial wastewater treatment processes: Composition, physico-chemical properties and various effluents treatment methods with reference to:</p> <ol style="list-style-type: none"> i. Dairies ii. Food processing iii. Dyeing industry / Dye-house effluents iv. Paper and pulp industry: Effluent Disposal and Reuse 	15
Credit II	<p>Industrial production of vaccines</p> <p>A. Introduction to vaccines</p> <p>B. Types: Inactivated, Attenuated, Toxoid, Subunit, Conjugate, Experimental, Valence, Heterotypic</p> <p>C. Production</p> <ol style="list-style-type: none"> i. Pilot and Industrial scale production ii. Excipients iii. Role of Adjuvants and preservatives <p>D. Production of viral, bacterial and protozoal vaccines – Generations of vaccines:</p> <ol style="list-style-type: none"> i. First generation vaccines– Live attenuated (BCG, MMR) and Inactivated (Pertussis, Tetanus toxoids) ii. Second generation vaccines(synthetic) protein/ peptide/ polysaccharide):- <ol style="list-style-type: none"> a. Subunit vaccines (Hep B) b. Recombinant (Rotavirus), Hapten-Conjugate vaccines (diphtheria) iii. Third generation vaccines – DNA/RNA and Idiotypic vaccines (Malaria) iv. Next generation vaccines using OMICs approach: SARS. 	15

MBET 246: Semester IV	
Industrial waste water treatment and Industrial production of vaccines	
Choice based Optional Theory Paper (Elective)	
Credit	References
Credit I	<ol style="list-style-type: none"> 1. Abdallah M. N., Abdelhalim W. S. and Abdelhalim H. S. (2016). Industrial wastewater treatment of food industry using best techniques. International Journal of Engineering Science Invention, 5(8): 15-28. 2. Ali Z. and Rahman M. (2008) Physico-chemical characteristics of pulp and papermill effluent. Research in Environment and Life Sciences.1 (2): 59-60. 3. Ashtekar S., Bhandari V. M., Shirsath S. R., Sai Chandra P. L. V. N. and Jolhe P. D. (2013). Dye wastewater treatment: removal of reactive dyes using inorganic and organic coagulants. Journal of Industrial Pollution Control, 30(1): 33-42 4. Bajpai P. and Bajpai P. K. (1994). Mini review: Biological colour removal of pulp and paper mill wastewaters. Journal of Biotechnology. 33: 211-220. 5. Bajpai P. (2001). Microbial degradation of pollutants in pulp mill effluents. Advances in Applied Microbiology.48: 79-134. 6. Catalkaya E.C. and Kargi F. (2006). Color, TOC and AOX removals from pulp mill effluent by advanced oxidation processes: A Comparative Study. Journal of Hazardous Materials. 139 (2): 244-253 7. Metcalf and Eddy (Eds.). (1991). 3rd Edition, Tata Mac Graw Hill Publishing Co. Ltd. New Delhi. 8. Patwardhan A. D. (2008). Industrial wastewater treatment. © Prentice – Hall of India Pvt. Ltd., New Delhi. ISBN 978-81-203-335 9. Tchobanoglous G. and Burton F. L. (1991) Wastewater engineering, treatment, disposal and reuse. 3rd Edition, Metcalf and Eddy (Eds.), Tata Mac Graw Hill Publishing Co. Ltd. New Delhi.
Credit II	<ol style="list-style-type: none"> 1. Casida L. E. (1984). Industrial Microbiology. Wiley Eastern, New Delhi 2. Patel A. H. (1985). Industrial Microbiology, Macmillan India Ltd. 3. Soma Marla S., Bonthala V. S., München H. Z., Suresh., Gaur V. S. and Gohar Taj G. (2012). Biotechnology in Medicine and Agriculture Principles and Practices. Publisher: I.K International Publishing House Pvt. Ltd, Editors: Anil Kumar, Ashwani Pareek, and Sanjay Mohan Gupta. 739-759 4. Stanbury P. F. and Whittaker A. (1984). Principles of Fermentation Technology. Pergamon Press. 5. https://www.slideshare.net/adammmbbs/pathogenesis-3-rd-internal-updated-43458567 6. https://www.bio.fiocruz.br/en/images/stories/pdfs/mpti/2013/selecao/vaccine-process-technology.pdf 7. https://www.dcvmn.org/IMG/pdf/ge_healthcare_dcvmn_introduction_to_pd_for_vaccine_production_29256323aa_10mar2017.pdf 8. https://www.sciencedirect.com/science/article/pii/B9780128021743000059 https://www.researchgate.net/publication/313470959_Vaccine_Scale-up_and_Manufacturing

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Practicals based on Industrial Waste Water Treatment and Industrial Production of Vaccines Choice based Optional Practical Paper (Elective)
Course Code	MBEP 246
Semester	IV
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To introduce students with concepts of Industrial Waste Water Treatment
2.	To make them understand about sludge treatment
3.	To teach them about the Industrial Production of Vaccines

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	The concepts of Industrial Waste Water Treatment will be familiar to students
2.	They will learn about sludge treatment
3.	Students get acquainted with the concepts of Industrial Production of Vaccines

MBEP 246: Semester II		
Practicals based on Industrial Waste Water Treatment and Industrial Production of Vaccines		
Choice based Optional Practical Paper (Elective)		
Total: 2 Credits		Workload :-30 hrs /credit
(Total Workload :- 2 credits x 30 hrs = 60 hrs in semester)		
Credit	Description	Lectures
Credit I	Practicals based on industrial waste water treatment: i. Estimation of pollution load of a natural sample (e.g. river water / industrial waste water) ii. Setting up a laboratory experiment to assess degradability of synthetic wastewater	30
Credit II	Practicals based on industrial production of vaccines i. Checking the potency of a toxoid based vaccine by immune diffusion assay ii. Preparation of <i>Salmonella</i> O and H antigen and estimation with known antibodies	30

Suggested References MBEP 246: Semester IV	
Practicals based on Industrial Waste Water Treatment and Industrial Production of Vaccines	
Choice based Optional Practical Paper (Elective)	
Credit	References
Credit I	1. Barthwal R. R. (2002). Environmental Impact Assessment, New Delhi (India). New Age International (P) Limited Publishers. 2. Eaton A. D. (2005). Standard methods for the examination of water and wastewater. American Public Health Association. American Water Works Association. Water Environment Federation. Publisher: Washington, D.C.: APHA-AWWA-WEF. National government publication: English: 21st edition 3. Glasson J., Therivel R. and Chadwick A. (2012). Rutledge-Taylor and Francis Introduction to Environmental Impact Assessment. 4th Edition. 416 pages 4. Srivastava A. K. (2003). Environment Impact Assessment, (A.P.H. Publishing. Corporation, Delhi, ISBN-817648-4423
Credit II	1. Cruickshank R. (1982). Medical Microbiology, 12th Edition, P.403.2. Felix A. (1942) Brit. Med. J. 11: 597. 2. Roitt L. (1994). Essential Immunology. 8 th edition. Blackwell Scientific. Oxford, UK. 114- 115. 3. Vaerman J. P. (1981). Single radial immune diffusion, in methods in enzymology. 73 (Langone, J. J. And Van Vunakis, H, Eds.) New York. 291-305.

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Bioethics, Biosafety, Quality Control and Quality Assurance Choice based Optional Theory Paper (Elective)
Course Code	MBET 247
Semester	IV
No. of Credits	2

Aims and Objectives of the Course:

Sr. No.	Objectives
1.	To aware students about the concepts of Quality Assurance reviewing and approval of procedures, reviewing records and performing audits
2.	To make them understand about ethical conflicts in microbiological and biotechnological research
3.	To learn about Biosafety Regulatory bodies (Role and functions)

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students will learn about Quality Assurance reviewing and approval of procedures, reviewing records and performing audits
2.	They will also get an idea about Ethical conflicts in microbiological and biotechnological research
3.	Most importantly they will be acquainted with Biosafety Regulatory bodies (Role and functions)

MBET 247: Bioethics, Biosafety, Quality Control and Quality Assurance Semester VI**Choice based Optional Theory Paper (Elective)**

Total: 2 Credits

Workload :-15 hrs /credit

(Total Workload :- 2 credits x 150 hrs = 30 hrs in semester)

Credit		Lectures
Credit I	<p>Bioethics and Biosafety</p> <p>A. Bioethics</p> <ol style="list-style-type: none"> i. Concept of ethics and bioethics with respect to microbiological research ii. Principles of bioethics. iii. Ethical conflicts in microbiological and biotechnological research iv. Biological Diversity Act: <ul style="list-style-type: none"> conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of utilization of genetic resources <p>B. Biosafety</p> <p>Regulatory bodies (Role and functions)</p> <ol style="list-style-type: none"> i. Advisory Committee: Recombinant DNA Advisory Committee (RDAC) ii. Regulatory / Approval Committees: <ol style="list-style-type: none"> a. Genetic Engineering Appraisal Committee (GEAC) b. Review Committee on Genetic Manipulation (RCGM) c. SIRO (DSIR) d. Institutional Biosafety Committee (IBSC): <ul style="list-style-type: none"> Importance of Biosafety Institutional Biosafety Committees (IBSCs) Laboratory associated infections and hazards Bio safety regulation: handling of recombinant DNA products and process in industry and in institutions iii. Monitoring Committees: <ol style="list-style-type: none"> a. State Biotechnology Coordination Committee (SBCC) b. District Level Committee (DLC) 	15
Credit II	<p>Quality Control and Quality Assurance</p> <p>A. Quality Control:</p> <p>Assessment of suitability of components and products Evaluation of the performance of the manufacturing process</p> <p>B. Quality Assurance reviewing and approval of procedures, reviewing records and performing audits</p> <p>C. Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP)</p> <p>D. Regulatory bodies (Role and functions):</p> <ol style="list-style-type: none"> i. The Central Drugs Standard Control Organization (CDSCO) ii. National Accreditation Board for Testing and Calibration Laboratories (NABL) 	15

CBCS: 2019 Pattern	M. Sc.	Microbiology
iii. Food Safety and Standards Authority of India (FSSAI): Food and water Laboratories iv. International Standard ISO/IEC 17025:2017(E). v. Bureau of Indian Standards -IS 14648 (2011): Methods of Test for Microbiological Examination of Industrial Product (examples Cosmetics And Cosmetic Raw Materials) vi. The Central Pollution Control Board (CPCB)- Prevention and control of water and air pollution and improvement of the quality of air.		

Suggested References MBET 247: Semester VI Bioethics, Biosafety, Quality Control and Quality Assurance Choice based Optional Theory Paper (Elective)	
Credit	References
Credit I	1. Biotechnology: A comprehensive treatise (Vol. 12). Legal economic and ethical dimensions VCH. (2nd ed) ISBN- 10 3527304320. 2. Encyclopedia of Bioethics 5 vol set, (2003) ISBN-10: 0028657748. 2. Thomas J.A. and Fuch R. L. (2002). Biotechnology and safety Assessment (3rd Ed) Academic press. 3. Notification from Department of Biotechnology, Ministry of Science and Technology, India. (2020) Revised simplified procedures/guidelines on Import, Export and Exchange of GE organisms and product thereof for R& D purpose. File no. BT/BS/17/635/2015-PID. dated-17/01/2020 4. https://ibkp.dbtindia.gov.in/ 5. Ministry of Law And Justice (Legislative Department) New Delhi, the 5th February, 2003/Magha 16, 1924 (Saka) published for general information: The Biological Diversity Act, 2002 No. 18 of 2003 [5th February, 2003]
Credit II	1. Draft Manual on method of microbiological testing (2016) microbiology of foods. Food safety and Food Standards. https://old.fssai.gov.in/Portals/0/Pdf/Microbiological_Testing_Foods_Draft_Manual_06_09_2016.pdf 2. Eleftheriadou M. and Tsimillis K. C. (Eds), Eurachem guide: Accreditation for Microbiological Laboratories, Second edition (2013), ISBN: 978-91-87017-92-6. Available from www.eurachem.org . 3. https://archive.fssai.gov.in/home/food-testing/food-testing-manual.html . 4. https://cdsco.gov.in/opencms/opencms/en/About-us/Functions/ 5. https://cdsco.gov.in/opencms/opencms/en/Home/ 6. https://cpcb.nic.in/functions/ 7. https://www.iso.org/obp 8. International Standard ISO/IEC 17025:2017(E). General requirements for the competence of testing and calibration Laboratories. Third edition. 2017-11 9. IS 14648 (2011): Methods of Test for Microbiological Examination of Cosmetics and Cosmetic Raw Materials. https://law.resource.org/pub/in/bis/S11/is.14648.2011.pdf 10. Manual for Good Food Laboratory Practices (GFLPs). 2018. Food

11. Manual of Methods for Analysis of Water 2016. Food Safety and Standards Authority of India (FSSAI), Ministry of Health and Family Welfare Government of India, New Delhi
12. National Accreditation Board for Testing and Calibration Laboratories (NABL). (2019) Specific Criteria for Accreditation. NABL 112. Issue No: 04. Issue Date -11-Feb-2019

Savitribai Phule Pune University
Syllabus M.Sc. Microbiology II Semester IV (2019 Pattern)

Course/ Paper Title	Practicals based on Bioethics, Biosafety, Quality Control and Quality Assurance Choice based Optional Practical Paper (Elective)
Course Code	MBEP 247:
Semester	IV
No. of Credits	2

Aims & Objectives of the Course:

Sr. No.	Objectives
1.	To get to know the concepts of NABL norms for Calibration of instruments
2.	To make them understand the Food Safety and Standards Authority of India (FSSAI) regulations for test methods for drinking water
3.	To learn about Food Safety and Standards Authority of India (FSSAI) regulations test methods for water/butter/cheese/milk product for processed food industry and food industry

Expected Course Specific Learning Outcome:

Sr. No.	Learning Outcome
1.	Students will learn NABL norms for Calibration of instruments
2.	They will be educated about test methods for drinking water followed by the Food Safety and Standards Authority of India (FSSAI) regulations
3.	Their acquaintance will be made with Food Safety and Standards Authority of India (FSSAI) regulations test methods for water/butter/cheese/milk product for processed food industry and food industry

MBEP 247: Semester IV Practicals based on Bioethics, Biosafety, Quality Control and Quality Assurance Choice based Optional Practical Paper (Elective) Total: 2 Credits Workload :-30 hrs /credit (Total Workload :- 2 credits x 30 hrs = 60 hrs in semester)		
Credit	Description	Lectures
Credit I	A. NABL norms for Calibration of: i. Autoclave- Calibration of pressure gauge and temperature by thermal mapping, sterility testing, SOP preparation. ii. Laminar Air Flow- checking the functioning of UV light by colony count method and sterility checking by blood agar media plate method, SOP preparation.	15
	B. Food Safety and Standards Authority of India (FSSAI) Regulations Test Methods for Drinking Water i. Detection of sulphite-reducing anaerobes (Clostridia) ii. Detection of viruses	15
Credit II	A. Food Safety and Standards Authority of India (FSSAI) Regulations Test Methods for Water/butter/cheese/milk product for Processed Food Industry: (perform any two) i. Proteolytic Plate Count ii. Lipolytic Plate Count iii. Thermophillic Bacterial Count (for Dairy Industry-Processing) iv. Slime Forming Bacteria (for Dairy industry-Hot water	15
	B. Food Safety and Standards Authority of India (FSSAI) Regulations for Microbiological Testing of food: i. Detection and Confirmation of <i>Listeria monocytogenes</i> in Foods ii. Fermentation Test (Incubation test for Cans, Tetrapacks, Standby pouches).	15

Suggested References MBEP 247: Semester IV Practicals based on Bioethics, Biosafety, Quality Control and Quality Assurance Choice based Optional Practical Paper (Elective)	
Credit	References
Credit I	A. NABL norms for Calibration of National Accreditation Board for Testing and Calibration Laboratories (NABL). (2019) Specific Criteria for Accreditation. NABL 112. Issue No: 04 Issue Date: 11-Feb-2019

CBCS: 2019 Pattern	<p style="text-align: center;">M.Sc.</p> <p style="text-align: right;">Microbiology</p> <p>B. Food Safety and Standards Authority of India (FSSAI) Regulations Test Methods for Drinking Water</p> <p>Manual of Methods for Analysis of Water 2016. Food Safety and Standards Authority of India (FSSAI), Ministry Of Health and Family Welfare Government of India, New Delhi</p>
Credit II	<p>A. Food Safety and Standards Authority of India (FSSAI) Regulations Test Methods for Water/butter/cheese/milk product for Processed Food Industry:</p> <p>Manual of Methods for Analysis of Water 2016. Food Safety and Standards Authority of India (FSSAI), Ministry Of Health and Family Welfare Government of India, New Delhi</p>
	<p>B. Food Safety and Standards Authority of India (FSSAI) Regulations for Microbiological Testing of food:</p> <ol style="list-style-type: none"> 1. Draft manual on method of microbiological testing (2016) microbiology of foods. Food safety and Food Standards. Available at:https://old.fssai.gov.in/Portals/0/Pdf/Microbiological_Testing_Foods_Draft_Manual_06_09_2016.pdf 2. https://archive.fssai.gov.in/home/food-testing/food-testing-manual.html. 3. Manual for Good Food Laboratory Practices (GFLPs). 2018. Food Safety and Standards Authority of India (FSSAI), Ministry Of Health and Family Welfare Government of India, New Delhi



1.3 CURRICULUM ENRICHMENT

1.3.1 CROSS CUTTING ISSUES RELEVANT TO PROFESSIONAL ETHICS, GENDER, HUMAN VALUES, ENVIRONMENT AND SUSTAINABILITY INTO THE CURRICULUM

Sr. No.	Program Name	Course title and Code	Cross cutting issue addressed
1	F. Y. B. Sc.	MB 112: Basic Techniques in Microbiology	Professional Ethics
2	F. Y. B. Sc.	MB122: Microbial cultivation and growth	Professional Ethics
3	S. Y. B. Sc.	MB222: Air Water & Soil Microbiology	Professional Ethics, Environmental awareness
4	T. Y. B. Sc.	MB 335 TC: Fermentation technology I	Professional Ethics, Sustainability
5	T. Y. B. Sc.	MB 345 TC: Fermentation technology II	Professional Ethics, Sustainability
6	M. Sc. II	MBET 236: Bioremediation and Biomass utilization	Environmental awareness, Sustainability



Savitribai Phule Pune University
(Formerly University of Pune)

Three Year B.Sc. Degree Program in Botany
(Faculty of Science & Technology)

S.Y.B.Sc Botany

Choice Based Credit System Syllabus

To be implemented from Academic Year 2020- 2021

Title of the Course: B. Sc Botany**1. Structure of Course:**

Structure B.Sc. Botany syllabus					
Year	Semester	Course Type	Course code	Course Name	Credits
1	1	Compulsory Course	BO 111	Plant life and utilization I	2
			BO 112	Plant morphology and Anatomy	2
			BO 113	Practical based on BO 111 & BO 112	1.5
	2	Compulsory Course	BO 121	Plant life and utilization II	2
			BO 122	Principles of plant science	2
			BO 123	Practical based on BO 121 & BO 122	1.5
2	3	Compulsory Course	BO 231	Taxonomy of Angiosperms and Plant Ecology	2
			BO 232	Plant Physiology	2
			BO 233	Practical based on BO 231 & BO 232	2
	4	Compulsory Course	BO 241	Plant Anatomy and Embryology	2
			BO 242	Plant Biotechnology	2
			BO 243	Practical based on BO 241 & BO 242	2
3	5	Discipline Specific Elective Course	BO 351	Botany Theory Paper 1	2
			BO 352	Botany Theory Paper 2	2
			BO 353	Botany Theory Paper 3	2
			BO 354	Botany Theory Paper 4	2
			BO 355	Botany Theory Paper 5	2
			BO 356	Botany Theory Paper 6	2
			BO 357	Botany Practical Paper 1	2
			BO 358	Botany Practical Paper 2	2
		BO 359	Botany Practical Paper 3	2	
		Skill Enhancement course	BO 3510	Botany Theory Paper 7	2
			BO 3511	Botany Theory Paper 8	2
3	6	Discipline Specific Elective Course	BO 361	Botany Theory Paper 1	2
			BO 361	Botany Theory Paper 2	2
			BO 362	Botany Theory Paper 3	2
			BO 363	Botany Theory Paper 4	2
			BO 364	Botany Theory Paper 5	2
			BO 365	Botany Theory Paper 6	2
			BO 366	Botany Practical Paper 1	2
			BO 367	Botany Practical Paper 2	2
		BO 368	Botany Practical Paper 3	2	
		Skill Enhancement course	BO 3610	Botany Theory Paper 7	2
			BO 3611	Botany Theory Paper 8	2

2. Equivalence of Previous Syllabus:

Old Course (2014 Pattern)	New Course (2020 CBCS Pattern)
BO-211: Taxonomy of Angiosperms and Plant community	BO 231: Taxonomy of Angiosperms and Plant Ecology
BO-212: Plant Physiology	BO 232: Plant Physiology
BO-221: Plant Anatomy and Embryology	BO 241: Plant Anatomy and Embryology
BO-222: Plant Biotechnology	BO 242: Plant Biotechnology
Practical based on theory courses (Paper I and Paper II)	Semester III: Practical based on BO 231 & BO 232 Semester IV: Practical based on BO 241 & BO 242

**S.Y.B.Sc. Botany CBCS Pattern
(Semester III, Paper I) 2020-2021**

BO 231: Taxonomy of Angiosperms and Plant Ecology - 2 Credits (30 Lectures)

Sr. No.	Topic Details	No. of Lectures
Credit-I		15
1.	Introduction to Angiosperms Taxonomy Definition, scope, objectives and importance of taxonomy Exploration, Description, Identification, Nomenclature and classification Concept of Systematics with brief historical background	02
2.	Systems of classification Comparative account of various systems of classification Artificial system- Carl Linnaeus Natural system- Bentham and Hooker Phylogenetic system- Engler and Prantl APG system- A brief review	05
3.	Study of Plant Families Study of following families with reference to systematic position (As per Bentham and Hooker's system of classification), salient features, floral formula, floral diagram and any five examples with their economic importance – Annonaceae, Brassicaceae, Myrtaceae, Rubiaceae, Solanaceae, Apocynaceae, Nyctaginaceae and Amaryllidaceae	08
Credit-II		15
4.	Botanical Nomenclature Concept of nomenclature, brief history, Binomial nomenclature International Code for Nomenclature of Algae, Fungi and Plants (ICN)- Principles, Rules and Recommendations; 'Type' specimen and its types (Holotype, Paratype, Isotype, Lectotype, Neotype). Concept of Typification. Ranks and endings of taxa names, Coining of Genus and Species names Single, double and multiple authority citations	05
5.	Introduction to ecology Definition, concept, scope, and interdisciplinary approach, autecology and synecology. Species diversity: definition, concept, scope, and types: Alpha, Beta and Gamma diversity. Methods of vegetation sampling: quadrat method, transect method, plot less method Genetic Diversity: definition, nature and origin of genetic variations Species Diversity: definition, origin of species diversity, diversity indices, species abundance Ecosystem Diversity: definition, major ecosystem types of the world, Hotspots in India – concept and basis of 'hotspot' identification.	06
6.	Ecological grouping of the plants Ecological grouping of the plants with reference to their significance of adaptive external and internal features: a) Hydrophytes, b) Mesophytes c) Xerophytes d) Halophytes with examples.	04

References-

1. Balfour Austin (2016). Plant Taxonomy. Syrawood Publishing House
2. Chapman, J.L. and Reiss, M.J. (1998). Ecology: Principles and applications. Cambridge, University Press.
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4. Cooke, Theodore (1903-8). The Flora of the Presidency of the Bombay Vol. I, II, III (Repr. ed), Botanical Survey of India.
5. Cronquist, A. (1968). The Evolution and Classification of Flowering Plants. Thomas Nel and Sons Ltd. London.
6. Datta S.C. (1988). Systematic Botany. New Age Publ.
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10. Kormondy Edward (1995). Concepts of Ecology, Pearson Publ.
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15. Naik V.N. (1988) Taxonomy of Angiosperms. Oxford and IBH
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22. Shivrajan V.V. & N.K.P. Robson (1991). Introduction to Principles of Plant Taxonomy. Cambridge Univ. Press
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28. Singh N.P. (2003) Flora of Maharashtra Volume-III BSI, Kolkatta
29. Singh N.P., S. Karthikeyan (1996) Flora of Maharashtra Volume-I, BSI, Kolkatta
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34. Takhtajan A. (1969). Flowering Plants: Origin and Disposal.

IMPORTANT WEBSITES

THE FAMILIES OF FLOWERING PLANTS- L. Watson and M.J. Dallwitz

<https://www.delta-intkey.com/angio/index.htm>

ANGIOSPERM PHYLOGENY WEBSITE, version 14.

<http://www.mobot.org/MOBOT/research/APweb/>

THE PLANTS OF THE WORLD ONLINE PORTAL

<http://www.plantsoftheworldonline.org/>

INTERNATIONAL PLANT NAME INDEX (IPNI)

<https://www.ipni.org/>

TROPICOS

<https://www.tropicos.org/home>

BIODIVERSITY HERITAGE LIBRARY

<https://www.biodiversitylibrary.org/>

BOTANICUS DIGITAL LIBRARY

<https://www.botanicus.org/>

INTERNET ARCHIVE- DIGITAL LIBRARY

<https://archive.org/>

DATABASE OF PLANTS OF INDIAN SUBCONTINENT

<https://sites.google.com/site/efloraofindia/>

BOTANICAL SURVEY OF INDIA

https://bsi.gov.in/content/1416_1_FloraofIndia.aspx

FLOWERS OF INDIA

<http://www.flowersofindia.net/>

eFLORAS OF WORLD

<http://www.efloras.org/>

**S.Y.B.Sc. Botany CBCS Pattern
(Semester III, Paper II) 2020-2021
BO 232: Plant Physiology - 2 Credits (30 Lectures)**

Credit I:

- | | |
|--|-----------|
| 1. Introduction to Plant Physiology | 2L |
| Scope and applications of plant physiology | |
| 2. Absorption of water | 3L |
| 2.1 Role of water in plants | |
| 2.2 Mechanisms of water absorption with respect to crop plants | |
| 2.3 Factors affecting rate of water absorption | |
| 3. Ascent of sap | 3L |
| 3.1 Introduction and definition. | |
| 3.2 Transpiration pull or cohesion-tension theory, evidences and objections | |
| 3.3 Factors affecting ascent of sap | |
| 4. Transpiration | 7L |
| 4.1 Definition | |
| 4.2 Types of transpiration – cuticular, lenticular and stomatal | |
| 4.3 Structure of stomata | |
| 4.4 Mechanism of opening and closing of stomata –Steward’s hypothesis, active K ⁺ transport mechanism | |
| 4.5 Factors affecting the rate of transpiration | |
| 4.6 Significance of transpiration | |
| 4.7 Antitranspirants | |
| 4.8 Guttation | |
| 4.9 Exudation | |
| Credit II: | |
| 5. Nitrogen metabolism | 7L |
| 5.1 Introduction and role of nitrogen in plants | |
| 5.2 Nitrogen fixation by <i>Rhizobium</i> and BGA | |
| 5.2.1 Symbiotic nitrogen fixation, nitrogenase enzyme- structure and function | |
| 5.2.2 Non-symbiotic nitrogen fixation | |
| 5.3 Importance and production technique of BGA | |
| 5.4 Denitrification, ammonification and nitrification | |
| 5.5 Reductive amination and transamination | |
| 6. Seed dormancy and germination | 4L |
| 6.1 Definition, types of seed dormancy and germination | |
| 6.2 Methods to break seed dormancy | |
| 6.3 Metabolic changes during seed germination | |
| 6.4 Role of phytohormones to improve seed germination | |
| 6.5 Vigor Index | |
| 7. Physiology of flowering | 4L |
| 7.1 Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants. | |

- 7.2 Phytochrome theory, role of phytohormones in induction and inhibition of flowering
- 7.3 Applications of photoperiodism
- 7.4 Vernalization–concept and definition, mechanism of vernalisation, applications of vernalisation and devernalization

References:

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S.Y.B.Sc. Botany CBCS Pattern
Practical (Semester III Paper III) 2020-2021
BO 233: Practical based on BO 231 & BO 232

Practical based on Taxonomy of Angiosperms and Plant Ecology, and Plant Physiology

Sr. No.	Title	No. of Practical
Taxonomy of Angiosperms and Plant Ecology		
1	Study of tools of taxonomy and ecological instruments (any four each)	1
2	Description of flowering plant in botanical terms	1
3	Study of plant families (any four)	3
4	Study of ecological adaptations in Hydrophytes with any two examples	1
5	Study of ecological adaptations in Xerophytes with any two examples	1
6	Study of vegetation by list count quadrat method.	1
Plant Physiology		
7	Perform phytochemical test for starch and protein in germinating and non germinating seeds	1
8	Isolation of Leaf Protein Concentration (LPC) from suitable plant material.	1
9	Determination of Diffusion Pressure Deficit (DPD)	1
10	Determine rate of transpiration under different conditions of Sunlight, Shade and Wind	1
11	Demonstration of the following a. Commercial biofertilizers b. Imbibition in seeds c. Ringing experiment d. Arc Auxanometer e. Spectrophotometer f. Nitrogen fixing bacteria / BGA (specimen/ slide)	1
12	Calculate seed germination percentage and vigor index	1
13	Botanical excursion tour and visit to Floriculture industry / Soil testing center / Seed testing center	1

N.B. Botanical excursion tour and submission of report along with herbarium of any five weeds of the following (List of Weeds attached).

List of weeds

Acanthospermum hispidum DC. Asteraceae
Aerva javanica (Burm.f.) Juss. ex Schult. Amaranthaceae
Aeschynomene americana L. Fabaceae Tropical America
Ageratum conyzoides L. Asteraceae America
Alternanthera paronychioides St. Hill. Amaranthaceae Tropical America
Alternanthera philoxeroides (Mast.) Griseb. Amaranthaceae America
Alternanthera pungens Kunth Amaranthaceae Tropical America
Alternanthera sessilis (L.) R.Br. ex DC. Amaranthaceae Tropical America
Amaranthus spinosus L. Amaranthaceae Tropical America
Antigonon leptopus Hk. & Arn. Polygonaceae America
Argemone mexicana L. Papaveraceae West Indies

Asclepias curassavica L. Apocynaceae Tropical America
Bidens pilosa L. Asteraceae Tropical America
Blainvillea acmella (L.) Philipson Asteraceae Tropical America
Blumea eriantha DC. Asteraceae Tropical America
Blumea lacera (Burm.f.) DC. Asteraceae Tropical America
Boerhavia erecta L. Nyctaginaceae Tropical America
Cardamine hirsuta L. Brassicaceae Tropical America
Cassia absus L. Caesalpiniaceae Tropical America
Cassia occidentalis L. Caesalpiniaceae South America
Cassia pumila Lam. Caesalpiniaceae Tropical America
Cassia tora L. Caesalpiniaceae South America
Celosia argentea L. Amaranthaceae Tropical America
Chrozophora rottleri (Geis.) Spreng. Euphorbiaceae Tropical Africa
Cleome viscosa L. Capparaceae Tropical America
Conyza canadensis (L.) Cronquist Asteraceae South America
Coronopus didymus (L.) Smith Brassicaceae South America
Cronton bonplandianum Baillon Euphorbiaceae South America
Crotalaria pallida Dryand Fabaceae Tropical America
Crotalaria retusa L. Fabaceae Tropical America
Cryptostegia grandiflora R.Br. Apocynaceae Madagascar
Cuscuta chinensis Lam. Cuscutaceae Mediterranean
Cuscuta reflexa Roxb. Cuscutaceae Mediterranean
Cyperus difformis L. Cyperaceae Tropical America
Cyperus iria L. Cyperaceae Tropical America
Datura innoxia Mill. Solanaceae Tropical America
Dicoma tomentosa Cass. Asteraceae Tropical America
Digera muricata (L.) Mart. Amaranthaceae North America
Eclipta prostrata (L.) L. Asteraceae Tropical America
Eichhornia crassipes (Mart.) Solms Pontederiaceae Tropical America
Emilia sonchifolia (L.) DC. Asteraceae Tropical America
Eupatorium adenophorum Spreng. Asteraceae Central America
Eupatorium odoratum L. Asteraceae South America
Euphorbia heterophylla L. Euphorbiaceae Tropical America
Euphorbia hirta L. Euphorbiaceae Tropical America
Galinsoga parviflora Cav. Asteraceae Tropical America
Hyptis suaveolens (L.) Poit. Lamiaceae South America
Ipomoea carnea Jacq. Convolvulaceae Tropical America
Ipomoea hederifolia L. Convolvulaceae Tropical America
Ipomoea obscura (L.) Ker Gawl. Convolvulaceae Tropical Africa
Ipomoea pes-tigridis L. Convolvulaceae Tropical Africa
Lagascea mollis Cav. Asteraceae Tropical America
Lantana camara L. Verbenaceae Tropical America
Malachra capitata (L.) L. Malvaceae Tropical America

Malvastrum coromandelianum (L.) Garcke Malvaceae Tropical America
Martynia annua L. Pedaliaceae Tropical America
Mecardonia procumbens (Mill.) Small Scrophulariaceae Tropical America
Mikania micrantha Kunth Asteraceae Tropical America
Oxalis corniculata L. Oxalidaceae Europe
Parthenium hysterophorus L. Asteraceae Tropical America
Physalis minima L. Solanaceae Tropical America
Pistia stratiotes L. Araceae Tropical America
Portulaca oleracea L. Portulacaceae South America
Prosopis juliflora (Sw.) DC. Mimosaceae Mexico
Ruellia tuberosa L. Acanthaceae Tropical America
Scoparia dulcis L. Scrophulariaceae Tropical America
Solanum nigrum L. Solanaceae Tropical America
Solanum torvum Sw. Solanaceae West Indies
Sonchus oleraceus L. Asteraceae Mediterranean
Spilanthes radicans Jacq. Asteraceae South America
Synedrella nodiflora (L.) Gaertn. Asteraceae West Indies
Tridax procumbens L. Asteraceae Tropical America
Waltheria indica L. Sterculiaceae Tropical America
Xanthium indicum Koenig Asteraceae Tropical America
Youngia japonica (L.) DC. Asteraceae South America

SEMESTER IV**S.Y.B.Sc. Botany CBCS Pattern
(Semester IV, Paper I) 2020-2021****BO 241: Plant Anatomy and Embryology- 2 Credits (30 Lectures)**

Credit-I Plant anatomy:	(15 Lectures)
1. Introduction	2L
1.1 Definition	
1.2 Scope of plant anatomy	
2. Epidermal tissue system	3L
2.1 Structure, types and functions of epidermis	
2.2 Structure, types and functions of Stomata	
2.3 Epidermal outgrowths- non-glandular and glandular	
2.4 Motor cells	
3. Mechanical tissue system	3L
3.1 Principles involved in distribution of mechanical tissues with one example each	
a) Inflexibility,	
b) Incompressibility,	
c) Inextensibility and	
d) Shearing stress	
3.2 Vascular tissue system: Structure and function of xylem, phloem and cambium	
4. Normal secondary growth	3L
4.1 Introduction	
4.2 Normal secondary growth in dicotyledonous stem	
4.3 Development of annual rings, periderm, bark, tyloses and lenticel	
5. Anomalous secondary growth	4L
5.1 Introduction	
5.2 Causes of anomalous secondary growth	
5.3 Anomalous secondary growth in:	
a) Dicotyledonous stem (<i>Bignonia</i>),	
b) Dicotyledonous root (<i>Raphanus</i>),	
c) Monocotyledonous stem (<i>Dracaena</i>)	
Credit-II Plant Embryology	(15 Lectures)
7. Introduction	1L
7.1 Definition and scope of plant embryology	
8. Microsporangium and male gametophyte	4L
8.1 Structure of tetrasporangiate anther	
8.2 Types of tapetum	
8.3 Sporogenous tissue	
8.4 Microsporogenesis: process and its types	
8.5 Types of microspore tetrad	
8.6 Male gametophyte: structure and development of male gametophyte	

9 Megasporangium and female gametophyte	4L
9.1 Structure	
9.2 Types of ovules	
9.3 Types of megaspore tetrads	
9.4 Female gametophyte: structure of typical embryo sac	
9.5 Types of embryo sacs – monosporic, bisporic and tetrasporic	
10. Pollination and Fertilization:	3L
10.1 Introduction and definition	
10.2 Types of pollination	
10.3 Germination of pollen grain	
10.4 Entry of pollen tube- porogamy, mesogamy and chalazogamy	
10.5 Double fertilization and its significance.	
11. Endosperm and embryo	3L
11.1 Endosperm: Types – nuclear, helobial and cellular.	
11.2 Structure of Dicotyledonous and Monocotyledonous embryo.	

References:

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7. Pijush Roy, Plant Anatomy. New Central Book Agency Ltd, Kolkata
8. Pandey S N and Ajanta Chadha, Plant Anatomy and Embryology, Vikas Publishing House, Pvt, Ltd, New Delhi
9. Bhojwani S S and Bhatnagar S P, An Embryology of Angiosperms
10. Maheshwari P, An introduction to Embryology of Angiosperm
11. Nair P K K Essentials of Palynology.

**S.Y.B.Sc. Botany CBCS Pattern
(Semester IV, Paper II) 2020-2021
BO 242: Plant Biotechnology (2 Cr- 30 Lectures)**

Credit I:

Chapter 1 Introduction to Plant Biotechnology	3L
1.1 History and definition	
1.2 Scope and importance of plant biotechnology	
1.3 Current status of biotechnology in India.	
Chapter 2 Plant Tissue Culture	8L
2.1 Concept of plant tissue culture and cellular totipotency	
2.2 Basic techniques: Types of culture, Media preparation, sterilization, inoculation, incubation, hardening	
2.3 Applications with reference to: Micropropagation, Somaclonal variation, Haploid production, Protoplast fusion & Somatic hybrids, Embryo rescue, Production of secondary metabolites.	
2.4 Commercial Plant Tissue culture laboratories in Maharashtra and India.	
Chapter 3 Single Cell Protein (SCP)	4L
3.1 Concept and definition	
3.2 Importance of proteins in diet	
3.3 Production of SCP from <i>Spirulina</i> and Yeast	
3.4 Importance & acceptability of SCP	

Credit II:

Chapter 4 Plant Genetic Engineering	5L
4.1 Introduction, concept	
4.2 Tools of genetic engineering (restriction enzymes, ligases, plasmid vectors)	
4.3 Gene cloning Technique	
4.4 Applications of plant genetic engineering: insect pest resistance, abiotic stress tolerance, herbicide resistance	
Chapter 5 Genomics, Proteomics and Bioinformatics	5L
5.1 Genomics- concept, types, methods used for whole genome sequencing	
5.2 Proteomics-concept, types, methods used in proteome analysis	
5.3 Bioinformatics-concept, database and its classification, data retrieval tools.	
Chapter 6 Bioremediation	2L
6.1 Introduction and concept	
6.2 Microbial remediation	
6.3 Phytoremediation	
Chapter 7 Biofuel technology	3L
7.1 Definition, Concept and types of Renewable and nonrenewable energy sources	
7.2 Definition and concept of Biogas, Bioethanol, Biobutanol, Biodiesel & Biohydrogen	

References

1. B.D. Singh (4th Edn 2012) Biotechnology-expanding horizons, Kalyani Publishers.
2. K.S. Bilgrami & A.K. Pandey (2007) Introduction to Biotechnology CBS Publishers and Distributors PVT LTD
3. M.K. Razdan (2002) Introduction to Plant Tissue Culture. Oxford and IBH Publishing Co., New Delhi.
4. H.S. Chawla (2005) Introduction to Plant Biotechnology. Oxford and IBH Publishing Co. New Delhi.

**S.Y.B.Sc. Botany CBCS Pattern
Practical (Semester IV Paper III) 2020-2021
BO 243: Practical based on BO 241 & BO 242**

Sr. No.	Title	No. of Practical
Plant Anatomy and Embryology		
1	Study of epidermal tissue system – non-glandular and glandular trichomes, multilayered epidermis, typical stomata (Dicotyledonous and Monocotyledonous).	2
2	Study of mechanical tissues and their distribution in root, stem and leaves.	1
3	Study of normal secondary growth in dicot stem – <i>Annona /Moringa</i> (Double stained temporary preparation).	1
4	Study of anomalous secondary growth in <i>Bignonia</i> and <i>Dracaena</i> stem (Double stained temporary preparation).	1
5	Study of tetrasporangiate anther and types of ovules with the help of permanent slides	1
6	Study of dicot and monocot embryo.	1
Plant Biotechnology		
7	Instruments/equipments used in plant tissue culture laboratory: Principle and working of Autoclave, oven, laminar air flow cabinet, micropipette, culture bottles/tubes with cotton plug	1
8	Preparation & sterilization of MS medium	1
9	Surface sterilization and Inoculation of nodal sector, leaf, anther and maize embryo	2
10	Laboratory cultivation of <i>Spirulina</i>	1
11	Demonstration practical on transgenic crops viz; Bt-Cotton, Golden rice	1
12	Demonstration of principle and working of agarose gel electrophoresis, centrifuge, spectrophotometer	1
13	Visit to plant tissue culture laboratory	1

University of Pune

S.Y.B.Sc. Environmental Science Revised Syllabus 2020-21 Course Design

Semester	Paper	Course code	Course Title	Credits	Marks Distribution			
					Internal	University	Subtotal	Total
I	I	EVS – 231	Ecology & Ecosystem	02	15	35	50	150
	II	EVS – 232	Natural Resource Conservation and Management	02	15	35	50	
	III	EVS – 233	Practical Course Based on EVS - 231 & EVS – 232	02	15	35	50	
II	I	EVS-241	Biological Diversity & its Conservation	02	15	35	50	150
	II	EVS-242	Environmental Pollution Control Technology	02	15	35	50	
	III	EVS-243	Practical Course Based on EVS - 241 & EVS - 242	02	15	35	50	
				Total = 12				300

Semester – I, Paper – I, EVS – 231

Ecology & Ecosystem

(Total Lectures- 40)

Unit No.	Name of the Unit	Content	Lectures
1.	Ecology	<ul style="list-style-type: none">• Introduction & Interdisciplinary nature of Ecology.• Levels of Organisation –<ul style="list-style-type: none">a) Biological / Ecological Spectrum.b) Ecological Hierarchy by Baret et al.• Ecological Classification based on –<ul style="list-style-type: none">a) Taxonomic Affinity (From Kingdom to Species Level Ecology).b) Habitat Types (Terrestrial & Aquatic Ecology).c) Levels of Organisation (Autecology & Synecology – Population, Community, Biome & Ecosystem Ecology)	08
2.	Ecosystem Structure & Function – Energy Flow	<ul style="list-style-type: none">• Concept of the Ecosystem.• Macro & Micro-ecosystems ...etc.• Ecosystem Structure – Abiotic & Biotic Components.• Ecosystem Function : Functional attributes-<ul style="list-style-type: none">a) Food Chain – Grazing & Detritus.b) Food Web & Ecosystem Stabilityc) Ecological Energetics –<ul style="list-style-type: none">i) Energy Input.ii) Energy Flow – Single Channel & Y shaped models.d) Productivity of Ecosystem –<ul style="list-style-type: none">i) Primary Production – GPP & NPP.ii) Secondary Production.iii) Standing Crop (Biomass).e) Ecological Pyramids – of Number, Biomass & Energy with examples	08
3.	Ecosystem Function : Nutrient Cycling	<ul style="list-style-type: none">• Concept of –<ul style="list-style-type: none">a) Macro & Micro-nutrients, deficiency syndrome, Functionsb) Nutrient Cycling-- Biogeochemical Cycles –• Gaseous Cycles – Hydrological, Carbon & Nitrogen Cycles.• Sedimentary Cycles – Phosphorus & Sulphur Cycles.• Human Impact on Biogeochemical Cycles.• Ecosystem Nutrient Cycling Model – Intra-system Cycling & Extra-system Transfers.<ul style="list-style-type: none">a) Nutrient Inputs.b) Biotic Accumulation of Nutrient.c) Nutrient Outputs.	08

4.	Population Ecology	<ul style="list-style-type: none"> • Introduction & Basic Concepts. • Population Characteristics – <ul style="list-style-type: none"> a) Size & Density. b) Dispersion – Random, Aggregate & Uniform. c) Natality (Potential & Realised). d) Fecundity e) Mortality (Potential & Realised). f) Survivorship Curves. g) Age & Sex Structure. h) Life Table and Viability analysis • The Concept of Carrying Capacity. • Population Growth – <ul style="list-style-type: none"> a) Growth Curves – Exponential & Logistic. b) Population Fluctuation. c) Biotic Potential & Environmental Resistance. 	08
5.	Community Ecology and Succession	<ul style="list-style-type: none"> • Characteristics of Community - Species Diversity, Growth form & Structure, Dominance, Succession, Trophic Structure, Ecological Niche, Ecotone & Edge Effect. • Characters used in Community Structure- <ul style="list-style-type: none"> a) Analytical Characters – <ul style="list-style-type: none"> i) Quantitative. ii) Qualitative. b) Synthetic Characters. • Inter-specific & Intra-specific Relationships. • Causes of Succession. • Basic Types – Primary, Secondary, Autogenic, Allogenic ...etc. • Mechanism of Succession – <ul style="list-style-type: none"> a) Nudation. b) Invasion. c) Competition, Co-action & Reaction. d) Stabilisation (Climax). • Models of succession – <ul style="list-style-type: none"> a) Hydrosere. b) Lithosere. 	08

Semester – I, Paper – II, EVS – 232

Natural Resources & their Management (Total Lectures- 40)

Unit No.	Name of the Unit	Content	Lectures
1.	Resources	<ul style="list-style-type: none">• Meaning and Definition• Classification of Resources<ol style="list-style-type: none">1. On the basis of Origin: Biotic & Abiotic2. On the basis of recovery rate: Renewable and Non Renewable3. Natural and Artificial Resources4. Material and Energy Resources• Importance and Scope of Resources• Nature of Resources : Regenerative and Assimilative Capacity of Earth• Man's Interaction with Natural Resources:<ol style="list-style-type: none">1. An important resource2. A waste sink3. Cultural Significance• Problems associated with Natural Resources	08
2.	Forest and Mineral Resources	<p>A. Forest Resources :</p> <ul style="list-style-type: none">• Function of Forest : Protective, Productive, Regulative and Accessory• Importance of Forest : Ecological and Economical• Human Interaction with Forest : Overexploitation, Deforestation (Causes and Effects)• Forest Management in India—JFM, EDP, Protected Areas• Case studies on Timber extraction, Dam construction and its effect on tribal people <p>B. Mineral Resources</p> <ul style="list-style-type: none">• Origin of Mineral Resources with examples• Need of Mineral Resources• Overexploitation of Mineral Resources• Effects of Mining on Ecosystem with case studies.• Conservation of Mineral resources and its importance	08
3.	Food Resources	<ul style="list-style-type: none">• World Food Problems:<ol style="list-style-type: none">a) Increasing World Food Demand.b) Nutritional deficiency in food.c) Food Distribution.• The Green Revolution in India- Concept, Its Impacts in India.• Introduction of Hybrid Varieties-HYV and Genetically Modified Crops.• Effects of Modern Agriculture technologies• Genetically Modified Crops & Regulations in India• Fertilizer-Pesticide Problems –NPK Fertilizers	08

4.	Water Resources	<ul style="list-style-type: none"> • Use and over-utilization of surface and ground water, • Under-ground water pollution • Water Crisis--- the reasons • Conflicts over water ---World and India • Conservation & Management <ul style="list-style-type: none"> a) Traditional Methods. b) Rain-water Harvesting & Ground Water Recharge. c) Watershed Management– the concept. d) Flood and flood plain management 	08
5.	Land Resource	<ul style="list-style-type: none"> • Traditional & Modern Agricultural Systems • Major causes of soil degradation: Soil erosion, Pollution , Use of fertilisers, pesticides, heavy metals, Plastic pollution • Consequences of soil erosion <ul style="list-style-type: none"> a) Decline of soil fertility b) Water logging c) Salinity d) Shifting / jhum cultivation • Soil conservation methods • Sustainable Agriculture Methods 	08

Semester – II, Paper – I, EVS -241,

Biological Diversity & its Conservation

(Total Lectures- 40)

Unit No.	Name of the Unit	Content	Lectures
1.	Biological Diversity – Ecosystem Diversity	Biological Diversity--- <ul style="list-style-type: none">• The Concept, Definition• Levels – Ecosystem, Species & Genetic.• Methods of assessment of Biological diversity Ecosystem Diversity <ul style="list-style-type: none">• Classification of Ecosystem –<ol style="list-style-type: none">a) Udvardy’s Classification.b) Bailey’s Classification.c) Olsen’s Classification.d) Holdridge’s Classification.• Major Ecosystem types of India with their physical & biological characteristics.• Major Ecosystem types of the World with their physical & biological characteristics.• Importance of Ecosystem in maintaining Ecological balance	08
2.	Species Diversity	<ol style="list-style-type: none">a) Species Diversity at Local , National and International Levelb) Special features and Latest estimates for major groups of Plants, Animals & Microbes. <ul style="list-style-type: none">• Measuring Species Diversity – Species Richness, Species Abundance and Species Evenness.• Factors affecting global distribution of Species Richness – Latitudinal, Altitudinal, Rainfall gradients, temperature ...etc.• Endemism –<ol style="list-style-type: none">a) The Concept.b) Types with Examples.c) Endemism in India.• Centers of Diversity –<ol style="list-style-type: none">a) The Concept.b) Centers of Diversity : Analyses at Global Level –• Concept of hotspot<ol style="list-style-type: none">i) Myer’s Hot-spots.ii) Mega-diversity Centers / Countries.c) Western Ghat as a Hot-spot.d) India as a Mega-diversity Country.	08
3.	Genetic Diversity	<ul style="list-style-type: none">• Meaning & Introduction to Genetic Variations in Species.• Nature & Origin of Genetic Variations.• Factors affecting Genetic Diversity.• Darwin’s theory of Evolution and Lamarck’s theory of Natural Selection• Measurement of Genetic Diversity –<ol style="list-style-type: none">a) Based on DNA & Chromosomes.b) Molecular Marker Techniques.• Transgenic Organisms.• Diversity in Domesticated Species –	08

		<ul style="list-style-type: none"> a) Variations since the first domestication to the present. • Land Races, Advanced Cultivars, Wild Relatives of Cultivated Plants & Feral Plants. 	
4.	Significance & Threat to Biodiversity	<p>(Significances)</p> <ul style="list-style-type: none"> • Ecological Significances – Contribution of Biodiversity to various Eco- Services. • Non Ecological Significances – Nutritional, Medicinal, Aesthetic, Cultural, Commercial Values ...etc. • Optional Values, Use of microorganism in remediation of pollution <p>(Threats)</p> <ul style="list-style-type: none"> • Threats with suitable Examples – <ul style="list-style-type: none"> a) Large Scale Dev. Projects – Habitat Destruction & Fragmentation. b) Changing Agri. & Forestry Practices. c) Invasion by Introduced Species. d) Over-exploitation. e) Environment Pollution. f) Global Climate Change. g) Loss of Traditional Knowledge. h) Nature of Legal & Mgmt. System – Human Wildlife Conflict. i) Genetically Modified Organisms ...etc. 	08
5.	Biodiversity Conservation	<ul style="list-style-type: none"> • Conservation Methods – In-situ & Ex-situ methods with Example. • National Conservation Efforts – <ul style="list-style-type: none"> a) The laws – Environment Protection Act, Forest Act, Wildlife Act, Biodiversity Act 2002 b) Involving People’s Participation – NBSAP, PBR c) Involving Community Participation – JFM, EDP d) People’s Movement – Silent Valley Movement, Beej Bachao Andolan • International Conservation Efforts – <ul style="list-style-type: none"> a) IUCN – The World Conservation Union. b) CBD. c) CITES. • Traditional Methods of Conservation – Sacred Groves / Ponds / Species, Periodic restrictions on resource harvesting ...etc. • Need & Awareness. 	08

Semester – II, Paper – II, EVS – 242

Environmental Pollution Control Technology

(Total Lectures- 40)

Unit No.	Name of Unit	Content	Lectures
1	Air Quality Parameters and Monitoring	Air Quality Monitoring <ul style="list-style-type: none">• National standards for ambient air quality by WHO• Site and Parameter selection,• Air Sampling Techniques• Monitoring of important ambient air components such as Particulate matter (PM) of 10 micron or less in size and 2.5 micron and less in size, Oxides of Sulfur, Nitrogen, Carbon monoxide• Methods of analysis of SO_x , NO_x• Monitoring tools/instruments used for the same and its work principle, Stack gases monitoring technique• Plume behaviour	08
2	Water Quality Monitoring	<ul style="list-style-type: none">• Purpose/objectives of monitoring• Water Quality Monitoring Protocol• Collection of sample (types of sample, chain of custody, sampling method, number of samples, sample containers, sample volume, etc.)• Sample preservation, handling & storage guidelines/criteria• Water quality monitoring on field test parameters, off-field test parameters• Waste Water Treatment:<ul style="list-style-type: none">a) Primary Treatment – Screening, Grit removal, Sedimentationb) Secondary Treatment -<ul style="list-style-type: none">• Aerobic Method-<ul style="list-style-type: none">i) Activated Sludge Process.ii) Trickling Filter.iii) Rotating Contractoriv) Oxidation Pond• Anaerobic Method.d) Tertiary Treatment – Disinfection (Chlorination).e) Biogas—one stage and second stage digester, Principle	08
3	Soil Quality Monitoring	<ul style="list-style-type: none">• Objectives of soil monitoring/testing• Sampling and sample units; sample number, frequency and timing; Sampling methodology<ul style="list-style-type: none">a. Site selectionb. Infield sampling techniquec. Describing the soil profiled. Site descriptione. Setting a transect instruments / Equipment used	08

		<ul style="list-style-type: none"> • Guidelines for handling and storage of samples • Physiochemical and Biological parameters <p>Biological Method to control soil pollution---</p> <p>a) To reduce dependency on chemicals – Use of Bio fertilizers & Bio pesticides, Conservational Tillage, Mixed Cropping, Crop rotation, Biological Pest Mgmt., Organic Farming</p> <p>b) Bio / Phyto-remediation of contaminated sites.</p> <p>Soil carbon Flux</p>	
4	Forest Monitoring	<ul style="list-style-type: none"> • Classification of forests • Measurement of individual trees: <ol style="list-style-type: none"> a. Measurement of diameter and girth of trees b. Measurement of heights of trees c. Measurement of form of trees d. Measurement of volume of felled trees e. Measurement of volume of standing trees f. Determination of age of trees • Forest inventory • Kinds of sampling, sampling units, sampling intensity 	08
5.	Noise Quality Parameters	<p>Noise and Vibration Monitoring</p> <ul style="list-style-type: none"> • Measuring techniques for noise & vibration • Noise monitoring methods • The Basic Noise Unit; Lmax, SEL, Leq(h), Ldn, 24-Hour Exposure from All Events • Noise Control Techniques- Sound Insulation, Sound Absorption, Vibration Damping and Isolation • Noise Control at Source— <ol style="list-style-type: none"> a) Selection & Maintenance of machines. b) Control over vibrations. c) Installation of barriers / enclosures. d) Using protective equipment e) Noise proof walls 	08

Semester I, Paper-III**Practical Course Based on EVS -231 & EVS- 232.**

Sr. No.	Description	Practical Type	Practical Sessions
1.	Measurement of Primary Productivity of grassland by Harvest Method.	Field + Laboratory.	01
2.	Estimation of Total Chlorophyll from plants in Clean & Polluted Environment.	Laboratory.	01
3.	Study of grassland vegetation by List Count Quadrat Method to determine the Frequency, Density & Abundance.	Field + Laboratory	01
4.	Determination of Frequency & Abundance of species across terrestrial – aquatic transitional zone, by Line Transect Method.	Field + Laboratory	01
5.	Determination of Density of species across terrestrial – aquatic transitional zone by Belt Transect Method.	Field + Laboratory	01
6.	Field visit to study Watershed Mgmt. Techniques.	Visit.	01
7.	Visit to Nature Interpretation / Information Centre.	Visit.	01
8.	Visit to National Park / Wildlife Sanctuary to study Wildlife & various Inter-specific & Intra-specific Relations.	Visit.	≥ 01 Day
9.	Continuation of the use of Social Media for e-networking & dissemination of ideas on Environmental Issues Pertaining to the Course.	---	≥ 02
10.	Identification of advanced cultivars in the Local market	Visit.	01
11.	Field visit to study Rain water Harvesting technique	Visit.	01
12.	Determination of minimum area and number of quadrates for vegetation	Field + Laboratory	01
13.	Determination of Shannon Diversity Index of a vegetation (Data sheet)	Laboratory.	01
14.	Determination of Simpson Diversity Index of a vegetation (Data sheet)	Laboratory.	01
15.	Visit to Soil Survey Department.	Visit.	01
16.	Study of Soil sampling techniques	Visit.	01

Semester II, Paper-III

Practical Course Based on EVS -241 & EVS- 242.

Sr. No.	Description	Practical Type	Practical Sessions
1.	Sampling of Air by High Volume Sampler	Field + Laboratory	01
2.	Determination of Optimum Dose of Alum (Coagulant) required for water.	Laboratory.	01
3.	Determination of Turbidity of water. (Turbidimeter / Nephelometer)	Laboratory.	01
4.	Determination of Residual Chlorine from treated water.	Laboratory.	01
5.	Determination of Dissolved Oxygen in water by Winkler's method	Laboratory.	01
6.	Determination of Nitrate from water (Colorimeter)	Laboratory.	01
7.	Determination of Phosphate from water. (Colorimeter)	Laboratory.	01
8.	Determination of Soluble Salts from Soil.	Laboratory.	01
9.	Determination of Available Nitrogen from soil.	Laboratory.	01
10.	Study of Water Sampling and Preservation techniques	Field + Laboratory	01
11.	Measurement of sounds by DB meter / SLM in silent, industrial, residential and commercial zones and Analysis	Field + Laboratory	01
12.	Estimation of AGB, BGB and Carbon from sampling of trees	Field + Laboratory	01
13.	Determination of Lime required for Acidic soil	Laboratory	01
14.	Estimation of Productivity of Lake using DO method	Field + Laboratory	02
15.	Estimation of NO _x content of given samples	Laboratory.	01
16.	Estimation of SO _x content of given samples	Laboratory.	01

Reference Books

- Understanding Environment; Chokkar K. B., Pandya M. & Raghunathan M.; Centre for Environment Education; Sage Publication, New Delhi.
- An Advanced Textbook on Biodiversity – Principles & Practice; Krishnamurthy K.V.; Oxford & IBH Publishing Co. Pvt. Ltd.; New Delhi.
- Ecology – Principles & Applications; Chapman J. L. & Reiss M. J.; Cambridge University Press.
- Fundamentals of Ecology; Odum P.E.; Natraj Publishers; Dehradun; 3 Edt..
- Ecology, Environment & Resource Conservation; Singh J.S., Singh S.P. & Gupta S.R.; Annamaya Publishers; New Delhi.
- Ecology & Environment; Sharma P.D.; Rastogi Publication; Meerut; 11 Rev. Edt..
- Environment Science; Tyler M.G.; Wadsworth Publishing Co.; 1997.
- Perspective in Environmental Studies; Kaushik & Kaushik; New Age International Pvt. Ltd. Publishers.
- Environmental Science; Santra S.C.; New Central Book Agency (P) Ltd.; 2 Edt..
- Environmental Chemistry, Dey A. K.; New Age International Publishers; 6 Edt..
- Air Pollution; Rao M.N. & Rao H.V.N.; Tata McGraw Hill; New Delhi; 1989.
- Environmental Pollution Control & Environmental Engineering; Rao C. S.; Tata McGraw Hill; New Delhi; 1994.
- Pollution Management; Agarwal S.K.
- Environmental Science; Daniel Chiras.
- Waste Water Engineering, Treatment, Disposal & Reuse; Metcalf & Eddy.
- Manual for Field Ecology; Mishra R.
- Handbook of Methods in Environmental Studies Vol-I &II; Mailti S.K.; ABD Publishers; Jaipur.
- Physico-Chemical Examination of Water, Sewage & Industrial Effluents; Manivasakam N.; Pragati Prakashan; Meerut; 1984.
- Chemical & Biological Methods for Water Pollution Studies; Trivedi R.K. & Goel P.K.; Environmental Publications; Karad; 1986.
- Instrumental Methods of Analysis; Willard; cbspd; 7 Edt..
- Pollution Management; Agarwal S.K.
- Waste Water Engineering, Treatment, Disposal & Reuse; Metcalf & Eddy
- Advanced Air and Noise Pollution Control – L.K Wang & N.C Pereira
- Textbook of Noise Pollution & Its Control – S.C. Bhatia
- Waste Water Engineering, Treatment, Disposal & Reuse; Metcalf & Eddy
- Environmental Pollution Control & Environmental Engineering; Rao C. S.; Tata McGraw Hill; New Delhi; 1994.
- Air Pollution; Rao M.N. & Rao H.V.N.; Tata McGraw Hill; New Delhi; 1989

Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Microbiology

(Faculty of Science & Technology)

S. Y. B. Sc. (Microbiology)

Choice Based Credit System Syllabus

2019 Pattern

Savitribai Phule Pune University, Pune-411007
Syllabus 2020-21
S. Y. B. Sc. Microbiology Semester III and Semester IV
Titles of the Papers

Semester	Paper Code	Paper	Paper title
III	MB 231	I	Medical Microbiology and Immunology
	MB 232	II	Bacterial Physiology and Fermentation Technology
	MB 233	III	Practical based on MB 231 and MB 232
IV	MB 241	I	Bacterial Genetics
	MB 242	II	Air, Water and Soil Microbiology
	MB 243	III	Practical based on MB 241 and MB 242

Equivalence of Previous Syllabus: S. Y. B. Sc. Microbiology

Semester	Old version (2013 Pattern) implemented from 2014-15		New Syllabus (2019 Pattern) implemented from 2020-21	
	Course Number	Course title	Course Number	Course title
III	MB: 212	Industrial and Soil Microbiology	MB 231	Medical Microbiology and Immunology
	MB: 211	Bacterial Systematics and Physiology	MB 232	Bacterial Physiology and Fermentation Technology
IV	MB: 221	Bacterial Genetics	MB 241	Bacterial Genetics
	MB: 222	Air and Water Microbiology	MB 242	Air, Water and Soil Microbiology
	MB: 223 Annual Practical	Practical Course based on MB:211, MB:212, MB:221, MB:222	MB 233	Practical based on Theory papers MB 231 and MB 232
			MB 243	Practical based on Theory papers MB 241 and MB 242

Semester III

DSEC-MB-231: Medical Microbiology and Immunology

[2 Credits; 36 Lectures]

[1 credit=15 hrs x 60 mins 900mins/50mins= 18 lectures]

Course Outcomes:

- Understanding the concept of epidemiology with respect to terms like Incubation period, Viability, Susceptibility, Pathogenicity, Virulence, Pathogenesis, Lab diagnosis, Epidemic, Sporadic, Endemic and Pandemic.
- Acquainted with human pathogens such as *Escherichia coli*, *Staphylococcus aureus* and Fungi like Yeast- *Candida* as well as Dermatophytes.
- Principles of Chemotherapy are introduced based on Selective toxicity, Bioavailability, MIC, MBC, LD₅₀. Accustomed with the terms Antagonism and synergism in drug administration., Antibiotic sensitivity, Antibiotic misuse/antibiotic overuse and Concept of drug resistance (e.g., MRSA, ESBL)
- Comprehend the term immunity with its types
- Get knowledge of haematopoiesis, Antigens and antibodies, Immunohematology, Inheritance of ABH antigens, Medico legal applications of blood groups
- Acquainted with Active and Passive immunization

MB-231	Medial Microbiology and Immunology	[36]
Credit I	Medical Microbiology	(18)
1	Definitions Incubation period, Viability, Susceptibility, Pathogenicity, Virulence, Pathogenesis, Lab diagnosis, Epidemic, Sporadic, Endemic, Pandemic	2
2	Study of following pathogens with respect to Classification, Morphological, Cultural and Biochemical characters, Antigenic structure, Viability characteristics, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis, Epidemiology, Prophylaxis and Chemotherapy: Bacteria: a) <i>Escherichia coli</i> b) <i>Staphylococcus aureus</i> Fungi: a) <i>Candida</i> b) <i>Dermatophytes</i>	10

3	Introduction to Chemotherapy i. Selective toxicity, Bioavailability, MIC, MBC, LD50 ii. Antagonism and synergism in drug administration iii. Antibiotic sensitivity iv. Antibiotic misuse/antibiotic overuse v. Concept of drug resistance (e.g. MRSA, ESBL)	6
Credit II	Immunology	(18)
4	Immunity Definition, Types (Innate and acquired, active and passive, humoral and cell mediated)	2
5	Formation of blood cells (Hematopoiesis) Myeloid and lymphoid lineages and differentiation process Lymphocyte types	4
6	Antigens and antibodies: Definition and Concept	2
7	Immunoematology i. ABO and Rh blood group systems ii. Bombay blood group iii. Biochemistry of blood group substances iv. Inheritance of ABH antigens v. Medico legal applications of blood groups	7
8	Active and Passive Immunization i. Active Immunization - Whole organism vaccines a) Attenuated vaccines b) Inactivated Vaccines ii. Passive Immunization Transfer of preformed antibodies iii. Latest Immunization schedule in India	3

References:

1. Kanungo Reba. (2017). Ananthanarayan and Paniker's Textbook of Microbiology. Tenth edition. The Orient Blackswan Publisher. ISBN-13: 978-9386235251
2. Collins C. H., Lyne P. M., Grange J. M. and Falkinham J. O. III. (Editors). (2004). Collins and Lyne's Microbiological Methods. 8th edition. Arnold, London; Oxford
3. Finch R., Greenwood D., Whitley R. and Norrby S. R. (2010) Antibiotic and Chemotherapy. 9th Edition. Elsevier. ISBN: 9780702040641
4. Dulbecco R., Eisen H. N. and Davis B. D. (1990). Microbiology. United States: Publisher -Lippincott. ISBN: 9780608072432
5. Dey N. C., Dey T. K. and Sinha D. (2013). Medical Bacteriology Including Medical Mycology and AIDS. 17th Edition. New Central Book Agency (P) Ltd (Publisher). India
6. Kindt T. J., Goldsby R. A. and Osborne B. A. (2007). Kuby Immunology. 6th Ed. W. H. Freeman and Co., New York.
7. MacFaddin J. F. (1985). Media for Isolation-Cultivation-Identification –Maintenance of Medical Bacteria. Vol. I. Williams and Wilkins, Baltimore
8. MacFaddin J. F. (2000). Oxidation- Fermentation Test. Biochemical Tests for Identification of Medical Bacteria. 3rd ed. Philadelphia: Lippincott Wilkins and Williams. 379-387. B, III
9. Mukherjee K. L. and Ghosh S. (2010). Medical Laboratory Technology, Volume III: Procedure Manual for Routine Diagnostic Tests. 2nd edition. McGraw Hill Education (India) Private Limited. ISBN-13: 978-1259061257
10. Mukred A. M., Hamid A. A., Hamzah A. and Wan Mohtar Wan Yusoff W. M. W. (2008). Growth Enhancement of Effective Microorganisms for Bioremediation of Crude Oil Contaminated Waters. Pakistan Journal of Biological Sciences.11: 1708-1712.
11. Pathak S. S. and Palan V. (1997). Immunology-Essential and Fundamental, Pareen Publications Bombay.
12. Public Health England. (2019). Oxidation/fermentation of glucose test. UK Standards for Microbiology Investigations. TP 27 Issue 4. <https://www.gov.uk/uk-standards-formicrobiology-investigations-smi-quality-and-consistency-in-clinical-laboratories>
13. Roitt Evan, Brostoff J., Male D. (1993) Immunology. 6th Edition. Mosby and Co. London.
14. Roitt I. M. (1988). Essentials of Immunology, ELBS, London.
15. Roitt M. (1984). Essentials of Immunology. P. G. Publishers Private Limited, New Delhi.
16. Roth J. A., Bolin C., Brogden K. A., Chris Minion K. F. and Wannemuehler M. J. (1995). Virulence mechanisms of bacterial pathogens. Second edition. American Society for Microbiology. ISBN-13: 978-1555810856

17. Schuenke S. (1997). Medical Microbiology. Fourth edition. University of Texas Medical Branch of Galvesion. Samuel Baron (Editor). ASIN: B008UYPLIO
18. Champoux J. J., Neidhardt F. C., Drew W. L. and Plorde J. J. (2004). Sherris Medical Microbiology: An Introduction to infectious diseases. 4th edition. Ryan K. J. and Ray C. G. (Editors). McGraw-Hill Companies. DOI: 10.1036/0838585299
20. Shrivastava M., Navaid S., Peethambarakshan A., Agrawal K. and Khan A. (2015). Detection of rare blood group, Bombay (Oh) phenotype patients and management by acute normovolemic hemodilution. Asian journal of transfusion science. 9(1):74–77
21. Standards Unit. National Infection Service. PHE Bacteriology – Test Procedures.TP. 27(4): Issue date: 16.01.19. 1-14
22. Stites D. P., Stobo J. D., Fudenberg H. H. and Wells J. V. (1982). Basic and Clinical Immunology. 4th Edition. Lange Medical Publications, Maruzen Asia Pvt. Ltd., Singapore.
23. Gangal S. and Sontakke S. (2013). Textbook of Basic and Clinical Immunology. Universities Press Private limited. Available also at Orientblackswan, India. ISBN: 9788173718298
24. Talwar G. P. (1983). Handbook of Immunology. Vikas Publishing Pvt. Ltd. NewDelhi.
25. Paul W. E. (2003): Fundamental Immunology. 5th edition. Lippincott Williams and Wilkins Publishers. ISBN: 9780781735148
26. Joklik W. K., Willett H. P., Amos D. B. and Wilfert C. M. 1995). Zinsser's Microbiology. 20th Edition. Appleton and Lange Publisher. ISBN-13: 978- 0838599839
27. Zajic J. E. and Supplisson B. (1972). Emulsification and degradation of “Bunker C” fuel oil by microorganisms. Biotechnol. Bioeng. 14: 331-343.

MB-232: Bacterial Physiology and Fermentation Technology**[2 Credits; 36 Lectures]****[1 credit=15 hrs x 60 mins = 900mins/50mins= 18 lectures]****Course Outcomes:**

- Acquainted with the term Enzymes, its nomenclature and classification and models for catalysis
- Understand the effect of pH, temperature, substrate concentration, enzyme concentration, activators and inhibitors on enzymes
- Understanding the concept of Bacterial Physiology with reference to metabolism, catabolism, anabolism, respiration and fermentation
- Comprehend the different metabolic pathways with structures
- Acquainted with design of a fermenter, fermentation parameters, use of media for industrial fermentations
- Understand the sources of contamination during fermentations

Credit I	Bacterial Physiology	(18)
1	Enzymes	
	i. Introduction to Enzymes: Properties of enzymes, Nature of active site, Structure of active site, commonly occurring amino acids at active site. Ribozymes, coenzymes, apoenzymes, prosthetic group and cofactors.	2
	ii. Nomenclature and classification as per IUB (up to class level).	2
	iii. Models for catalysis– a) Lock and key b) Induced fit c) Transition state.	1
	iv. Effect of pH and temperature, substrate concentration and enzyme concentration, activators and inhibitors of enzyme	3
	Bacterial Physiology	
	i. Definitions of Metabolism, catabolism, anabolism, respiration and fermentation	1

2	ii. Metabolic pathways (with structures) <ul style="list-style-type: none"> a) Embden-Meyerhof-Parnas pathway (Glycolysis) b) Hexose monophosphate pathway c) Entner-Doudoroff pathway d) Phosphoketolase pathway (Pentose and hexose) e) TCA cycle (with emphasis on amphibolism) and Glyoxylate bypass f) Gluconeogenesis and its significance 	2 2 1 1 2 1
Credit II	Fermentation Technology	(18)
3	Concept of fermentation technology <ul style="list-style-type: none"> i. Microbial biomass- based fermentation (Biofertilizer, biopesticide and Probiotics) ii. Production of Primary metabolites (Organic acids, amino acids, vitamins and enzymes) iii. Production of Secondary metabolites (Antibiotics) iv. Production of recombinant products (insulin and growth hormones) v. Production of Fermented food products (Cheese, yoghurt) vi. Microbial biotransformation (Steroid transformation) 	4
4	Strains of industrially important microorganisms: <ul style="list-style-type: none"> i. Desirable characteristics of industrial strain ii. Principles and methods of primary and secondary screening iii. Master, working and seed culture; development of inoculum iv. Preservation and maintenance of industrial strains. 	5
5	Design of a Fermenter (typical CSTR Continuous stirred Tank Reactor): Different parts and their working	2
6	Monitoring of different fermentation parameters (Temperature, pH, aeration, agitation, foam)	2
7	Types of fermentations: Batch, continuous and dual	2
8	Media for industrial fermentations: Constituents of media (Carbon source, nitrogen source, amino acids, vitamins, minerals, water, buffers, antifoam agents, precursors, inhibitors and inducers)	2
9	Contamination: Sources, precautions and consequences	1

References:

- a. BIOTOL Series. (1993). Biotechnology by open learning series. Defense Mechanisms. Butterworth and Heinemann Ltd., Oxford
- b. Casida L. E. J. R. (2016). Industrial Microbiology. New Age International Private Limited. ISBN- 9788122438024
- c. Conn E. E., Stumpf P. K., Bruening G., Doi R. Y. (1987). Outlines of Biochemistry. 5th Edition, John Wiley and Sons, New Delhi. (Unit I& II)
- d. Madigan M. T., Martinko J. M. and Brock T. D. (2006). Brock's Biology of Microorganisms. Pearson Prentice Hall, Upper Saddle River.
- e. Moat A. G. and Foster J. W. (1988). Microbial Physiology. 2nd Edition. John Wiley and Sons New York.
- f. Nelson D. L. and Cox M. M. (2005). Lehninger's Principles of Biochemistry. 8th edition. Mac Millan Worth Pub. Co. New Delhi. ISBN:9781319228002
- g. Patel A. H. (2016). Industrial Microbiology. Trinity Press (Publisher). ISBN-13- 9789385750267
- h. Pepler H. L. and Perlman D. (1979). Microbial Technology. Volume 1: Microbial Processes. Academic Press, New York. ISBN: 978-0-12-551501
- i. Pepler H. L. and Perlman D. (1979). Microbial Technology. Volume II: Fermentation Technology (2nd Edition). Academic Press. ISBN: 9781483268279
- j. Prescott L. M., Harley J. P. and Klein D. A. (2005). Microbiology. 6th Edition. Mac Graw Hill Companies Inc. (Unit II)
- k. Reed G. (Editor). (1982). Prescott and Dunn's Industrial Microbiology. Westport, CT, AVI Publishing Co Inc.
- l. Stanbury P. F., Whitaker A. and Hall S. J. (2016). Principles of Fermentation Technology. 3rd Edition. Butterworth-Heinemann. ISBN: 9780080999531
- m. Voet D. and Voet J. G. (1995). Biochemistry. 2nd Edition. John Wiley & sons. New York. ISBN 0-471-58651-X

MB-233: Practical Course based on
MB-231: Diagnostic Microbiology and Immunology
and
MB-232: Bacterial Physiology and Fermentation Technology
[2 Credits: 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Semester III: Practical course based on MB 231 and MB 232		
Expt. No.	Topics	No. of Practical
1	Measurements of cell dimension by micrometry using 10x, 45x and 100x objectives	1
2	Staining techniques: Cell Wall Staining	1
3	Blood grouping: ABO, Rh and Bombay blood group (anti H Lectin test)	1
4	Isolation and identification of pathogens from clinical samples: <i>(Escherichia coli, Staphylococcus aureus and Proteus)</i> by a. Gram staining & motility, b. Cultural and Biochemical characteristics i. Sugar utilization test, ii. Sugar fermentation test, iii. Triple Sugar iron agar, iv. IMViC test v. Enzyme detection – Gelatinase, Catalase, Oxidase, Coagulase (free and bound) vi. Oxidative-fermentative test [Baird Parker's modification of Hugh and Leifson's oxidative- fermentative (OF) basal medium for Gram Positive and Hugh and Leifson's oxidative- fermentative (OF) basal medium for Gram negative; Public Health England, 2019]	6

5	Primary screening of industrially important organisms:	2
	a. Screening and isolation of antibiotic and organic acid producing organism from soil by Crowded plate and Giant colony method	
	b. Microorganisms producing industrially important enzyme-amylase	1
	Total	12

References:**Experiment 1. Measurements of cell dimension by micrometry:**

1. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
2. Gunasekaran P. (2007). Laboratory Manual In Microbiology. New Age International (P) Limited New Delhi, India
3. Muskan K. and Patil U. K. (2009). Essentials of Biotechnology. I. K. International Publishing House Private Limited, New Delhi, India.
4. Saxena J., Baunthiyal M. and Ravi I. (2015). Laboratory Manual of Microbiology, Biochemistry and Molecular Biology. Scientific Publishers, New Delhi, India

Experiment 2. Cell Wall Staining

1. Saxena J., Baunthiyal M. and Ravi I. (2015). Laboratory Manual of Microbiology, Biochemistry and Molecular Biology. Scientific Publishers, New Delhi, Indi

Experiment 3. Blood grouping:

2. Godkar D. P. (2003). Textbook of Medical Laboratory Technology. Bhalani Publishing House, New Delhi, India.
3. Mukherjee K. L. (2013). Medical Laboratory Technology. Second Edition. Volume III. McGraw-Hill Companies, India.

Experiment 4. Isolation and identification of pathogens from clinical samples:

1. Mac Faddin J. F. (2000). Biochemical Tests for Identification of Medical Bacteria. United
2. Randhawa V. S., Mehta G. and Sharma K. B. (2009). Practicals and Viva in Medical Microbiology. Second Edition. Elsevier (A Division of Reed Elsevier India Pvt. Limited).
3. Verhaegen J. and Heuck C. C. (Editors). (2003). Basic Laboratory Procedures in Clinical Bacteriology. Second Edition. Switzerland: World Health Organization.

Experiment 4. b.i. Sugar utilization test: Minimal salt Medium (MSM with 1% sugar):

1. Mukred A. M., Hamid A. A., Hamzah A. and Wan Yusoff W. M. (2008). Enhancement of Biodegradation of Crude Petroleum-Oil in Contaminated Water by the Addition of Nitrogen Sources. *Pakistan Journal of Biological Sciences*, 11: 2122-2127.
2. Mahalingam B. L., Karuppan M. and Manickam V. (2013). Optimization of Minimal Salt Medium for Efficient Phenanthrene Biodegradation by *Mycoplana* sp. MVMB2 Isolated from Petroleum Contaminated Soil Using Factorial Design Experiments. *CLEAN - Soil, Air, Water*. 41(1): 51–59. Wiley-VCH Verlag GmbH and Co. KGaA, Weinheim

Experiment 4. b. ii. Sugar fermentation test:- Phenol Red Broth Base:

1. Aneja K. R. (2007). *Experiments in Microbiology, Plant Pathology and Biotechnology*. New Age International, New Delhi, India
2. Dubey R. C. and Maheshwari D. K. (2002). *Practical Microbiology*. S. Chand and Company Limited, New Delhi, India
3. Mac Faddin J. F. (2000). *Biochemical Tests for Identification of Medical Bacteria*. United Kingdom: Lippincott Williams and Wilkins.

Experiment 4. b. iii. Triple sugar Iron Agar:

1. Jain A., Agarwal J. and Venkatesh V. (2018). *Microbiology Practical Manual*. 1st Edition. E-Book. Elsevier Health Sciences, India.
2. Mac Faddin J. F.(2000). *Biochemical Tests for Identification of Medical Bacteria*.United Kingdom:Lippincott Williams and Wilkins.
3. Randhawa V. S., Mehta G. and Sharma K. B. (2009). *Practicals and Viva in Medical Microbiology*. Second Edition. Elsevier (A Division of Reed Elsevier India Pvt. Limited).

Experiment 4. b. iv. IMViC test:

1. Dubey R. C. and Maheshwari D. K. (2002). *Practical Microbiology*. S. Chand and Company Limited, New Delhi, India
2. Jain A., Agarwal J. and Venkatesh V. (2018). *Microbiology Practical Manual*. 1st Edition. E-Book. Elsevier Health Sciences, India.
3. Randhawa V. S., Mehta G. and Sharma K. B. (2009). *Practicals and Viva in Medical Microbiology*. Second Edition. Elsevier (A Division of Reed Elsevier India Pvt. Limited).
4. Verma A. S., Das S., and Singh A. (2014). *Laboratory Manual for Biotechnology*. S Chand and Company Limited, New Delhi, India

Experiment 4. b. v. Enzyme detection:

1. Carroll K.C., Pfaller M. A., Landry M. L., McAdam A. J., Patel R., Richter S. S. and Warnock D. W. (Editors). (2019). *Manual of Clinical Microbiology*. 2 Volume Set. 12th Edition. John

Wiley, USA

2. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
3. Goldman E. and Green L. H. (2008). Practical Handbook of Microbiology. United States: CRC Press.
4. Leber A. L. (2020). Clinical Microbiology Procedures Handbook. United States: Wiley.
5. Verhaegen J. and Heuck C. C . (Editors). (2003). Basic Laboratory Procedures in Clinical Bacteriology. Second Edition. Switzerland:World Health Organization.

Experiment 5. Primary screening of industrially important organisms:

1. Aneja K. R. (2007). Experiments in Microbiology, Plant Pathology and Biotechnology. New Age International, New Delhi, India
2. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
3. Gunasekaran P. (2007). Laboratory Manual in Microbiology. New Age International Private Limited, New Delhi, India.

S. Y. B. Sc. Microbiology Syllabus (Semester IV)

MB-241: Bacterial Genetics

[2 Credits; 36 Lectures]

[1 credit=15 hrs x 60 mins = 900mins/50mins= 18 lectures]

Course Outcomes:

- Understanding the different experimental evidence for nucleic acid as genetic material
- Comprehend the different types of nucleic acids, Structure of DNA and Prokaryotic DNA replication.
- Understand the different models and modes of DNA replication with its basic rules of DNA replication
- Get knowledge of Gene expressions, Mutations and reversions
- Acquainted with Plasmid genetics

MB 241	Bacterial Genetics	[36]
Credit I	Topics	(18)
1	Understanding DNA:	7
	i. Experimental evidence for nucleic acid as genetic material.	
	a. Discovery of transforming material (hereditary material): b. Griffith's experiment c. Avery and MacLeod experiment d. Gierer and Schramm e. Fraenkel-Conrat and Singer experiment (TMV virus) f. Hershey and Chase experiment	
	ii. Types of nucleic acids (DNA and RNAs)	1
	iii. Structure of DNA	2
	a. Structure of Nitrogen bases, Nucleoside, Nucleotide and polynucleotide chain b. Bonds involved in DNA structure c. Different forms of DNA	
2	iv. Prokaryotic DNA replication	8
	a. Models of DNA replication (Conservative, semi-conservative and Dispersive) b. Meselson and Stahl's experiment (semi-conservative) c. Six basic rules of DNA replication d. Enzymes, proteins and other factors involved in DNA replication. e. Modes of DNA replication Rolling circle mechanism, theta and linear DNA replication	

Credit II	Topics	(18)
3	i. Gene expression a. Concept of Genetic code and its properties b. Concept of transcription and translation	2
4	ii. Mutations and reversions Concept of Mutation and Types of mutations: Nonsense, Missense, Silent, Conditional lethal-temperature sensitive, Amber, Reverse, suppressor a. Spontaneous Mutation <ul style="list-style-type: none"> • Discovery of spontaneous mutation (Fluctuation test) • Mechanism of spontaneous mutation • Isolation of Mutants: Replica plate technique b. Concept of Induced Mutations <ul style="list-style-type: none"> • Base pair substitution (Transitions, Transversions), Insertions and deletions-Frame / Phase shift mutations • Physical Mutagenic agent: UV and X-ray • Chemical mutagenic agents • Base analogues (2 amino purine, 5 bromouracil), • HNO₂, Alkylating agents • Intercalating agents (EtBr, acridine orange) 	10
5	iii. Plasmid genetics a. Types of plasmids b. Properties of Plasmid c. Plasmid replication d. Plasmid incompatibility e. Plasmid curing f. Plasmid amplification Concept	6

References:

1. Brooker R. J. (2012). Genetics: Analysis and Principles. 4th edition. McGraw- Hill- Publication
2. Alberts B., Johnson A., Lewis J., Raff M., Roberts K. and Walter P. (2008). Molecular Biology of the Cell. 5th Edition. Garland Science. Taylor and Francis. ISBN: 978-0-8153-4105-5. .
3. Malacinski G. M. (2005). Freidfelder's Essentials of Molecular Biology. 4th Edition. Jones and Bartlett Publishers, Inc
4. Gardner E. J., Simmons M. J. and Snustad D. P. (2006). Principles of Genetics. 8th edition. John Wiley and Sons Publication. ISBN-13: 9788126510436
5. Hayes W. (2nd Edition). (1968). Genetics of Bacteria and their Viruses. Oxford-Edinburgh: Blackwell Scientific Publications.
6. Watson J.D., Baker, T.A., Bell, S.P., Gann A., Levine M. and Losick R. (2014). Molecular Biology of the gene. 7th edition. Pearson. ISBN: 9780321762436
7. Krebs J., Kilpatrick S. T., Goldstein E. S. (Editors). Lewin's GENES X (2011). 10th Edition. Sudbury, Mass: Jones and Bartlett, c2011
8. Lodish H., Berk A., Kaiser C. A., Krieger M., Bretscher A., Ploegh H., Martin K. C., Yaffe M. and Amon A. (2021). Molecular Cell Biology, 9th Edn. Macmillan Learning. ISBN: 9781319208523
9. Pawar and Dagainawala. General Microbiology. Vol. I and vol II. 1st Edition. Himalaya Publishing House, Mumbai
10. Primrose S. B. (2002) .Principles of Gene Manipulation. 6th Edition. Oxford: Blackwell Scientific Publications
11. Russel P. J. (2000). Fundamentals of Genetics. Publisher: Benjamin/Cummings. ISBN:9780321036261
12. Russel P. J. (2010). iGenetics: A Molecular Approach. 3rd Edition. Benjamin Cummings. ISBN: 9780321569769
13. Stanier R. Y. (2003). General Microbiology. United Kingdom: Palgrave Macmillan Limited.
14. Strickberger M. W. (2012). Genetics. 3rd Edition. New Delhi: PHI Learning Gardner

S. Y. B. Sc. Microbiology Syllabus (Semester IV)

MB-242: Air, Water and Soil Microbiology

[2 Credits; 36 Lectures]

[1 credit=15 hrs x 60 mins = 900mins/50mins= 18 lectures]

Course Outcomes:

- The course will help them to get knowledge of the Air Microbiology, methods of air sampling, different types of air samplers, air sanitation and airborne infections.
- Deals with water microbiology including bacteriological analysis of water, methods of water purification, water borne infections and bacteriological standards of water quality.
- Understand Soil Microbiology, rhizosphere, composting and humus formation, biofertilizers, biocontrol agents and microbial interactions.
- Acquire knowledge of carbon and nitrogen cycles with role of microorganisms.

MB-242	Air, Water and Soil Microbiology	[36]
Credit I	Air Microbiology and Water Microbiology	18
1	i. Air Microbiology	
	a. Air flora <ul style="list-style-type: none"> • Transient nature of air flora • Droplet, droplet nuclei and aerosols 	1
	b. Methods of Air sampling and types of air samplers <ul style="list-style-type: none"> • Impaction on solids • Impingement in liquid • Sedimentation • Centrifugation 	3
	c. Air sanitation: Physical and chemical methods	2
	d. Airborne infections	1
	ii. Water Microbiology	
	a. Types of water: surface, ground, stored, distilled, mineral and de-mineralized water	1

2	b. Recommended Bacteriological standards of Water Quality <ul style="list-style-type: none"> • Maharashtra Pollution Control Board (MPCB) Main Functions of MPCB Water quality standards for best designated usages • Central Pollution Control Board (CPCB) Main Functions of CPCB Designated Best Use Water Quality Criteria 	1
	c. Water purification methods	2
	d. Water borne Infections	1
	e. Indicators of faecal pollution: <i>Escherichia coli</i> , <i>Bifidobacterium</i> , <i>Streptococcus faecalis</i> , <i>Clostridium perfringens</i> , New indicators: <i>Campylobacter</i> and <i>Pseudomonas</i>	2
	f. Bacteriological analysis of water for potability <ol style="list-style-type: none"> i. Bacteriological standards of potable water: Bureau of Indian standards (BIS) ii. World Health Organization (WHO) iii. Presumptive coliform count iv. Confirmed test v. Completed test vi. Eijkman test vii. Membrane filter technique 	4
Credit II	Soil Microbiology	18
	a. Rhizosphere microflora and its role in the rhizosphere	1
	b. Role of microorganisms in composting and humus formation	2
	c. Biofertilizers: Bacterial, Cyanobacterial, fungal and their large-scale production	3
	d. Biocontrol agents: Bacterial, Viral, Fungal and their large-scale production	3
	e. Brief account of microbial interactions: Symbiosis, Neutralism, Commensalism, Competition, Ammensalism, Synergism, Parasitism and Predation	5

	f. Role of microorganisms in elemental cycles in nature: Carbon, Nitrogen	4
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References:

1. Aithal S. C. and Kulkarni N. S. (2015). Water microbiology ~ an Indian perspective. Published by Himalaya Publishing House, IstEdition. ISBN: No.: 978-93-5202-129-1.
2. Dube H. C. and Bilgrami K. S. (1976). Textbook of modern pathology. Vikas publishing house. New Delhi.
3. Dubey R. C. and Maheswari D.K. Textbook of Microbiology. S. Chand Publishing. ISBN: 9788121926201
4. Frobisher M. (1974). Fundamentals of Microbiology. 9th Edition. Saunders, Michigan University Press. ISBN: 9780721639222
5. Ingraham C. A. and Ingraham J. L. (2000). Introduction to Microbiology. United Kingdom: Brooks/Cole.
6. Lim D. V. (1989). Microbiology. 2nd Edition. West Publishing Company. ISBN: 9780314262066
7. Madigan M. T., Thomas Brock T., Martinko J., Clark D. P. and Paul D. P. (2009). Brock's Biology of Microorganisms. Pearson/Benjamin Cummings. ISBN: 9780132324601
8. Martin A. (1977). An Introduction to Soil Microbiology. 2nd edition. John Wiley & Sons Inc. NewYork & London.
9. Martin A. Introduction to Soil Microbiology. (1961). John Wiley & Sons, New York and London publication
10. MPCB, CPCB, BIS and WHO websites guidelines for drinking water quality
11. Pawar C. B. and Daginawala H.F. (1982). General Microbiology. Vol. I and II. 1st Edition. Himalaya Publishing House, Mumbai. ISBN: 9789350240892 and ISBN9789350240908
12. Pelzar M. J., Chan E. C. S. and Krieg N. R. (1986). Microbiology. 5th Edition. McGraw-Hill Publication
13. Prescott L. M., Harley J. P. and Klein D. A. (2006). Microbiology. 6th Edition. McGraw Hill Higher Education. ISBN-13: 978-0-07-295175-2
14. Rangaswami G. (1979) Recent advances in biological nitrogen fixation. Oxford and IBH. New Delhi.
15. Salle A. J. (1971). Fundamental Principles of Bacteriology. 7th Edition. Tata MacGraw Publishing Co.

16. Schlegel H. G. (1993). General Microbiology. 8thEdition. Cambridge University Press
17. Stanier R. Y. (2003). General Microbiology. United Kingdom: Palgrave Macmillan Limited.
18. Subba Rao N. S. (1977). Soil Microbiology. 4thEdition. Oxford and IBH Publishing Co. Pvt. Ltd.
19. Tortora G. J., Funke B. R. and Case C. L. (2016). Microbiology: An introduction 12th Edition, Pearson. ISBN-13: 9780321929150

S.Y. B. Sc. Microbiology Syllabus (Semester IV)

MB-243: Practical Course based on

MB-241: Bacterial Genetics and MB-242: Air, Water and Soil Microbiology

[2 Credits: 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Semester IV: MB-243: Practical course based on MB 241and MB 242		
Expt. No.	Topics	No. of Practical
1.	Staining Techniques: i. Flagella Staining ii. Metachromatic Granules	2
2.	Air sampling using an air sampler, calculation of air flora from different locations with the knowledge of respective standards of bacterial and fungal counts.	1
3.	Air Flora: a. Diversity determination. b. Simpson index and settling velocity determination	1
4.	Bacteriological tests for potability of water a. MPN, Confirmed and Completed test. b. Membrane filter technique (Demonstration)	3
5.	i. UV- survival curve ii. Induction of mutation by using physical mutagen (e.g. U V rays) iii. Isolation of auxotrophic mutants by Replica Plate Technique	2
6.	Enrichment, Isolation, Preparation and Application of Bioinoculants i. a) <i>Azotobacter</i> species and b) <i>Rhizobium</i> species Or ii. Blue Green Algae (Cyanobacteria)	2
7.	Visit to Industry/ Drinking Water treatment plant	1
	Total	12

References:**Experiment 1. Staining Techniques**

1. Robert Cruickshank, Duguid J.P., Marmilon B.P. and Swain R.H.A. (1975). Medical Microbiology, The Practice of Medical Microbiology. Churchill Livingstone, Edinburgh London And New York.

Experiment 2. Air sampling using an air sampler:

1. Chosewood L. C. and Wilson D. E. (2007). Biosafety in Microbiological and Biomedical Laboratories. DIANE Publishing Company.USA
2. Crawford R. L. and Garland J. L. (2007). Manual of Environmental Microbiology. United States: ASM Press.
3. Geis A. P. (2020).Cosmetic Microbiology: A Practical Approach. United States:CRC Press.
4. Nakatsu C. H., Yates M. V., Miller R. V. and Pillai S. D. (2020). Manual of Environmental Microbiology. United States:Wiley.
5. Pepper I. L., Brendecke J. W. and Gerba C. P. (2011). Environmental Microbiology: A Laboratory Manual. Netherlands: Elsevier Science.
6. WHO Guidelines for Indoor Air Quality: Dampness and Mould. (2009). Philippines: WHO.

Experiment 3. Air Flora:

1. Aneja K. R. (2007). Experiments in Microbiology, Plant Pathology and Biotechnology. New Age International, New Delhi, India
2. Cox C. C. and Wathes C. M. (2020). Bioaerosols Handbook. United States: CRC Press.
3. Saxena J., Baunthiyal M. and Ravi I. (2015). Laboratory Manual of Microbiology, Biochemistry and Molecular Biology. Scientific Publishers, Jodhpur, Rajasthan, India.
4. Verma A. S., Das S., and Singh A. (2014). Laboratory Manual for Biotechnology. S Chand and Company Limited, New Delhi, India

Experiment 4. Bacteriological tests for potability of water

1. Aneja K. R. (2007). Experiments in Microbiology, Plant Pathology and Biotechnology. New Age International, New Delhi, India
2. Atlas R. M. (1986; Digitized 2007). Basic and Practical Microbiology. United Kingdom: Macmillan.
3. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
4. Nollert L. M. L. and De Gelder L. S. P. (2013). Handbook of Water Analysis, Third Edition. United States:Taylor and Francis.

Experiment 5. Induction of mutations:

1. Bisen P. S. (2014). Laboratory Protocols in Applied Life Sciences. United Kingdom: CRC Press.
2. Gunasekaran P. (2007). Laboratory Manual In Microbiology. New Age International (P) Limited New Delhi, India

Experiment 6.**6. i. a) *Azotobacter* species:**

1. Aneja K. R. (2007). Experiments in Microbiology, Plant Pathology and Biotechnology. New Age International, New Delhi, India
2. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
3. Gunasekaran P. (2007). Laboratory Manual In Microbiology. New Age International (P) Limited New Delhi, India

6. i. b) *Rhizobium* species:

1. Aneja K. R. (2007). Experiments in Microbiology, Plant Pathology and Biotechnology. New Age International, New Delhi, India
2. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
3. Gunasekaran P. (2007). Laboratory Manual In Microbiology. New Age International (P) Limited New Delhi, India

6. ii. Blue Green Algae (Cyanobacteria):

1. Aneja K. R. (2007). Experiments in Microbiology, Plant Pathology and Biotechnology. New Age International, New Delhi, India
2. Bisen P. S. (2014). Laboratory Protocols in Applied Life Sciences. United Kingdom: CRC Press.
3. Dubey R. C. and Maheshwari D. K. (2002). Practical Microbiology. S. Chand and Company Limited, New Delhi, India
4. Kumar V. (2012). Laboratory Manual of Microbiology. Scientific Publishers, Jodhpur, Rajasthan, India



Savitribai Phule Pune University

(Formerly University of Pune)

Second Year B.Sc. Degree Program in Physics (Faculty of Science & Technology)

S.Y.B.Sc. (Physics)

Choice Based Credit System

To be implemented from Academic Year 2021-2022

Savitribai Phule Pune University, Pune

Revised syllabus for S.Y.B.Sc. (Physics) (CBCS Pattern-2019-20)

To be implemented from Academic Year 2021-22

Structure of the Course:

Semester	Course Type	Course Code	Course Name	Credit
III	Compulsory Course	PHY-231	Mathematical Methods in Physics I	2
		PHY-232	(A) Electronics-I OR (B) Instrumentation	2
		PHY-233	Physics Laboratory-2A	2
	Ability Enhancement Compulsory Course	PHY-2310	Environment -I	2
		PHY-2311	Language-I	2
IV	Compulsory Course	PHY-241	Oscillations, Waves and Sound	2
		PHY-242	Optics	2
		PHY-243	Physics Laboratory-2B	2
	Ability Enhancement Compulsory Course	PHY-2410	Environment -II	2
		PHY-2411	Language-II	2

Semester-III

S.Y.B.Sc. (Physics) (Sem-III)
PHY-231: Mathematical Methods in Physics-I

Lectures: 36

(Credits-02)

Learning Outcomes: After the completion of this course students will be able to

1. Understand the complex algebra useful in physics courses.
2. Understand the concept of partial differentiation.
3. Understand the role of partial differential equations in physics.
4. Understand vector algebra useful in mathematics and physics.
5. Understand the concept of singular points of differential equations.

1. Complex Numbers:

(9L)

- 1.1 Introduction to complex numbers
- 1.2 Rectangular, polar and exponential forms of complex numbers
- 1.3 Argand diagram
- 1.4 Algebra of complex numbers using Argand diagram
- 1.5 De-Moivre's Theorem (Statement only)
- 1.6 Power, root and log of complex numbers
- 1.7 Trigonometric, hyperbolic and exponential functions
- 1.8 Applications of complex numbers to determine velocity and acceleration in curved motion.
- 1.9 Problems.

2. Partial Differentiation:

(9L)

- 2.1 Definition of partial differentiation
- 2.2 Successive differentiation
- 2.3 Total differentiation
- 2.4 Exact differential
- 2.5 Chain rule
- 2.6 Theorems of differentiation
- 2.7 Change of variables from Cartesian to polar co-ordinates
- 2.8 Conditions for maxima and minima (without proof)
- 2.9 Problems.

3. Vector Algebra and Analysis:

(12L)

- 3.1 Introduction to scalars and vectors, dot product and cross product of two vectors and their physical significance. (Revision)
- 3.2 Scalar triple product and its geometrical interpretation
- 3.3 Vector triple product and its proof
- 3.4 Scalar and vector fields
- 3.5 Differentiation of vectors with respect to scalar
- 3.6 Vector differential operator and Laplacian operator
- 3.7 Gradient of scalar field and its physical significance
- 3.8 Divergence of scalar field and its physical significance
- 3.9 Curl of vector field and its physical significance.

3.10 Vector Identities.

- a. $\nabla \times (\nabla\Phi) = 0$
- b. $\nabla \cdot (\nabla \times V) = 0$
- c. $\nabla \cdot (\nabla\Phi) = \nabla^2\Phi$
- d. $\nabla \cdot (\Phi A) = \nabla\Phi \cdot A + \Phi(\nabla \cdot A)$
- e. $\nabla \times (\Phi A) = \Phi (\nabla \times A) + (\nabla\Phi) \times A$
- f. $\nabla \cdot (A \times B) = B \cdot (\nabla \times A) - A \cdot (\nabla \times B)$

3.11 Problems.

4. Differential Equation:

(6L)

4.1 Degree, order, linearity and homogeneity of differential equation.

4.2 Concept of Singular points. Example of singular points ($x = 0$, $x = x_0$ and $x = \infty$) of differential equation.

4.3 Problems.

Reference Books:

1. Methods of Mathematical Physics - Laud, Takwale and Gambhir.
2. Mathematical Physics - B.D.Gupta.
3. Mathematical Physics - Rajput and Gupta.
4. Mathematical Methods in Physical Science - Mary and Boas.
5. Vector analysis - Spiegel and Murrey.
6. Mathematical Methods for Physicists - Arfken and Weber (5th Edition)
7. Fundamentals of Mathematical Physics - A.B.Gupta.
8. Vector Analysis - Seymour Lipschutz and Dennis Spellman.

S.Y.B.Sc. (Physics) (Sem-III)
PHY-232(A): Electronics-I

Lectures: 36

(Credits-02)

N.B: This course is for students **who have not taken Electronic Science as one of the subjects at F.Y.B. Sc.**

Learning outcomes: On successful completion of this course the students will be able to

- Apply different theorems and laws to electrical circuits.
- Understand the relations in electricity.
- Understand the parameters, characteristics and working of transistors.
- Understand the functions of operational amplifiers.
- Design circuits using transistors and applications of operational amplifiers.
- Understand the Boolean algebra and logic circuits.

1. Network Theorem:

(6L)

- 1.1 Krichhoff's Law
- 1.2 Voltage and current Divider Circuit
- 1.3 Thevenin's Theorem
- 1.4 Norton's Theorem
- 1.5 Superposition Theorem
- 1.6 Maximum Power transfer theorem (With proof)
- 1.7 Problems

2. Study of Transistor:

(12L)

2.1 Bi-junction Transistor:

1. Revision of bipolar Junction Transistor, Types, Symbol and basic action.
2. Configuration (Common Base, Common Emitter and Common Collector)
3. Current Gain Factors (α and β) and their relations
4. Input, Output and transfer Characteristic of CE Configuration
5. Biasing method and Voltage Divider
6. DC Load line (CE), Operating Point (Q- point)
7. Transistor as a switch
8. Problems

2.2 Unijunction Transistor:

1. Symbol, Types, Construction, Working Principle, I-V characteristics, Specifications and Parameters of Unijunction Transistor (UJT)
2. UJT as a relaxation Oscillator.

3. Operational Amplifiers and Application

(12 L)

3.1 Operational Amplifiers:

1. Introduction
2. Ideal and practical Characteristics
3. Operational Amplifier: IC741- Block Diagram and Pin diagram
4. Concept of Virtual Ground
5. Inverting and Non-inverting operational amplifiers with concept of gain

6. Operational amplifier as an adder and subtractor

7. Problems

3.2 Oscillators:

1. Concept of Positive and negative feed back

2. Barkhausen Criteria for an oscillator

3. Construction, working and application of phase shift oscillator using IC741

4. Problems

4. Number System and Logic Gates

(6 L)

1. Number System: Binary, Binary coded Decimal (BCD), Octal, Hexadecimal

2. Addition and Subtraction of binary numbers and binary fractions using one's and two's complement

3. Basic Logic gates (OR, AND, NOT)

4. Derived gates: NOR, NAND, EXOR, EXNOR, with symbols and truth table

5. Boolean Algebra

6. De Morgan's theorem and its verification

7. Problems

Reference Books:

1. Electronic Principles-Malvino, 7th Edition, Tata Mc-Graw Hills publication.

2. Principles of Electronics-V.K. Mehta, S. Chand publication.

3. Op-amp and Linear Integrated Circuit-Ramakant Gaikwad, Prentice Hall of India publication.

4. Integrated Circuit-Botkar, Khanna Publication, New Delhi.

5. Digital Principles and Application-Malvino and Leech, Tata Mc-Graw Hills publication.

S.Y.B.Sc. (Physics) (Sem-III)
PHY-232(B): Instrumentation

Lectures: 36

(Credits-02)

N.B: This course is for students **who have taken Electronic Science as one of the subjects at F. Y. B. Sc.**

Learning outcomes: After successful completion of this course, the student will be able to

- Understand the concept of measurement.
- Understand the performance of measuring instruments.
- Design experiments using sensors.

1. Fundamental of measurement: (8L)

1.1 Aims of measurement

1.2 Functional elements of typical measurement system (Block diagram and its explanation).

1.3 Standards of measurement and its classification. (International, primary or national, secondary and working standards).

1.4 Static characteristics: Accuracy, Precision, Sensitivity, Linearity, Resolution, Drift and Hysteresis.

1.5 Dynamic characteristics concepts: First and Second order instruments, Examples of first order: Resistance thermometer and thermal element, Example of 2nd order: U-tube Manometer.

1.6 Errors in measurement and its classifications.

1.7 Problems

2. Transducers: (12L)

2.1 Classification of Transducers and its characteristics

2.2 Displacement Transducer

a) Resistive Type: Linear and Angular (Rotary) Potentiometer, Strain Gauge: Bonded and Unbonded

b) Inductive Type: Self inductive: Variable number of turns, Variable Reluctance Mutual Inductive: LVDT

c) Piezoelectric Type: Quartz Crystal

2.3 Force Transducer: Cantilever beam, Column type devices

2.4 Temperature Measurement

Scales for temperature: Celsius, Kelvin and Fahrenheit

Temperature Measurement Techniques

a. Non-electrical: Liquid filled thermometer and bimetallic thermometer

b. Electrical Methods:

i. Platinum Resistance Thermometer

ii. Thermistor: PTC and NTC with characteristics

iii. Thermocouple: Seebeck effect and Peltier effect,

iv. Types of Thermocouple

3. Measurement of Pressure: (8L)

3.1 Unit of pressure, Concept of vacuum, Absolute gauge and differential pressure,

3.2 Elastic Transducer- Diaphragm, Corrugated Diaphragm, Bellows, Bourdon Tube

3.3 Electric Type- LVDT, Strain gauge

3.4 Pressure Transducer- Calibration by dead weight tester Method

3.5 Problems

4. Signal Conditioning and Processing:

(8L)

4.1 Current to voltage, Voltage to current convertors, buffer amplifier, S/H Amplifier and Characteristics, Acquisition time, Aperture time, Drop rate

4.2 Filters: First order LPF and HPF with design,

4.3 Instrumentation Amplifier (Using 3 op-amp)

Reference Books:

1. Instrumentation Device and System - Rangan, Mani and Sarma, Tata Mc Graw Hill
2. Instrumentation Measurement and Analysis - Nakra, Choudhari, Tata Mc Graw Hill India publication.
3. Sensors and Transducers - D. Patranabis, PHI publications.
4. Op-Amps and Linear Integrated Circuits - Ramakant A. Gayakwad, Pearson India publications.
5. Process control Instrumentation Technology - C.D. Johnson, PHI publications.

S.Y.B.Sc. (Physics) (Sem-III)
PHY-233: Physics Laboratory-2A

Lectures: 36

(Credits-02)

Learning Outcome: After completing this practical course students will be able to

- Use various instruments and equipment.
- Design experiments to test a hypothesis and/or determine the value of an unknown quantity.
- Investigate the theoretical background of an experiment.
- Setup experimental equipment to implement an experimental approach.
- Analyze the data, plot appropriate graphs and reach conclusions from data analysis.
- Work in a group to plan, implement and report on a project/experiment.
- Keep a well-maintained and instructive laboratory logbook.

Section-I: Electronics-I/Instrumentation

1. Circuit Theorems (Thevenin's, Norton's and Maximum Power Transfer Theorems)
2. Transistor Characteristics (Input and Output characteristics of CE Configuration)
3. Single Stage Transistor Amplifier
4. Study of Rectifiers (Half, Full Wave and Bridge) with different filters
5. I-V Characteristics of UJT/ UJT as Relaxation Oscillator
6. Zener as a Regulator (Line and Load Regulation)
7. Op-amp as inverting and non-inverting amplifier
8. Study of Wein Bridge / Phase Shift Oscillator using 741
9. Op-amp as an adder and subtractor
10. Study of logic gates and verification of de Morgan's theorems
11. To measure displacement using potentiometer/variable inductor/ variable capacitor
12. Use of CRO (AC/DC Voltage measurement, Frequency measurement)
13. To measure force using load cell
14. To measure pressure using elastic diaphragm (In Variable Capacitor / Bourdon Tube)
15. To measure magnetic field using Hall Probe for a system of ring magnets

Section-II: Use of Computer

1. Plotting of various trigonometric functions using spread sheet/any graphic software viz. Microsoft Excel, Origin: $\sin x$, $\cos x$, $\tan x$, e^x , e^{-x} , $\log x$, $\ln x$, x^n
2. Plotting of conic sections using spreadsheet /any graphic software viz. Microsoft Excel, Origin: circle, ellipse, parabola, hyperbola
3. Inverse, determinant of matrix, solution of linear equations using Microsoft Excel or Origin software

Additional Activities (Any two)

1. Plotting of any **two** graphs using spreadsheets (of data obtained from various experiments performed by the student)
2. Any **two** computer aided demonstrations (Using computer simulations or animations)

3. Demonstrations-Any **two** demonstrations
4. Study tour with report
5. Mini project

Total Experiments to be performed by a student: (A) 10 OR (B) 8 + Two Activities

(A): At least **6** experiments from **Section-I** and **2** experiments from **Section-II**

(B): At least **4** experiments from **Section-I** and **2** experiments from **Section-II** + **Any Two Activities**

Semester-IV

S.Y.B.Sc. (Physics) (Sem-IV)
PHY-241: Oscillations, Waves and Sound

Lectures: 36

(Credits-02)

Learning Outcomes: On completion of this course, the learner will be able:

- To study underlying principles of oscillations and its scope in development.
- To understand and solve the equations / graphical representations of motion for simple harmonic, damped, forced oscillators and waves.
- To explain oscillations in terms of energy exchange with various practical applications.
- To solve numerical problems related to undamped, damped, forced oscillations and superposition of oscillations.
- To study characteristics of sound, decibel scales and applications.

1. Undamped Free Oscillations: (7L)

- 1.1 Different types of equilibria (static, dynamic, stable, unstable, and metastable equilibrium) – definitions only with examples.
- 1.2 Definitions of linear Simple Harmonic Motion (S.H.M) and angular S.H.M.
- 1.3 Differential equation for linear S.H.M. and its solution.
- 1.4 Composition of two perpendicular linear S.H.Ms. for frequency ratio 1:1 and 2:1 (analytical method).
- 1.5 Lissajous figures, their demonstration (optical and electrical method) and applications.
- 1.6 Problems.

2. Damped Oscillations: (7L)

- 2.1 Introduction
- 2.2 Differential equation for damped harmonic oscillator and its solution, discussion of different cases.
- 2.3 Logarithmic decrement.
- 2.4 Average energy of damped harmonic oscillator.
- 2.5 Quality factor.
- 2.6 Application: LCR series circuit.
- 2.7 Problems.

3. Forced Oscillations: (8L)

- 3.1 Introduction.
- 3.2 Differential equation for forced oscillations and its solution.
- 3.3 Resonance: mechanical, acoustic and electrical.
- 3.4 Velocity and Amplitude resonance.
- 3.5 Sharpness of resonance and half width.
- 3.6 Average energy of forced oscillator.
- 3.7 Quality factor of forced oscillator.
- 3.8 Relation between quality factor and bandwidth.
- 3.9 Application of forced oscillations- LCR series circuit.
- 3.10 Problems.

4. Wave Motion:

(6L)

- 4.1 Introduction.
- 4.2 Equation for longitudinal waves and its solution (one dimension only).
- 4.3 Equation for transverse waves and its solution (one dimension only).
- 4.4 Energy density and intensity of a wave.
- 4.5 Qualitative discussion of seismic waves and gravitational waves.
- 4.6 Problems.

5. Sound and Doppler Effect:

(8L)

- 5.1 Definition of sound Intensity, Loudness, Pitch, Quality and timbre.
- 5.2 Reverberation time and reverberation of hall.
- 5.3 Sabine's formula (without derivation).
- 5.4 Doppler Effect in sound, Expression for apparent frequency in different cases.
- 5.5 Asymmetric nature of Doppler Effect in sound.
- 5.6 Doppler Effect in light, Symmetric nature of Doppler Effect in light.
- 5.7 Applications: Radar, Speed of distant star, Rotational speed of binary star, Red Shift and Width of spectral line.
- 5.8 Problems.

Reference Books:

1. Waves and Oscillations - Stephenson.
2. The Physics of Waves and Oscillations - N. K. Bajaj, Tata McGraw- Hill, publication.
3. Fundamentals of Vibrations and Waves - S. P. Puri, Tata McGraw-Hill publication.
4. A Text Book of Sound - Subramanyam and Brijlal, Vikas Prakashan.
5. Sound - Mee, Heinmann Edition, London.
6. Waves and Oscillations - R.N. Chaudhari, New Age International (p) ltd.
7. A Textbook on Oscillations, Waves and Acoustics - M. Ghosh, and D. Bhattacharya, S. Chand and Company Ltd.

Learning Outcomes: On successful completion of this course the students will be able to

- Acquire the basic concept of wave optics.
- Describe how light can constructively and destructively interfere.
- Explain why a light beam spread out after passing through an aperture
- Summarize the polarization characteristics of electromagnetic wave
- Understand the operation of many modern optical devices that utilize wave optics
- Understand optical phenomenon such polarization, diffraction and interference in terms of the wave model
- Analyze simple example of interference and diffraction.

1. Geometrical optics and Lens aberrations: (12L)

(a) Geometrical optics:

- 1.1 Introduction to lenses and sign conventions.
- 1.2 Thin lenses: Lens equation for single convex lens
- 1.3 Lens maker equation
- 1.4 Concept of magnification, deviation and power of a thin lens
- 1.5 Equivalent focal length of two thin lens system
- 1.6 Concept of cardinal points
- 1.7 Problems

(b) Lens Aberrations:

- 1.8 Introduction to Aberration
- 1.9 Types of aberration: Monochromatic and Chromatic Aberration (Only discussion)

2. Optical Instruments: (6L)

- 2.1 Introduction to optical instruments
- 2.2 Types of optical instruments: Simple Microscope, Compound Microscope and Astronomical telescope (only construction and working)
- 2.3 Eyepiece: Ramsden's eye piece (Expression), Huygens eye piece and Gauss's eyepiece (only qualitative discussion)
- 2.4 Problems.

3. Interference and Diffraction: (12L)

(a) Interference:

- 3.1 Introduction to interference
- 3.2 Types of Interference (only discussion)
- 3.3 Phase change on reflection (Stokes treatment).
- 3.4 Interference due to reflected light
- 3.5 Interference due to transmitted light.
- 3.6 Newton's ring (to calculate wavelength)

3.7 Problems

(b) Diffraction:

3.8 Introduction to diffraction

3.9 Types of diffraction (only discussion)

3.10 Fraunhofer's diffraction due to single slit and double slit (only qualitative discussion)

3.11 Plane transmission grating and grating equation (only principal maxima)

3.12 Rayleigh criterion for resolution (only qualitative discussion)

3.13 Problems

4. Polarization:

(6L)

4.1 Introduction to polarization

4.2 Brewster's law

4.3 Malus's Law

4.4 Polarization by double refraction

4.5 Nicol Prism

4.6 Application of polarization

4.7 Problems

Reference Books:

1. Optics - A.R. Ganesan, 4th edition, Pearson Education.
2. A Textbook of Optics - N. Subhramanyam, Brijlal, M.N. Avadhanulu, S. Chand Publication.
3. Physical Optics - A.K. Ghatak, McMillan, New Delhi
4. Fundamental of Optics - F.A. Jenkins, H.E.White, Mc Graw-Hill International edition
5. Principles of Optics - D.S. Mathur, Gopal Press, Kanpur.

Learning Outcome: After completing this practical course students will be able to

- Use various instruments and equipment.
- Design experiments to test a hypothesis and/or determine the value of an unknown quantity.
- Investigate the theoretical background of an experiment.
- Setup experimental equipment to implement an experimental approach.
- Analyze the data, plot appropriate graphs and reach conclusions from data analysis.
- Work in a group to plan, implement and report on a project/experiment.
- Keep a well-maintained and instructive laboratory logbook.

Section I: Oscillations, Waves and Sound

1. Logarithmic decrement (in air and water).
2. Study of coupled oscillators comprising two simple pendulum (Mechanical) and determination of coupling coefficient.
3. 'g' by bar pendulum.
4. Study of musical scales using a signal generator and musical instruments.
5. Measurement of coefficient of absorption of sound for different materials (cork, thermocol, mica, paper etc.).
6. Study of Lissajous's figures and determination of unknown frequency.
7. Determination of speed of sound by Quincke's method interferometer.
8. Directional characteristics of Microphone.
9. Velocity of sound by Phase shift method.
10. To determine the frequency of an electrically maintained tuning fork by stroboscopic method.
11. To determine the velocity of sound in air at room temperature with Kundt's Tube.

Section II: Optics

1. Newton's Ring: Determination of wavelength of monochromatic light source (λ).
2. Dispersive power of glass prism.
3. Total internal reflection using LASER beam and glass prism.
4. Diffraction at the edge of a razor blade.
5. Optical activity of sugar solution using Polarimeter.
6. Goniometer to determine cardinal points and focal length.
7. To determine temperature of sodium flame.
8. Double refracting prism.
9. Determination of Cauchy's constant.

Additional Activities (Any two)

1. Plotting of any **two** graphs using spreadsheets (of data obtained from various experiments performed by the student).
2. Any **two** computer aided demonstrations (Using computer simulations or animations).
3. Demonstrations –Any **two** demonstrations.
4. Study tour with report.
5. Mini project.

Total Experiments: (A) 10 OR (B) 8 + Two Activities

(A): 5 experiments from Section-I and 5 experiments from Section-II

(B): 4 experiments from Section-I and 4 experiments from Section-II + Any Two Activities



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे

मराठी विषयाचा पुनर्रचित अभ्यासक्रम- जून २०२० पासून

S. Y. B. Sc. मराठी

निवड आधारित श्रेयांक पद्धत

Choice Based Credit System [CBCS]

सत्र	विषयाचे नाव
पहिले	उपयोजित मराठी (AECC - 2 A)
दुसरे	मराठी साहित्य (AECC – 2 B)

S. Y. B. Sc. (द्वितीय वर्ष विज्ञान)

विषयाचे नाव

उपयोजित मराठी (AECC – 2 A)

पहिले सत्र

अभ्यासक्रमाची उद्दिष्टे :

- १ मराठी भाषा, साहित्य आणि यांच्या परस्परसंबंधाची जाणीव करून देणे.
- २ मराठी भाषेचा परिभाषासापेक्ष आणि शैलीसापेक्ष विकास विद्यार्थ्यांच्या लक्षात आणून देणे.
- ३ मराठी भाषेची उपयोजनात्मक कौशल्ये विकसित करणे.

घटक	तपशील	श्रेयांक	तासिका
१	१ भाषा आणि जीवनव्यवहार : भाषा म्हणजे काय? शास्त्रीय – व्यवहार – साहित्य - कार्यालयीन भाषा, प्रसारमाध्यमे आणि समाजमाध्यमे भाषा. २ अर्जलेखन : विनंती अर्ज, नोकरीसाठी अर्ज ३ संगणकीय अर्जलेखन : युनिकोडमधून मायक्रोसॉफ्ट वर्डमध्ये अर्ज. ४ स्व- परिचय	१	१५
२	१ प्रसारमाध्यमांसाठी लेखन : (कृषि, विज्ञान, तंत्रज्ञान, क्रीडाविषयक) १ वृत्तपत्रे : लेख लेखन २ नभोवाणी : भाषण लेखन ३ चित्रवाणी : माहितीपटासाठी संहिता लेखन ४ महाजाल : ब्लॉग लेखन ५ नवसमाजमाध्यमांसाठी लेखन : फेसबुक, ट्विटर.	१	१५

संदर्भ ग्रंथ :

- १ व्यावहारिक मराठी पाठ्यपुस्तक, पुणे विद्यापीठ प्रकाशन, पुणे.
- २ व्यावहारिक मराठी- डॉ. कल्याण काळे व डॉ. द.दि.पुंडे.
- ३ व्यावहारिक मराठी- ल.रा.नसिराबादकर, फडके प्रकाशन, कोल्हापूर.
- ४ नवभारत, व्यावहारिक मराठी विशेषांक, ऑगस्ट-सप्टें, १९८२, प्राज्ञ पाठशाला, वाई.

- ५ उपयोजित अभ्यासक्रम, मराठी भाषेची संवादकौशल्ये, यशवंतराव महाराष्ट्र मुक्त विद्यापीठ, नाशिक.
- ६ शासाव्यवहारात मराठी (समस्या : स्वरूप: प्रक्रिया), भाषा संचालनालय, शासकीय फोटो झिंको मुद्रणालय, पुणे १९९७.
- ७ व्यावहारिक मराठी- प्रकाश परब
- ८ व्यावहारिक मराठी, डॉ.स्नेहल तावरे
- ९ व्यावहारिक मराठी, डॉ. गोविलकर , डॉ. पाटणकर
- १० व्यावहारिक आणि उपयोजित मराठी, डॉ. मनोहर रोकडे
- ११ बातमीची कार्यक्षेत्रे, यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक.
- १२ दूरदर्शनसाठी लेखन, केशव केळकर
- १३ जाहिरातीचे युग, केशव केळकर
- १४ सृजनात्मक लेखन, आनंद पाटील
- १५ मराठी लेखन मार्गदर्शिका, यास्मिन शेख
- १६ भयंकर सुंदर मराठी भाषा, डॉ. द. दि. पुंडे
- १७ पत्रकारितेचा स्वभाव, ल. न. गोखले
- १८ फीचर रायटिंग, प्रसन्नकुमार अकलूजकर
- १९ भाषांतर मीमांसा, कल्याण काळे, अंजली सोमण
- २० पत्रकारिता : स्वरूप आणि चिकित्सा, महावीर जोंधळे
- २१ व्यावहारिक मराठी भाषा, शरदिनी मोहिते
- २२ जाहिरात शास्त्र, डॉ. वंदना खेडीकर

S. Y. B. Sc. (द्वितीय वर्ष विज्ञान)

विषयाचे नाव

मराठी साहित्य (AECC – 2 B)

दुसरे सत्र

अभ्यासक्रमाची उद्दिष्टे :

१. साहित्यविषयक अभिरूची विकसित करणे.
२. मराठी भाषा, साहित्य आणि यांच्या परस्परसंबंधाची जाणीव करून देणे.
३. साहित्यविषयक अभ्यासातून जीवनविषयक समज विकसित करणे.
४. विज्ञानसाहित्यविषयक आकलनक्षमता वाढविणे.

घटक	तपशील	श्रेयांक	तासिका
१	१ निबंध लेखन (वैचारिक, सामाजिक, विज्ञानविषयक) २ अभ्यासपुस्तक मराठी कथा दर्शन संपादक प्रा. डॉ. शिरीष लांडगे, सुनिताराजे पवार, प्रा. डॉ. शांताराम चौधरी रुद्र प्रकाशन, पुणे	२	३०

संदर्भ ग्रंथ :

- १ साहित्य अध्यापन आणि प्रकार, वा. ल. कुलकर्णी गौरव ग्रंथ, संपादक श्री. पु. भागवत, डॉ. सुधीर रसाळ.
- २ कथा : संकल्पना आणि समीक्षा, सुधा जोशी, मौज प्रकाशन.
- ३ मराठी कथा : विसावे शतक, संपादक के. ज. पुरोहित, सुधा जोशी.
- ४ निबंध : शास्त्र व कला - डॉ. प्र. न. जोशी
- ५ निबंधलेखन - निर्मला किराणे.



University of Pune

S. Y. B. Sc. [Botany]

Class – S.Y. B .Sc. (To be implemented From June 2014)		
Paper	Semester - I	Semester – II
I	Taxonomy of Angiosperms and Plant community	Plant Anatomy and Embryology
II	Plant Physiology	Plant Biotechnology
III	Practicals based on Theory courses (Paper I and II)	

Equivalence of previous syllabus at S.Y.B.Sc. Botany

Paper	2008 Pattern (Implemented from 2009)	2013 Pattern (To be implemented from 2014)
Paper I Semester I	BO-211: Fundamentals of Plant Systematics and Plant Ecology	BO-211: Taxonomy of Angiosperms and Plant community
Paper II Semester I	BO-212: Fundamentals of Plant Physiology	BO-212: Plant Physiology
Paper I Semester I	BO-221: Structural Botany (Anatomy, Embryology and Palynology)	BO-221: Plant Anatomy and Embryology
Paper II Semester I	BO-222: Fundamentals of Plant Biotechnology	BO-222: Plant Biotechnology
Practical Course	Practical based on theory courses (Paper I and Paper II)	Practical based on theory courses (Paper I and Paper II)

S.Y.B.Sc. Botany
(Semester I, Paper I)
Taxonomy of Angiosperms and Plant Community (48 Lectures)

- 1. Introduction to Plant Taxonomy** **3L**
- 1.1 Definition, scope, objectives and importance
 - 1.2 Identification, classification, nomenclature
 - 1.3 Concept of Systematics
- 2. Systems of classification** **6L**
- 2.1 Types of systems with their merits and limitations- a)Artificial system- Carl Linnaeus ,
b)Natural system -Bentham and Hooker, c) Phylogenetic system- Engler and Prantl
- 3. Taxonomic literature** **2L**
- Flora, monograph, revisions, manuals, journals, periodicals and references books.
- 4. Sources of data for Systematics** **6L**
- 4.1 Morphology
 - 4.2 Anatomy
 - 4.3 Cytology
 - 4.4 Embryology
 - 4.5 Phytochemistry
 - 4.6 Molecular biology
- 5. Botanical Nomenclature** **6L**
- 5.1 History
 - 5.2 Binomial nomenclature
 - 5.3 ICBN- principles
 - 5.4 Rules of nomenclature
 - 5.5 Coining of generic names and specific epithets.
 - 5.6 Ranks and endings of taxa names
 - 5.7 Principle of priority
 - 5.8 Effective and valid publications
 - 5.9 Single and double authority citation
 - 5.10 *Nomina conservanda*

6. Study of Plant Families

11L

Study of following families with reference to systematic position, salient features, floral formula, floral diagram and any five examples with their economic importance – Annonaceae, Meliaceae, Myrtaceae, Rubiaceae, Solanaceae, Asclepiadaceae, Euphorbiaceae and Amaryllidaceae

7. Computer in taxonomy

4L

7.1 Concept of herbarium their advantages and limitations

7.2 Digital /e-herbarium and their advantages

7.3 Data bases: concept and needs.

7.4 Use of computer in plant classification

8. Introduction to ecology

5L

8.1 Definition

8.2 Concept

8.3 Autecology and synecology

8.4 Ecosystem and its components: biotic and abiotic.

8.5 Food chain

8.6 Food web

8.7 Ecological pyramids

9. Ecological grouping of the plants

5L

Ecological grouping of the plants with reference to their significance of adaptive external and internal features: a) Hydrophytes, b) Mesophytes c) Xerophytes d) Halophytes with examples.

References-

1. Chopra G.L.- Angiosperms
2. Cronquist, A. 1968. The Evolution and Classification of Flowering Plants. Thomas Nel and Sons Ltd. London.
3. Datta S.C.- A Hand Book of Systematic Botany
4. Davis P.H and V.H Heywood 1963. Principles of Angiosperm Taxonomy. Oliver and Boyd London.
5. Gurucharan Singh 2005- Systematics theory and practice (Oxford IBH)
6. Heywood V.H 1967. Plant Taxonomy, London.
7. Lawrence, G.H.M 1951. Taxonomy of Vascular Plants. N.Y.

8. Lawrence G.H.M 1955. An Introduction to Plant Taxonomy N.Y.
9. Naik V.N.- Taxonomy of Angiosperms.
10. Pande B.P 1997. Taxonomy of Angiosperms. S.Chand.
11. Priti Shukla and Shital Mishra- An introduction to Taxonomy of angiosperms
12. Rendle A.B. 1925. The Classification of flowering plants. 2 Vols. London.
13. Santapau H. 1953. The Flora of Khandala on the Western Ghats of India.
14. Singh V. and D.K Jain, 1981 Taxonomy of Angiosperms. Rastogi Publication, Meerut.
15. Sharma O.P, Plant taxonomy (Tata Mc grow Hill)
16. Stewart W.N. and Rathwell G.W. 1993. Paleobotany and the Evolution of plants. Cambridge University Press.
17. Swingle D.B. 1946. A Text book of Systematic Botany. Mc Graw Hill Book Co. New York.
18. Takhtajan A. 1969. Flowering Plants; Origin and Disposal.
19. Theodore Cooke(1903)- The flora of The Presidency of Bombay Vol. I, II, III
20. V.V.Shivrajan-Introduction to Principles plant taxonomy
21. Yadav S.R. and Sardesai M.R.- Flora of Kolhapur District.

S. Y. B. Sc. [Botany]
(Semester I, Paper II)
Plant Physiology (48 Lectures)

- 1. Introduction to Plant Physiology** **2L**
Brief history, Scope and applications of plant physiology
- 2. Plant – water relations** **8L**
 - 2.1 Physico-chemical properties of water
 - 2.2 Membrane structure, permeability and aquaporin
 - 2.3 Diffusion – Definition, factors affecting diffusion, importance of diffusion in plants
 - 2.4 Osmosis – Definition, types of solutions – hypotonic, hypertonic and isotonic, endosmosis and exosmosis, concept of osmotic pressure (OP), turgor pressure (TP), wall pressure (WP), Diffusion pressure deficit (DPD), relation between OP, TP and DPD, role of osmosis in plants.
 - 2.5 Plasmolysis – Definition, mechanism, deplasmolysis, significance of plasmolysis
 - 2.6 Imbibition – Concept, mechanism and significance
- 3. Absorption of water** **3L**
 - 3.1 Role of water in plants
 - 3.2 Concept of water potential and capillary water
 - 3.3 Mechanisms of water absorption
 - 3.4 Factors affecting rate of water absorption
- 4. Ascent of sap** **4L**
 - 4.1 Introduction and definition.
 - 4.2 Theories of ascent of sap
 - 4.3 Vital theories: Jamin – Chame theory and Bose theory
 - 4.3.1 Physical force theories: a) Capillary theory, b) Imbibitional theory, c) Atmospheric pressure theory,
 - 4.3.2 Transpiration pull or cohesion-tension theory, evidences and objections
 - 4.4 Factors affecting ascent of sap
- 5. Transpiration** **6L**
 - 5.1 Definition
 - 5.2 Types of transpiration – cuticular, lenticular and stomatal
 - 5.3 Structure of stomata

- 5.4 Mechanism of opening and closing of stomata –Steward’s hypothesis, active K^+ transport mechanism
- 5.5 Factors affecting the rate of transpiration
- 5.6 Significance of transpiration
- 5.7 Antitranspirants
- 5.8 Guttation
- 5.9 Exudation
- 6. Plant growth and plant growth regulators 6L**
- 6.1 Introduction
- 6.2 Phases of growth
- 6.3 Measurement of growth- Arc auxanometer, Bose crescograph, fresh and dry weight method
- 6.4 Factors affecting growth
- 6.5 Plant Growth Regulators- Introduction and definition
- 6.6 Properties and practical applications of auxins, cytokinins, gibberellins, ethylene and abscisic acid
- 7. Nitrogen metabolism 8L**
- 7.1 Introduction
- 7.2 Biological nitrogen fixation
- 7.2.1 Symbiotic nitrogen fixation, nitrogenase enzyme- structure and function
- 7.2.2 Non-symbiotic nitrogen fixation
- 7.3 Denitrification, ammonification and nitrification
- 7.4 Reductive amination and transamination
- 7.5 Role of nitrogen in plants
- 8. Seed dormancy and germination 4L**
- 8.1 Definition and types of seed dormancy
- 8.2 Methods to break seed dormancy
- 8.3 Metabolic changes during seed germination
- 9. Physiology of flowering 7L**
- 9.1 Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants, photoperiodic induction, phytochrome and flowering
- 9.2 Phytohormones and initiation of flowering
- 9.3 Applications of photoperiodism

9.4 Vernalisation – concept and definition, mechanism of vernalisation, applications of vernalisation, devernialization

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3. Hans-Walter Heldt. 1997. Plant Biochemistry And Molecular Biology. Oxford University Press, New York. Usa.
4. Moore, T.C. 1979. Biochemistry And Physiology Of Plant Hormones. Springer-Verlag. Berlin.
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16. Press, M.C., Barker, M.G., and Scholes, J.D. 2000. Physiological Plant Ecology, British Ecological Society Symposium, Volume 39, Blackwell Science, UK.

S. Y. B. Sc. [Botany]
(Semester II, Paper I)
Plant Anatomy and Embryology (48 Lectures)

Plant anatomy:

- 1. Introduction** **2L**
Definition, scope of plant anatomy and types of tissues
- 2. Epidermal tissue system** **4L**
Structure and function of epidermal tissue system, uniseriate and multiseriate epidermis, stomata: structure, types and functions, epidermal outgrowth: glandular and non-glandular
- 3. Mechanical tissue system** **4L**
Principles involved in distribution of mechanical tissues – inflexibility, incompressibility, inextensibility and shearing stress, tissues providing mechanical support, their distribution in leaf, stem and root of dicots and monocots.
- 4. Vascular tissue system** **4L**
Structure and function of xylem, phloem and cambium
- 5. Normal secondary growth** **5L**
Introduction, cambium and its role, process in stems of *Helianthus annuus* and *Annona squamosa*, extrastelar and intrastelar secondary growth, annual rings, periderm, bark, tylosis and lenticel
- 6. Anomalous secondary growth** **5L**
Introduction, causes, anomalous secondary growth in dicot stem (*Bignonia*) dicot root (*Raphanus*) and monocot stem (*Dracaena*).

Plant Embryology

- 7. Introduction** **1L**
Definition and scope of plant embryology
- 8. Microsporangium and male gametophyte** **5L**
- a. Microsporangium: structure of tetrasporangiate anther, types of tapetum, sporogenous tissue.
 - b. Microsporogenesis: process and its types, types of microspore tetrad.
 - c. Male gametophyte: structure and development of male gametophyte.

10. Megasporangium and female gametophyte: 7L

- a. Megasporangium: structure, types of ovules – anatropous, orthotropous, amphitropous, campylotropous, circinotropous.
- b. Megasporogenesis: tenuinucellate and crassinucellate ovules, types of megaspore tetrads.
- c. Female gametophyte: structure of typical embryo sac, types of embryo sacs with examples – monosporic, bisporic and tetrasporic.

11. Fertilization: 5L

Mechanism of pollination- entomophily, anemophily, hydrophily, zoophily, germination of pollen grain, double fertilization (syngamy and triple fusion) and its significance.

12. Endosperm and embryo 6L

- a. Endosperm: Types – nuclear, helobial and cellular.
- b. Embryogeny: structure of dicot and monocot embryo and seed formation.

References

1. Plant Anatomy, Chandurkar P J, Plant Anatomy Oxford and IBH publication Co. New Delhi 1971
2. B P Pandey, Plant Anatomy, S Chand and Co. Ltd, New Delhi 1978
3. Greulach V A and Adams J E Plant- An introduction to Modern Biology, Toppen Co. Ltd, Tokyo,
4. Eams and Mc Daniel, An Introduction to Plant Anatomy, McGraw –Hill Book Co. Ltd and Kogakusha Co, Tokyo, Japan
5. Adriance S Foster Practical Plant Anatomy, D Van Nostrand Co. INC, Newyork
6. Esau, Plant Anatomy, Wiley Toppan Co. California, USA
7. Pijush Roy, Plant Anatomy, New Central Book Agency Ltd, Kolkata
8. Pandey S N and Ajanta Chadha, Plant Anatomy and Embryology, Vikas Publishing House, Pvt, Ltd, New Delhi
9. Bhojwani S S and Bhatnagar S P, An Embryology of Angiosperms
10. Maheshwari P, An introduction to Embryology of Angiosperm
11. Nair P K K Essentials of Palynology.

S. Y. B. Sc. [Botany]
(Semester II, Paper II)
Plant Biotechnology (48 Lectures)

- 1. Introduction** **2L**
- 1.1 Biotechnology- Definition, concept and scope
 - 1.2 Interdisciplinary nature of biotechnology
- 2. Enzyme Technology** **7L**
- 2.1 Introduction, definition and properties of enzymes.
 - 2.2 Classification of enzymes
 - 2.3 Industrial applications of enzymes.
 - 2.4 Production of amylase, proteases and lipase enzyme
 - 2.5 Enzymes immobilization - concept and techniques of immobilization
- 3. Fermentation Technology.** **7L**
- 3.1 Introduction.
 - 3.2 Liquid and solid state fermentations
 - 3.3 Principles of microbial growth
 - 3.4 Bioreactors used in fermentations- stirred tank and tubular tower and digestive tank fermenters
 - 3.5 Media composition for liquid and solid state fermentations
 - 3.6 Industrial applications of fermentation
 - 3.7 Downstream processing- citric acid production.
- 4. Single cell protein** **5L**
- 4.1 Introduction
 - 4.2 Need of proteins in diet
 - 4.4 Production of SCP from algae (*Spirulina*) and fungi (Yeast)
 - 4.5 The economic implications of SCP
 - 4.6 Acceptability of SCP
- 5. Environmental Biotechnology** **6L**
- 5.1 Introduction
 - 5.2 Phytoremediation- definition and concept
 - 5.3 Methods of phytoremediation- Rhizofiltration, phytoextraction, phytostabilization, phytovolatilization, phytodegradation,
 - 5.4 Environmental sustainability

- 6 . Basics of plant genetic engineering** **7L**
- 6.1 Introduction and structure of DNA
- 6.2 Structure of gene in prokaryotes and eukaryotes- Promoter, coding region and terminator
- 6.3 General method of gene isolation from the plants-DNA isolation, restriction enzymes, restriction digestion of DNA, DNA electrophoresis, southern hybridization, ligation of DNA fragments
- 6.4 Gene cloning- vectors used for gene cloning
- 7. Methods of gene transfer in plants** **8L**
- 7.1 Direct gene transfer methods- Electroporation, biolistic gene transfer, liposome mediated transfer.
- 7.2 Vector mediated gene transfer- *Agrobacterium* mediated gene transfer in plants, Ti-plasmid: structure and functions, Ti plasmid based vectors, advantages.
- 8. Application of plant genetic engineering in crop improvement.** **4L**
- 8.1 Introduction
- 8.2 Insect pest resistance, abiotic stress tolerance, herbicide resistance, storage protein quality
- 9. Nano-biotechnology** **2L**
- 9.1 Definition and concept
- 9.2 Applications of nanotechnology in agriculture (fertilizers and pesticides).

REFERENCES:

1. Nanobiotechnology, Concepts, Applications and perspectives, C.M. Niemeyer and C.A. Mirkin ; 2004; WILEY-VCH,.
2. Bionanotechnology: concepts, Lessons from Nature”, David.S. Goodsell, 2004 Wiley-Liss
3. Nanobiotechnology Protocols; Sandra J Rosenthal, David W Wright 2005, Humana Press Inc
4. Nanoscale Technology in Biological Systems; R.S. Greco, F.B.Prinz and R.L.Smith 2005 CRC press,.
5. Fundamental Molecular Biology ; Allison LA; 2007
6. Recombinant DNA, Watson et al ; 5th Ed; 2006
7. Techniques for Engineering Genes ; Curell BR et al;2004
8. Techniques for Molecular Biology ; Tagu D & Moussard C; INRA; 2006
9. Gene Cloning and DNA Analysis ; 5th Ed ; Brown TA ; 2006
10. Analysis of Genes and Genomes ; Reece RJ ; Wiley; 2004
11. Recombinant DNA and Biotechnology ; 2nd Ed ; Kreuzer H and Massey A ;ASM;2006
12. Text book of biotechnology, R.C.Dubey, 2009, S.Chand, Delhi

S. Y. B. Sc. [Botany] Paper III
Practicals Based on Theory Paper I and II

a) Taxonomy of Angiosperms and Plant Community

1. Description of flowering plant in botanical terms (01 P)
2. Study of plant families (any four) (03 P)
3. Study of ecological adaptations in Hydrophytes with any two examples (01P)
4. Study of ecological adaptations in Xerophytes with any two examples (01P)
5. Study of vegetation by list count quadrat method. (01P)
6. Study of tools of taxonomy and ecological instruments (any four each) (01P)

b) Plant Physiology

1. Determine water holding capacity (WHC) and pH of soil (pH by pH meter.) (01 P)
2. Study of plasmolysis in suitable plant material (01 P)
3. Determination of Diffusion Pressure Deficit (DPD). (01 P)
4. Determine rate of transpiration under different conditions of Sunlight, Shade and wind (01 P)
5. Demonstration Experiments. (Compulsory Practical) (01 P)
 - a. Curling Experiment
 - b. Imbibition in seeds
 - c. Arc Auxanometer
 - d. Effect of auxins on rooting
 - e. Transpiration pull
 - f. Spectrophotometer
 - g. Portable leaf area meter
 - h. Conductivity meter
 - i. Centrifuge
6. Assessing seed viability by TTC method (01 P)

c) Plant Anatomy and Embryology

1. Study of epidermal tissue system – non-glandular and glandular trichomes, multilayered epidermis, typical stomata (dicot and monocot). (01 P)
2. Study of mechanical tissues and their distribution in root, stem and leaves. (01 P)
3. Study of normal secondary growth in dicot stem – *Annona /Moringa*. (01 P)
(Double stained temporary preparation).

4. Study of anomalous secondary growth in *Bignonia* and *Dracaena* stem. (01 P)
(Double stained temporary preparation).
5. Study of tetrasporangiate anther and types of ovules. (01 P)
6. Study of dicot and monocot embryo. (01 P)

b) Plant Biotechnology

1. Production of citric acid by *Aspergillus niger* and estimation of citric acid by titration method. (02 P)
2. Production of single cell protein production i.e. *Spirulina* / yeast and study of commercial products (01 P)
3. Demonstration of fermentation and fermentation products (01 P)
4. Demonstration of separation of plasmid DNA by agarose gel electrophoresis (01 P)
5. Demonstration of enzyme immobilization (01 P)

N.B. Botanical excursion tour and submission of at least five correctly identified wild plant photographs is compulsory.

UNIVERSITY OF PUNE

Revised Course Structure of English

S. Y. B. Sc. & S. Y. B. Sc. (Computer Science) English (w. e. f- 2014- 2015)

Prescribed Text: *Literary Vistas* Ed. Board of Editors, Orient Blackswan

Literature Components

1. The Sun, the Planets and the Stars- *C. Jones*
2. The Scientific Point of View- *J. B. S. Haldane*
3. TV As Babysitter- *Jerzy Kosinski*
4. A Cup of Tea- *Katherine Mansfield*
5. With the Photographer- *Stephen Leacock*
6. Purdah (1) - *Imtiaz Dharker*
7. A Psalm of Life- *Henry Wadsworth Longfellow*
8. Ozymandias of Egypt- *Percy Bysshe Shelley*
9. If— *Rudyard Kipling*
10. Daffodils- *William Wordsworth*

Language Components

1. Vocabulary

Introduction

Synonyms

Antonyms

Collocations: Words that go together

Commonly confused words

Word formation

2. Grammar

Tenses

Simple, compound and complex sentences

Transformation of sentences

3. Communication Skills

Interviews

Group discussions

Presentations

Paragraph writing

Essay writing

Reviews

Report writing

Summaries

Term-wise division of the syllabus:

Term-I

Literature components

Unit – 01, 02, 03 & 06, 07.

Language components

1. Vocabulary

2. Grammar

Term-II

Literature components

Unit –0 4, 05 & 08, 09, 10.

Language component

Communication skills

Question Paper Pattern (SEMESTER-I)

Prescribed Text : Literary Vistas

Time: Two Hours Total marks-40

Ques.1. Attempt any one from (A) and one from (B) in about 100 words each.

(Questions on Unit No. **01** and **02** only)

10 Marks

Ques.2 Attempt any one from (A) and one from (B) in about 100 words each.

(Questions on Unit No.**03** , **06** and **07** only)

10 Marks

Ques.3. Objective questions on vocabulary (Fill in the blanks, Match the pairs , Complete the sentences ,right combinations).

10 Marks

Ques.4. Objective questions on Grammar (Fill in the blanks, Do as directed,

Transformation of sentences)

10 Marks

Question Paper Pattern (SEMESTER-II)

Time: Two Hours

Total Marks-40

Ques.1. Attempt any one from (A) and one from (B) in about 100 words each.

(Questions on Unit NO. **04** and **05** only)

10 Marks

Ques.2. Attempt any one from (A)and one from (B) in about in 100 words each.

(Questions on Unit No. **08** ,**09** and **10** only)

10 Marks

Ques.3. Practical questions on Communication Skills (any two out of four).

(Questions on topics –Interviews, Group Discussions and presentations)

10 Marks

Ques.4. Practical questions on Communication Skills (any two out of four).

(Questions on topics –paragraph writing, Essay Writing, Reviews,

Report Writing, Summaries)

10 Marks

(Note: Internal Assessment-10 marks each semester-either written or oral)



Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Botany

(Faculty of Science & Technology)

T.Y.B. Sc Botany

Choice Based Credit System Syllabus

To be implemented from Academic Year 2021- 2022

Title of the Course: B. Sc Botany

1. Structure of Course:

Structure B.Sc. Botany syllabus					
Year	Semester	Course Type	Course code	Course Name	Credits
1	1	Compulsory Course	BO 111	Plant life and utilization I	2
			BO 112	Plant morphology and Anatomy	2
			BO 113	Practical based on BO 111 & BO 112	1.5
	2	Compulsory Course	BO 121	Plant life and utilization II	2
			BO 122	Principles of plant science	2
			BO 123	Practical based on BO 121 & BO 122	1.5
2	3	Compulsory Course	BO 231	Taxonomy of Angiosperms and Plant Ecology	2
			BO 232	Plant Physiology	2
			BO 233	Practical based on BO 231 & BO 232	2
	4	Compulsory Course	BO 241	Plant Anatomy and Embryology	2
			BO 242	Plant Biotechnology	2
			BO 243	Practical based on BO 241 & BO 242	2
3	5	Discipline Specific Elective Course	BO 351	Algae and Fungi	2
			BO 352	Archegoniate	2
			BO 353	Spermatophyta and Paleobotany	2
			BO 354	Plant Ecology	2
			BO 355	Cell and Molecular Biology	2
			BO 356	Genetics	2
			BO 357	Practical based on BO 351 & BO 352	2
			BO 358	Practical based on BO 353 & BO 354	2
			BO 359	Practical based on BO 355 & BO 356	2
	Skill Enhancement course	BO 3510	Medicinal Botany	2	
		BO 3511	Plant Diversity and Human Health	2	
3	6	Discipline Specific Elective Course	BO 361	Plant Physiology	2
			BO 362	Biochemistry	2
			BO 363	Plant Pathology	2
			BO 364	Evolution and Population genetics	2
			BO 365	Advanced Plant Biotechnology	2
			BO 366	Plant Breeding and Seed Technology	2
			BO 367	Practical based on BO 361 & BO 362	2

		BO 368	Practical based on BO 363 & BO 364	2
		BO 369	Practical based on BO 365 & BO 366	2
	Skill Enhancement course	BO 3610	Nursery and Gardening Management	2
		BO 3611	Biofertilizers	2

2. Equivalence of Previous Syllabus:

Old Course (2015 Pattern)	New Course (2020 CBCS Pattern)
Semester V	Semester V
BO. 331 Cryptogamic Botany	BO 351 Algae and Fungi
BO. 332 Cell and Molecular Biology	BO 352 Archegoniate
BO. 333 Genetics and Evolution	BO 353 Spermatophyta and Paleobotany
BO. 334 Spermatophyta and Palaeobotany	BO 354 Plant Ecology
BO. 335 Horticulture and Floriculture	BO 355 Cell and Molecular Biology
BO. 336 Computational Botany	BO 356 Genetics
--	BO 3510 Medicinal Botany
--	BO 3511 Plant Diversity and Human Health
Semester VI	Semester VI
BO.341 Plant Physiology and Biochemistry	BO 361 Plant Physiology and Metabolism
BO.342 Plant Ecology and Biodiversity	BO 362 Biochemistry
BO.34 Plant Pathology	BO 363 Plant Pathology
BO.344 Medicinal and Economic Botany	BO 364 Evolution and population genetics
BO.345 Plant Biotechnology	BO 365 Advanced Plant Biotechnology
BO.346 Plant Breeding and Seed Technology	BO 366 Plant Breeding and Seed Technology
--	BO 3610 Nursery and Gardening Management
--	BO 3611 Biofertilizers

T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper I) 2020-2021
BO 351: Cryptogamic Botany (Algae and Fungi)- 2 Credits (30 Lectures)

Sr. No.	Topic Details	No. of Lectures
Credit-I Algae		15
1.	Introduction: Cryptogams- meaning. Types- Lower Cryptogams, brief Review with examples	01
2.	Algae: General characters, distribution, Thallus organization, habit and Habitat reproduction and Classification (G.M.Smith 1955) up to classes.	04
3.	Study of life cycle of algae with reference to taxonomic position, Occurrence, Thallus structure, and reproduction of <i>Nostoc</i> , <i>Oedogonium</i> <i>Chara</i> , <i>Sargassum</i> and <i>Batrachospermum</i> .	08
4	Economic importance of algae- Role in industry, agriculture, fodder and medicine.	02
Credit-II Fungi		15
5	Fungi: General characters, Habit and habitats, thallus organization, cell wall composition, nutrition and Classification. (Alexopoulos and Mims 1979) up to classes.	03
6.	Study of life cycle of fungi with reference to taxonomic position, thallus structure, and reproduction of <i>Mucor</i> (<i>Zygomycotina</i>), <i>Saccharomyces</i> (<i>Ascomycotina</i>), <i>Puccinia</i> (<i>Basidiomycotina</i>), <i>Penicillium</i> and <i>Cercospora</i> (<i>Deuteromycotina</i>) [Two members of Deutero.]	08
7.	Symbiotic Associations - Lichens, Mycorrhiza and their significance	04

Suggested readings:

1. Vashistha B. R. et al., Botany for degree students-Algae
2. Das, Datta and Gangulee-College Botany Vol. I
3. Sharma, O.P. –Algae
4. Kumar H.D. 1988. Introductory Phycology. Affiliated East-West Press Ltd New Delhi.
5. Vashishta B.R. et al., Botany for degree students- Fungi
6. Sharma, P.D.-The Fungi

7. Sharma, O.P.-Fungi Economic importance of fungi

8. Alexopoulos C. J , Mims C.W. and Blacwel M.I 1996. Introductory Mycology. John Wiley and Sons Inc.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper II) 2020-2021
BO 352: Archegoniate- 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
Credit-I Bryophytes		15
1.	Introduction to Archegoniate	01
2.	Introduction, general characters, distribution of Bryophytes to land habit, classification of Bryophytes according to G.M. Smith (1955) up to classes with reasons	02
3.	Range of thallus organisation, origin of Bryophytes - Pteridophytes and Algal hypothesis, evolution of sporophyte	02
4	Study of Life Cycle of Bryophytes with respect to Taxonomic position, Morphology, Anatomy, Reproduction, Gametophytes and sporophytes of <i>Marchantia</i> , <i>Anthoceros</i> and <i>Funaria</i>	09
5	Ecological and economic importance of Bryophyte	01
Credit-II Pteridophytes		15
6	Introduction, Vascular Cryptogams, General characteristics, Classification according to K.R. Sporne (1975) up to classes with reasons, Diversity and Distribution of Pteridophytes.	02
7.	Resemblances of Pteridophytes with Bryophytes, Differences between Pteridophytes and Bryophytes, Origin of Pteridophytes -Algal and Bryophytes, Evolution of Pteridophytes- Telome Theory and Enation Theory.	03
8.	Study of Life Cycle of Pteridophytes with respect to Taxonomic position, Morphology, Anatomy, Reproduction, Sporophytes and Gametophytes of <i>Psilotum</i> , <i>Selaginella</i> and <i>Equisetum</i>	09
09	Ecological and Economical Importance of Pteridophytes	01

Note:development of sex organs and Sporophytes is not expected.)

Suggested readings:

1. Chopra G.L. and Yadav D.L. A Text book of Bryophytes.
2. Das, Datta and Gangulee-College Botany Vol I
3. Parihar, N.S. An introduction to Embryophyta: Bryophyte-I
4. Puri Prem. Brayophytes, Atmaram and Sons. Delhi.
5. Parihar N.S. 1991. Bryophyta. Central Book Depot, Allahabad.
6. Sporne K.R. 1991. The Morphology of Pteridophytes. B.I Publishing Pvt. LtdBombay.
7. Vashishta B.R. Botany for degree students Bryophytes- Vol-III
8. Vashishta B.R. Botany for degree students Pteridophytes.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper III) 2020-2021
BO 353: Spermatophyta and Paleobotany - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I ANGIOSPERMS	15
1.	Origin of angiosperms: with reference to time, place and ancestry- 1) Pseudanthial theory 2) Transitional-Combinational Theory	02
2.	Speciation & Endemism Species concept (Biological, Taxonomic & Phylogenetic Species Concept), Speciation (Allopatric, Sympatric & Parapatric), Endemism and its types (Palaeoendemism, Holoendemism and Neoendemism)	04
3.	Classification: Outline, Merit and Demerits of Cronquist's System and APG IV system of classification. Study of following families with reference to systematic position (As per Bentham & Hooker), Diagnostic characters, floral formula, floral diagram and any five examples with their economic importance – Nymphaeaceae, Oleaceae, Amaranthaceae, Cannaceae	06
4	Herbaria and Botanical Gardens Functions of Herbarium, Important herbaria (World: Kew herbarium; India: Central National Herbarium, Kolkata). Botanic gardens of the world (Royal Botanic Garden, Kew) and India	03
	Credit-II GYMNOSPERMS and PALEOBOTANY	15

6	Introduction, general characters, economic importance and classification according to Chamberlain (1934).	02
7.	Study of life cycle of Pinus and Gnetum with reference to distribution, morphology, anatomy, reproduction, gametophyte, sporophyte, seed structure and alternation of generations.	10
8.	Fossil- Definition, process of fossil formation, types of fossils.-Impression, Compression, Petrification, Pith cast and Coal ball.	03

Suggested readings:

1. Cronquist, A. 1968. The Evolution and Classification of Flowering Plants. Thomas Nel and Sons, Ltd. London.
2. Lawrence, G.H.M 1951. Taxonomy of Vascular Plants.
3. Singh V. and D.K Jain, 1981 Taxonomy of Angiosperms. Rastogi Publication, Meerut.
4. Swingle D.B. 1946. A Text book of Systematic Botany. Mc Graw Hill Book Co. New York.
5. Takhtajan A. 1969. Flowering Plants; Origin and Disposal.
6. Pande B.P 1997. Taxonomy of Angiosperms. S.Chand.
7. Gurucharan Singh 2005- Plant systematics
8. Naik V.N. - Taxonomy of Angiosperms.
9. Shivrajan V.V. -Introduction to Principles plant taxonomy
10. V. V. Sivarajan, N. K. P. Robson 1991. Introduction to the Principles of Plant Taxonomy IIInd Edi.
11. Sharma O.P. Plant Taxonomy Tata McGraw-Hill
12. Botanical Journal of the Linnean Society, 2009, 161, 105–121.
13. <http://www.mobot.org/MOBOT/research/APweb/>

**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper IV) 2020-2021
BO 354: Plant Ecology - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I	15
1.	Introduction, interrelationship between the living world and the environment, levels of organization, components and dynamism of ecosystem, homeostasis, niche concept, concept of limiting factors	03
2.	Biogeography: Floristic realms, speciation and its types, biogeographic regions of India, Plant indicators	03

3.	Population ecology: Definition, characteristics, population growth form, r and k selection	03
4.	Community ecology: Introduction and Definition, community structure, physiognomy, Raunkiaer's life form classification, keystone species, edge and ecotone	04
5.	Biogeochemical cycles: The carbon cycle, Nitrogen cycle, Phosphorus cycle, and Hydrologic cycle	02
Credit-II		15
6.	Ecological Impact Assessment (EIA) Introduction, Historical Review of EIA, Objectives of EIA, Stages of EIA process: Screening; Scoping; Baseline study; Impact prediction and assessment; Mitigation; Producing Environmental Impact Statement (EIS); EIS review; Decision making; Monitoring, Compliance and Enforcement; Benefits of EIA.	05
7.	Environmental Audit Meaning and concept, need, objectives, benefits, types, audit protocol, process, certification, personnel environmental audit	04
8.	Remote Sensing Definition, basic principles, process of ecological data acquisition and interpretation, global positioning system, application of remote sensing in ecology.	04
9.	Ecological management: Concepts, sustainable development, sustainability indicators	2

References:

1. Current sciences special issue remote sensing for national development Volume 61 numbers 3 and 4 August 1991
2. Daubenmire R.F. 1974. Plants and Environment- A Text Book of Plant Ecology (3rd edition). John Wiley & Sons. New York.
3. E.P. Odum. 1996. Fundamentals of Ecology. Natraj Publishing, Dehradun.
4. G.J. Rau and C.D. Weeten, "Environmental Impact Analysis Hand book, McGraw Hill, 1980.
5. George Joseph Fundamentals of remote sensing (Second edition, 2005) by Universities press (India) Private Ltd., Hyderabad.
6. John R. Jensen (2000) Remote sensing of the environment, Dorling Kindersley India Pvt. Ltd,
7. Kendeigh S.C. 1980. Ecology with Special Reference to Animals and Man. Prentice Hall of India Pvt. Ltd., New Delhi.
8. Kermondy F.J. 1996. Concepts of Ecology. Prentice Hall of India Pvt. Ltd. New Delhi.
9. Kumar H.D. 1996. Modern Concepts of Ecology (3rd edition). Vikas Publishing House Pvt., Ltd. Delhi.

10. Kumar H.D. 1997. General Ecology. Vikas Publishing Pvt. Ltd., Delhi.
11. Larry W. Canter, " Environment Impact Assessment", McGraw-Hill Book Company, New York
12. M. Anji Reddy Textbook of Remote sensing and GIS (Third edition, 2006) by BS Publication, Hyderabad
13. Singh JS, Singh SP, & Gupta SR, (2006) Ecology, Environment and Resource Conservation. Anamayapubl, New Delhi
14. Smith L.R. 1996. Ecology and Field Biology (5th edition). Harper Collns College Publishers, USA.
15. Smith L.R. and Mith T.M. 1998. Elements of Ecology. (4th edition). An imprint of Addison Wesley, Longman ink., California
16. Weaver. J.E. and Clements. S.E. 1966. Plant Ecology. Tata McGraw Publishing Co. Ltd. Bombay.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper V) 2020-2021
BO 355: Cell and Molecular Biology - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
Credit-I Cell Biology		15
1.	Introduction to Cell Biology: Definition, Brief history of Cell Biology, Units of measurement for cell, Interdisciplinary nature of Cell Biology	01
2	Cell organelles: Ultrastructure, components and functions of Cell wall and cell membranes, mitochondria and Chloroplast, endoplasmic Reticulum, Golgi apparatus, Lysosomes, Vacuoles, Peroxisomes & Glyoxysomes	06
3.	Nucleus: Morphology and ultrastructure of nucleus, nucleolus and nucleolar organizer Nuclear envelope – structure of nuclear pore complex, transport of molecules across nuclear envelope.	03
4.	Chromosomes: Euchromatin and heterochromatin Histones, Packing of DNA into chromosomes in eukaryotes, Karyotype and ideogram, Polytene chromosomes and lampbrush chromosomes.	03
5	Cell signaling: Introduction and definition, Signaling molecules and receptors, Calcium signaling pathway in plants	02
Credit-II Molecular Biology		15
5	Genetic material DNA: historical perspective from 1953 to 2020, Griffith's and Avery's transformation experiments, Hershey-Chase bacteriophage experiment.	02

6.	DNA replication (Prokaryotes and Eukaryotes): Molecular mechanism of DNA replication. Enzymes involved in both prokaryotic and eukaryotic DNA replication and their inhibitors (antibiotics).	03
7.	Gene expression:Transcription (Prokaryotes in details and passing remarks on Eukaryotes) Types of RNA: mRNA, tRNA, rRNA; types of promoters; types of RNA polymerase enzymes in eukaryotes; molecular mechanism of transcription.	04
8	Translation (Prokaryotes and Eukaryotes): Definition, concept and properties of genetic code; molecular mechanism of translation.	03
9	Regulation of gene expression: Concept of operon, <i>lac</i> operon and <i>trp</i> operon, positive and negative control, one gene one enzyme hypothesis.	03

Suggested readings:

1. Cell and Molecular Biology , S. C. Rastogi
2. Cytology, T. S. Verma and V. K. Agarwal 3. Cell Biology, C. B. Pawar
4. Cell and Molecular Biology, P. K. Gupta
5. Fundamentals of Molecular Biology, Veer Bala Rastogi
6. Fundamentals of Molecular Biology, G. K. Pal and Ghaskadabi
7. Cell Biology, Molecular Biology, Genetic, Evolution and Ecology, Verma and Agarwal
8. Cell and Molecular Biology, Robertis and DeRobertis
9. Molecular Cell Biology, 4th Edition, Lodish S. Baltimore
10. Molecular Biology of Gene, Watson J. D.
11. Biochemistry and Molecular Biology of Plants, Buchanan B. B.
12. Molecular and Cell Biology, Wolfe S.L.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper VI) 2020-2021
BO 356: Genetics - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I	15
1.	Introduction to Genetics. History, Definition, Concept, branches and applications of Genetics.	01
2	Mendelism Genetical terminology, Monohybrid cross, Law of dominance, Incomplete dominance, Law of segregation, Dihybrid cross, Dihybrid ratio, Law of	04

	independent assortment, Back cross and Test cross.	
3.	Neo Mendelism (Gene Interaction) Genetic interaction, Epistatic interactions –supplementary gene (recessive epistasis 9:3:4), Inhibitory genes (13:3), Masking genes (12:3:1), Non-Epistatic inter-allelic genetic interactions-Complementary genes (9:7), Duplicate genes (15:1)	03
4.	Multiple alleles Definition, Concept, Characters of multiple alleles, Examples of multiple alleles – Blood group in human and self-incompatibility in Nicotiana.	02
5	Linkage, Recombination and Crossing Over Linkage- Definition and Types, Crossing over: Definition and Types, Construction of a linkage map by two point test cross and three point test cross, Recombination: Concept, definition and types	04
6	Mutation: Concept, definition and types	01
	Credit-II	15
5	Numerical alterations of chromosomes.: Euploidy, Aneuploidy-Concept and Types, Aneuploidy in Plants and Human, Polyploidy in Plants & Animals, Induced Polyploidy, applications of Polyploidy	03
6.	Structural alterations of chromosomes.: Types, cytology and genetic effects of Deletion, Duplication Inversion and Translocation with examples.	04
7.	Cytoplasmic & Quantitative Inheritance: Concept of quantitative inheritance, Inheritance of quantitative trait in Maize (Cob length), Cytoplasmic inheritance Definition and concept, Chloroplast- Variegation in Four O'clock plants, Mitochondria- Petite mutants in yeast.	04
8	Sex Linked Inheritance: Concept of Sex chromosomes and autosomes, Inheritance of X- linked genes –Inheritance of colour blindness in humans, Inheritance of Y-linked (Holandric genes) in humans, Sex influenced genes, Sex-limited genes.	04

Suggested readings:

1. Atherly, A.G., Girton, J.R. and McDonald, J.F 1999. The Science of Genetics Saunders College Publishing, Frot Worth, USA.
2. Hartle D.L and Jones, E.W 1998 Genetics: Principles and Analysis (Fourth Edition). Jones and Bartlett Publishers, Massachusetts, USA.
3. Khush, G.S 1973. Cytogenetics of Aneuploids. Academic Press, New York, Lewis, R. 1997. Human Genetics: Concepts and Application (Second Edition). WCB McGraw Hill, USA.
4. Russel, P.J. 1998. Genetics (Fifth Edition). The Benjamin/Cummings Publishing Company IND., USA.
5. Snustad, D.P and Simmons, M.J 2000. Principles of Genetics (Second Edition). John Wiley and Sons Inc., USA.
6. Gardner and Simmons Snustad 2005 (Eighth Edition). Principles of Genetics, John Wiley and Sons, Singapore.
7. Sarin C 2004 (Sixth Edition) Genetics. TATA McGraw-Hill Publishing Company Ltd., New Delhi.
8. Ahluwalia K.B 2005 (First Edition). Genetics. New Age International Private Ltd. Publishers, New Delhi.
9. Burus and Bottino 1989. (Sixth Edition). The Science of Genetics. Macmillan Publishing Company, New York (USA).
10. Pawar C.B 2003 (First Edition). Genetics Vol. I and II. Himalaya Publishing House, Mumbai.
11. Strickberger 2005. (Third Edition). Genetics. Prentice Hall of India Pvt. Ltd., New Delhi.
12. Allard R.W 1995. Principles of Plant Breeding. John Wiley and Sons, Inc., Singapore.
13. Sharma J.R 1994 Principles and practices of Plant Breeding. Tata McGraw-Hill Publishers Company Ltd., New Delhi.
14. Verma and Agarwal, Genetics, S. Chand Co, New Delhi.
15. Singh B.D 2004. Genetics. Kalyani Publication, Ludhiana.
16. Gupta P.K Genetics and Cytogenetics, Rastogi Publications.
17. Gupta P. K. Genetics Rastogi Publications.
18. Phundan Singh Genetics, Kalyani Publications.
19. Verma P.S and Agarwal V.K. (2006) Cell Biology, Genetics, Molecular Biology, Evolution, Ecology. S.Chand and Company, New Delhi.
20. Shukla R.S. & Chandel P.S. Cytogenetics, Evolution & Biostatistics. S.Chand Publications.
21. Tomar & Singh Evolutionary Biology, Rastogi Publications.

22. Darbeshwar Roy Crop Evolution & Genetic Resources.

**T.Y.B.Sc. Botany CBCS Pattern
Practical (Semester V Paper VII) 2020-2021
BO 357: Practical based on BO351 and BO352 (2 Credits)**

Sr. No.	Title	No. of Practical
1.	Study of Algae with respect to systematic position, thallus structure and reproduction of <i>Nostoc</i> , <i>Oedogonium</i> , <i>Chara</i> , <i>Sargassum</i> , <i>Palmaria/Chondrus</i> .	04
2	Study of Fungi respect to systematic position, thallus structure and reproduction of <i>Mucor</i> , <i>Saccharomyces</i> , <i>Penicillium</i> , <i>Puccinia</i> and <i>Cercospora</i> .	04
3.	Study of <i>Marchantia</i> with respect to systematic position, morphology of thallus –rhizoids and scales, Gemma Cup, structure of sporophyte, reproduction.	01
4.	Study of <i>Anthoceros</i> with respect to systematic position, structure of gametophyte, anatomy of thallus, structure of Sporophytes, reproduction.	01
5	Study of <i>Funaria</i> with respect to systematic position, morphology of thallus- leaf, rhizoids, operculum, Anatomy of axis, leaf, reproduction	01
6	Study of Sporophyte evolution in Bryophytes with the help of permanent slides.	01
7	Study of <i>Psilotum</i> with respect to Taxonomic position, Morphology of sporophyte, anatomy and reproductive structure	01
8	Study of <i>Selaginella</i> with respect to Taxonomic position, Morphology of sporophyte, Anatomy and reproductive structures.	01
9	Study of <i>Equisetum</i> with respect to taxonomic position, Morphology of Sporophyte, anatomy and reproductive structure	01
10	Study of Stellar evolution in Pteridophytes with the help of permanent slides	01

Note: Botanical Excursion and submission of Tour Report with Photographs is compulsory.

T.Y.B.Sc. Botany CBCS Pattern
Practical (Semester V Paper VIII) 2020-2021
BO 358: Practical based on BO353 and BO354 (2 Credits)

Sr. No.	Title	No. of Practical
1.	Study of following families with reference to systematic position (following Bentham & Hooker), Diagnostic characters, floral formula, floral diagram of Nymphaeaceae, Oleaceae, Amaranthaceae, Cannaceae	04
2	Preparation of Botanical keys: Indented and bracketed keys by using vegetative and reproductive characters	01
3	Study of internal and external morphology of Gnetum	01
4.	Study of internal and external morphology of Pinus	01
5.	Study of the following with the help of slides and/ or specimens. i) Impression ii) Compression iii) Petrification	01
6	Study of polluted water body with ref. to BOD (D zero day and D fifth day).	02
7	Study of physicochemical properties of water body by using Sacchi disc, pH meter and electric conductivity meter	02
8	Acquisition of ecological data of particular locality by using GPS/ altimeter/geographic maps etc	02
9	Study of suitable ecosystem by line/belt transect method/ nested quadrat method	02

Note: Excursion tours of long and short duration are compulsory

T.Y.B.Sc. Botany CBCS Pattern
Practical (Semester V Paper IX) 2020-2021
BO 359: Practical based on BO355 and BO356 (2 Credits)

Sr. No.	Title	No. of Practical

1.	Cytological techniques-preparation of Fixatives, preparation of stains (Aceto carmine and Aceto-orcein).	01
2	Isolation of nuclei and characterization	01
3	Study of various stages of mitosis and meiosis	01
4	Induction of C metaphase in suitable plant material	01
4	Study of Chromosomes Morphology (from colchicines pretreated Onion root tip cells)	01
6	Isolation of plant genomic DNA by suitable method.	01
7	Estimation of Plant DNA by DPA method	01
8	Extraction and estimation of RNA by Orcinol Method	01
9	To study the monohybrid and dihybrid crosses with suitable data and its analysis by Chi-Square test.	01
10	Induction of tetraploidy in onion root cells and preparation of squash for observation of tetraploid cells.	01
11	Preparation of salivary gland chromosomes in <i>Chironomous</i> larvae.	01
12	Study of human genetic traits viz. PTC taste sensitivity, earlobe and rolling tongue, height, Skin colour, Hair colour, Eye colour in known population.	01
13	Genetic problems on gene mapping using three point test cross data.	01
14	Study of structural heterozygotes (multiple translocations) in <i>Rhoeo</i> .	01
15	Problems on quantitative inheritance. (Cob length in Maize)	01
16	Problems on Multiple Alleles. (Blood group in Human)	01

Skill Enhancement course

**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper X) 2020-2021
BO 3510: Medicinal Botany - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
Credit-I		15
1.	Medicinal Plants: History, Scope and Importance	01
2	Indigenous Medicinal Sciences; Definition and Scope	01
3.	Ayurveda: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments	04
4.	Siddha: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine.	02
5	Unani: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations.	02
6	Conservation of endangered and endemic medicinal plants: Definition: endemic and endangered medicinal plants, Red list criteria; In situ conservation: Biosphere reserves, sacred groves, National Parks; Ex situ conservation: Botanic Gardens, Ethnomedicinal plant Gardens.	05
Credit-II		15
5	Propagation of Medicinal Plants: Objectives of the nursery, its classification, important components of a nursery, sowing, pricking, use of green house for nursery production, propagation through cuttings, layering, grafting and budding.	05
6.	Ethnobotany and Folk medicines: Definition; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany: National interacts, Palaeo-ethnobotany.	05
7.	Folk medicines of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India. Application of natural products to certain diseases- Jaundice, cardiac, infertility, diabetics, Blood pressure and skin diseases.	05

Suggested Readings

1. Trivedi P C, 2006. Medicinal Plants: Ethnobotanical Approach, Agrobios, India.
2. Purohit and Vyas, 2008. Medicinal Plant Cultivation: A Scientific Approach, 2nd edn. Agrobios, India.

Skill Enhancement course**T.Y.B.Sc. Botany CBCS Pattern
(Semester V, Paper XI) 2020-2021****BO 3511: Plant Diversity and Human Health - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I	15
1.	Plant diversity and its scope- Genetic diversity, Species diversity, Plant diversity at the ecosystem level,	03
2	Agrobiodiversity and cultivated plant taxa, wild taxa. Values and uses of Biodiversity: Ethical and aesthetic values, Precautionary principle, Methodologies for valuation, Uses of plants, Uses of microbes.	05
3.	Loss of Biodiversity: Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agrobiodiversity, Projected scenario for biodiversity loss,	04
4.	Management of Plant Biodiversity: Organizations associated with biodiversity management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR; Biodiversity legislation and conservations.	03
	Credit-II	15
5	Conservation of Biodiversity: Conservation of genetic diversity, species diversity and ecosystem diversity, In situ and ex situ conservation, Social approaches to conservation, Biodiversity awareness programmes, Sustainable development.	08
6.	Role of plants in relation to Human Welfare; a) Importance of forestry their utilization and commercial aspects b) Avenue trees, c) Ornamental plants of India. d) Alcoholic beverages through ages. Fruits and nuts: Important fruit crops their commercial importance. Wood and its uses.	07

Suggested Readings

Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity - Principles and Practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper I) 2020-2021
BO 361: Plant Physiology and Metabolism - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
Credit-I		15
1.	Mineral nutrition: Classification of mineral elements, macro and micronutrients; Role of essential elements; Transport of ions across cell membrane, Ionophores, Carriers and Channels	03
3.	Photosynthesis: Mechanism of photosynthesis- Electromagnetic spectrum Ultra-Structure of Chloroplast, Organization of Light-Absorbing Antenna Systems, Light Reaction: (Cyclic and Non-cyclic photophosphorylation), Dark Reaction: Calvin-Benson Cycle, Photorespiration, C4 cycle and CAM pathway of carbon fixation).	07
4.	Respiration: Types of respiration (Aerobic and anaerobic), Mechanism of aerobic respiration (Glycolysis, TCA cycle, Terminal oxidation and phosphorylation in respiratory chain); Pentose Phosphate Pathway.	05
Credit-II		15
5	Stomatal Biology: Light-dependent Stomatal Opening, Mediation of Blue-light Photoreception in Guard Cells by Zeaxanthin, Reversal of Blue Light-Stimulated Opening by Green Light, The Resolving Power of Photophysiology (Overview).	04
6.	Translocation in phloem: Composition of phloem sap, girdling experiment; Pressure flow model.	03
7.	Plant growth regulators: Discovery and physiological roles of auxins, gibberellins, cytokinins, ABA, ethylene.	05
8	Photomorphogenesis: Red and far red light responses on photomorphogenesis; Phytochrome (discovery and mode of action).	03

Suggested Readings:

- Lincoln Taiz, Eduardo Zeiger, Ian Max Moller and Angus Murphy 2015. Plant Physiology and Development (Sixth Edition) Sinauer Associates, Inc Publishers Sunderland, Massachusetts U.S.A.

2. Epstein, E., and Bloom, A. J. (2005) Mineral Nutrition of Plants: Principles and Perspectives, 2nd ed. Sinauer Associates, Sunderland, MA.
3. Salisbury F.B and Ross C.W (1992). Plant physiology (Fourth Edition) Wadsworth Publishing Company, California, USA.
4. V. K. Jain (2017) Fundamentals of Plant Physiology S. Chand Publications.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper II) 2020-2021
BO 362: Biochemistry - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
Credit-I		15
1.	Foundation of Biochemistry: From molecules to the first cell (origin of a cell), Miller and Urey experiment. Biomolecules of a cell, functional groups in biomolecules, conformations and configurations of biomolecules.	03
2	Water: The solvent of life: Physical properties of water, structure of water molecule, polarity of water molecule, weak interactions in aqueous solutions.	02
3.	Amino acids and proteins: Structure, classification, properties and functions of amino acids. Structure (primary, secondary, tertiary and quaternary), properties and functions of proteins. Biological disorders of amino acid metabolism. Commercial applications.	05
4.	Enzymes: Definition, nature of enzymes and co-factors, classification and properties of enzymes, active site. Mechanism of enzyme action: free energy, activation energy, binding energy, transition state, lock and key hypothesis, induced fit theory. Factors affecting enzyme activity: pH, temperature, substrate concentration, enzyme concentration. Enzyme inhibition: Competitive, uncompetitive, non-competitive. Reversible and irreversible inhibition, feedback inhibition.	05
Credit-II		15
5	Carbohydrates: Definition, classification of carbohydrates- Monosaccharides: aldoses and ketoses, configurations, linear to ring structure; Oligosaccharides: glycosidic bond, reducing and non-reducing sugars; Polysaccharides: homopolysaccharides, heteropolysaccharides,	08

	examples, their structures, locations and role. Properties and functions of carbohydrates. Commercial applications.	
6.	Lipids: Definition, classification of lipids: simple, conjugate and derived lipids, properties and functions of lipids. Biological disorders of lipid metabolism. Commercial applications.	05
7.	Vitamins: Definition, classification of vitamins. source and functions of vitamins.	02

Suggested Readings:

1. Nelson, D. L., & Cox, M. M. (2017). *Lehninger principles of biochemistry* (7th ed.). W.H. Freeman.
2. Buchanan, B. B., Gruissem, W., & Jones, R. L. (2000). *Biochemistry & molecular biology of plants*. Rockville, Md.: American Society of Plant Physiologists.
3. Taiz, L. Zeiger, E., Moller, I.M. and Murphy, A. (2015) *Plant Physiology and Development*. 6th Edition, Sinauer Associates, Sunderland, CT.
4. Jain, J. L., Jain, S. & Jain, N. (2020) *Fundamentals of Biochemistry*, Revised edition, S. Chand Publishing
5. Verma S.K. and Verma M. (2007) *A text book of Plant Physiology, Biochemistry and Biotechnology*, S. Chand Publishing.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper III) 2020-2021
BO 363: Plant Pathology - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I	15
1.	Fundamentals of Plant Pathology: Introduction, Important terminology- Incitants, Host, Symptoms, Parasite, Pathogen, Inoculum, Penetration, Infection, Incubation, Disease. Economic importance of plant diseases, History of plant pathology, Introduction to Indian Agriculture Research Institute (IARI), International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Contribution of Anton De Bary and Prof. B.B. Mundkur.	02
2	Disease Development: Concept of disease cycle, Inoculation, Prepenetration, Penetration, Infection, Dissemination. Epidemics-Forms,	02

	Decline, Exponential model.	
3.	Defense Mechanisms: Concept and Definition, Types-Preexisting- Structural and chemical, Induced- Structural and Biochemical.	02
4.	Methods of Studying Plant Diseases. Macroscopic study, Microscopic study, Koch's postulates. Types of culture Media, Pure culture methods- Streak plate, Pour plate, Spread plate.	02
5	Fungal Plant Diseases Introduction to fungi as plant pathogens. Study of Diseases- Downy mildew of Grapes, Head smut of Jowar, Tikka diseases of Groundnut with reference to causal organism, symptoms and disease management.	04
6	Bacterial Plant Diseases. Introduction to bacteria as plant pathogens, Study of Diseases- Citrus Canker, Black arm of Cotton with reference to causal organism, symptoms and disease management.	03
Credit-II		15
5	Mycoplasma Plant Diseases: Introduction to Mycoplasma as plant pathogens, Study of Diseases- Grassy shoot disease of sugarcane, Little leaf of brinjal with reference to causal organism, symptoms and disease management.	03
6.	Nematodal Plant Diseases: Introduction to Nematodes as plant pathogens. Study of Diseases- Root knot diseases of vegetables, Soyabean cyst Nematodes with reference to causal organism, symptoms, Integrated management of Nematodal diseases.	02
7.	Viral Plant Diseases: Introduction of Virus as plant pathogens. Study of Diseases- Papaya Mosaic Disease, Bunchy top of Banana with reference to causal organism, symptoms and causal organism	02
8	Non-Parasitic Diseases. The impact and abiotic causes- Temperature, Soil moisture and relative humidity, Poor oxygen, Poor light, Air pollutants, mineral deficiencies. Herbicidal injury, Study of Mango necrosis, Black Heart of Potato.	04
9	Principles of plant diseases control: General account, Quarantine,	04

	Eradication, cultural control practices, Biological control. Curative measures, chemical control, Use of Effective Microorganism solution (EMS), Microbial Pesticides.	
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Suggested Readings:

1. Singh R. S. (2019) Introduction to Principles of Plant Pathology 4Ed (PB2019) Paperback.
2. Plant Pathology 2/e PB....Sharma PD Paperback – 1 January 2016
3. A.V.S.S. Sambamurty (2010) Principles of plant pathology, Wiley distributor
4. George Agrios (2004) Plant Pathology 5th Edition, Academic Press

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper IV) 2020-2021
BO 364: Evolution and Population genetics- 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I	15
1	Organic Evolution: Distinction between Origin of life and Organic Evolution, Historical account of Origin of life, Origin of Earth Vs Origin of life: Gaia Hypothesis, Earliest Fossils, Prebiotic Evolution, Abiotic synthesis of organic matter, Primordial soup, origin of membranes, Oparin's Coacervate model, Theory of Panspermia, Early life and RNA and Origin of genetic code	06
2	Organic Evolution: The concept of organic evolution, Theories of Evolution, Pre-Darwinian period, Theory of Inheritance of acquired characters (Lamarck's), Darwinism- Theory of Natural Selection, Post-Darwinian period- Modern synthetic theory	05
2	Evidences of Evolution Direct evidences and conclusions from fossil records, Indirect evidences, Evidences from Genetics, Evidences from bio-geographical relations	04
	Credit-II	15
4	Evolution Through Ages: Fossils and Geological Time scale: Fossils and	05

	Fossilization, Conditions of fossilization, Dating of fossils: Uranium Lead method, Radio-carbon method, U-series and ESR method, Geological Time scale: Eras, Periods, epochs, and duration in millions of years and plant life.	
5.	Population Genetics and Evolution: Concept of Mendelian population, Gene Pool and its models, Hardy-Weinberg law of gene frequencies, Factors affecting allelic frequency, Genetic polymorphism	04
5.	Speciation and Isolating Mechanisms: Introduction, Morphological Criteria for Species and Races, Allopatric and Sympatric Populations, Isolating Mechanisms: Pre zygotic Isolation mechanisms: Concept, Spatial & Ecological;, Seasonal Isolation, Ethological Isolation, Mechanical Isolation, Post zygotic Isolation mechanisms: Concept, Hybrid in viability, Hybrid sterility & Hybrid breakdown.	06

Suggested readings:

1. P. K Gupta, Cytology, Genetics and Evolution , Rastogi Publications
2. Verma P.S and Agarwal V.K. (2006) Cell Biology, Genetics, Molecular Biology, Evolution, Ecology. S. Chand and Company, New Delhi
3. Shukla R.S. & Chandel P.S. Cytogenetics, Evolution & Biostatistics. S. Chand Publications,
4. Tomar & Singh, Evolutionary Biology, Rastogi Publications
5. Suryaprakash Mishra. A textbook of Cell Biology, Genetics and Evolution, Kalyani Publication
6. N Shukla, Population Genetics, DISCOVERY PUBLISHING, PVT. LTD.
7. Veer Bala Rastogi .Organic Evolution (Evolutionary Biology), Scientific International Pvt. Ltd.
8. N. Anurgam, Evolution, Saras Publications
9. N. Anurgam, Organic Evolution, Saras Publications

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper V) 2020-2021
BO 365: Advanced Plant Biotechnology - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I	15
1	Biotechnology:	02

	Introduction, Traditional and modern Biotechnology. Impact of Biotechnology on Health care, Agriculture, and Environment	
2	Plant Tissue Culture: Concepts of Cell theory & Cellular totipotency, Landmarks in plant tissue culture. Pluripotency, Differentiation, dedifferentiation, redifferentiation, Hormones used in PTC, 'Explant' for plant tissue culture and Response of explants in vitro– callus formation, organogenesis (direct and indirect) and embryogenesis (direct and indirect). Micro propagation of Banana (in detail from Selection of explant to hardening and marketing)	06
3.	Techniques of Genetic Engineering and Methods of gene transfer in Plants- Introduction to Molecular tools: Definition and role of Nucleases, Polymerases, Ligases, Polynucleotide kinases, Alkaline Phosphatases. Types of vectors- Definition and characters (2-4) of Plasmids, Phages, Cosmids, BAC, YAC, Plant viruses, Animal viruses. Methods of gene transfer in Plants – Direct gene transfer – Definition and concept of Electroporation, Microinjection, and Gene gun Indirect gene transfer- Agrobacterium mediated gene transfer method, Ti-plasmid: structure and functions, T-DNA Gene amplification technique -Polymerase chain reaction DNA finger printing	07
Credit-II		15
4	Cryopreservation and Germplasm Conservation Definition and concept, techniques of cryopreservation, cold storage, long term and short term storage, applications. Germplasm Conservation: Preservation of Cell, tissue, organ, whole organism. Concept of Gene Bank, DNA Bank, Seed Bank, Pollen Bank etc.	03
5.	Biotechnology and Society	05

	Biotechnology- Benefits, GM foods and its safety, Recombinant foods and religious beliefs, Recombinant therapeutic product for human health care. Patenting of biotechnological inventions and Intellectual property rights.	
5.	<p>Microbial Biotechnology:</p> <p>Biochemistry of fermentation, Microorganism used in fermentation, fermentable substrate, Ethanol fermentation methods, Distilleries producing alcohols. Commercial production: Alcoholic beverages, organic acids, citric acids. Advantages of fermentation.</p> <p>Transgenic Plants as Bioreactors: Metabolic engineering of starch, cyclodextrins, fructans, Bioplastics, Genetically engineered plants as protein factories, Production of therapeutic proteins from plants.</p>	06
6	<p>Nano-biotechnology</p> <p>Definition and concept, Applications of nanotechnology in agriculture (fertilizers and pesticides).</p>	01

Suggested readings:

1. R. C. Dube (2008) - A Text Book of Biotechnology, S. Chand
2. P.K. Gupta-Elements of Biotechnology
3. Satyanarayana-Biotechnology
4. Kalyan Kumar De-Plant tissue culture
5. Pal J.K. and Ghaskadabi S.S. (2008) Fundamentals of Molecular Biology.
6. Verma and Agrawal- Molecular Biology
7. Devi P.2008-Principle and Methods of plant Molecular Biology, Biochemistry and Genetics Agrobios, Jodhpur, India.
8. Glick B.R. and Tompson J.E. 1993 Methods in Plant Molecular Biology and Biotechnology CRC Press Boca Raton, Florida.
9. Hall R.D. (Ed.) 1999 Plant cell culture Protocol human press Inc., New Jersey, USA

10. Kumar H.D. 2002 A Text Book of Biotechnology 2nd Edn. Affiliated Easyt West Press Private Ltd New Delhi.
11. Ramawat K.G. 2003 Plant Biotechnology, S. Chand & Co. Ltd . Ramnagar New Delhi. 110055
12. Trivedi P.C.2000 Plant Biotechnology, Panima Publishing Carpation, New Delhi.
13. Rajdan- Plant tissue culture.
13. Kalyan Kumar De-Plant tissue culture
14. Pal J.K. and Ghaskadabi S.S. (2008) Fundamentals of Molecular Biology.
15. .Razdan M.K. - Introduction to Plant Tissue culture (Oxford & IBH Publ, New Delhi)

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper VI) 2020-2021
BO 366: Plant Breeding and Seed Technology - 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
	Credit-I –Plant Breeding	15
1	Introduction: Definition, Scope and objectives and History of Plant breeding in India	01
2	Techniques and practices of plant breeding	02
	A. Plant Introduction <ul style="list-style-type: none"> • Definition • Types (Primary and Secondary) • Procedure • Merits and Demerits • Important Achievements 	
	B. Selection methods <ul style="list-style-type: none"> • Concept, • Types of selections –mass selection, pure line selection and clonal selection. • Advantage and disadvantages of selection • Achievements of selection breeding 	03
	C. Hybridization <ul style="list-style-type: none"> • Definition, Concept and Objectives • Precaution to be taken during hybridization • Types: Intervarietal and Distant • General procedure of hybridization • Methods of hybridization: Pdigree and bulk • Hybrid vigour and heterosis 	04
3	Advanced techniques in Plant breeding	03
	A. Mutation breeding	

	<ul style="list-style-type: none"> • Definition and concept • Mutagens (Physical and Chemical) • Mutants • Types of mutation (Spontaneous and Induced) • Application of mutation breeding • Limitations of mutation breeding 	
	<p>B. Tissue Culture</p> <ul style="list-style-type: none"> • Definition and concept • Totipotency • Application of tissue, embryo and anther culture in seed production 	02
Credit-II - SEED TECHNOLOGY		15
4	<p>Introduction to Seed Technology</p> <ul style="list-style-type: none"> • Seed as a basic input in agriculture • Classes of seed <ol style="list-style-type: none"> 1. Nucleus 2. Breeder 3. Foundation 4. Certified <p>Role of seed technology</p>	02
5.	<p>Seed legislation</p> <ul style="list-style-type: none"> • Introduction • Seed legislation in India (Seed Act) 	01
6	<p>Seed Production</p> <ul style="list-style-type: none"> • Introduction • National Seed Corporation (NSC) and its objectives • State Seed Corporation (SSC) and its objectives • General procedure for Seed Production <ul style="list-style-type: none"> ○ Location and Season ○ Land requirement ○ Importance of soil and water testing ○ Cultural practices ○ Isolation distance ○ Plant protection ○ Weed Control ○ Rouging ○ Harvesting ○ Threshing ○ Seed Processing 	03
7	<p>Seed Certification</p> <ul style="list-style-type: none"> • Definition, Objectives and Concept • Phases of Seed Certification • General procedure of seed certification • Field inspection • Duties of seed inspector 	02
8	Seed Testing	03

	<p>A. Physical Purity Analysis</p> <ul style="list-style-type: none"> • Definition of purity components • Physical Purity Work Board • Procedure <p>B. Moisture Testing</p> <ul style="list-style-type: none"> • Concept • Air oven method • Digital Moisture Meter <p>C. Germination testing</p> <ul style="list-style-type: none"> • Definition and objectives • Procedure and methods for germination testing (Paper, Sand and Soil) • Seedling evaluation (Normal Seedlings, Abnormal Seedlings, Multigerm Seed Units and Non-germinated Seeds) 	
9	<p>Seed Pathology and Entomology</p> <ul style="list-style-type: none"> • Definition • Seed Borne pathogens <ul style="list-style-type: none"> ○ Fungi ○ Bacteria ○ Viruses • Influence of seed borne pathogens on seed production • Common insect pest and its impact on seed production 	02
10	<p>Seed Storage</p> <ul style="list-style-type: none"> • Definition and Concept • Seed treatment • Management of seed storage structures <ul style="list-style-type: none"> ○ Sanitization ○ Dehumidification ○ Fumigation 	02

Suggested readings:

1. Laxmi lal somani and Devidas patel (2020) Textbook of seed science and technology, Agrotech publishing co.
2. Vijay Pal Singh Panghal and Axay Bhuker (2020) Seed Science and Technology. Kalyani publisher
3. Gardner and Simmons Snustad 2005 (Eighth Edition). Principles of Genetics, John Wiley and Sons, Singapore.
4. Sharma J.R 1994 Principles and practices of Plant Breeding. Tata McGraw Hill Publishers Company Ltd., New Delhi.
5. Singh B.D 1996 Plant Breeding – Principles and methods. Kalyani Publications, Ludhiana.
6. Allard R.W 1995. Principles of Plant Breeding. John Wiley and Sons, Ice., Singapore.
7. Agarwal R.L. --- Seed Technology, Oxford & IBH Publishing Co Pvt.Ltd

8. TNAU (ICAR) Principles of Seed technology (2020)

T.Y.B.Sc. Botany CBCS Pattern
Practical (Semester V Paper VII) 2020-2021
BO 367: Practical based on BO361 and BO362 (2 Credits)

Sr. No.	Title	No. of Practical
1.	Determination of osmotic potential of plant cell sap by plasmolysis method	01
2	Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.	01
3	Demonstrate the activity of catalase and study the effect of pH and enzyme concentration.	01
4	To study the effect of light intensity and bicarbonate concentration on O ₂ evolution in photosynthesis.	01
5	Comparison of the rate of respiration in any two parts of a plant.	01
6	Separation of amino acids by paper chromatography.	02
7	Demonstration experiments (any four) i). Bolting. ii). Effect of auxins on rooting. iii). Suction due to transpiration. iv). R.Q. v). Respiration in roots.	01
8	Estimation of total free amino acids by spectrophotometry	01
9	Separation of amino acids by paper chromatography.	01
10	Estimation of soluble proteins by Lowery <i>et. al.</i> method.	01
11	Demonstration of Enzyme activity: Amylase /invertase /catalase	01

12	Estimation of reducing sugars by DNSA method.	01
13	Estimation of Vitamin C (Ascorbic acid) from plants.	01
14	Qualitative tests for starch, lipids and proteins.	01
15	Determination of the iodine number of lipids using Hanus method.	01

**T.Y.B.Sc. Botany CBCS Pattern
Practical (Semester V Paper VIII) 2020-2021
BO 368: Practical based on BO363 and BO364 (2 Credits)**

Sr. No.	Title	No. of Practical
1.	Preparation of any one culture media for isolation of plant pathogens.	01
2	Culture technique- Streak plate methods, pour plate methods, Spread plate methods.	01
3	Study of any two of fungal (Downy mildew of Grapes, Head smut of Jowar, Tikka diseases of Groundnut) diseases	01
4	Study of any two of each bacterial and mycoplasma diseases	01
5	Study of any two of each viral and non-parasitic diseases of plants.	01
6	Preparation of 1% Bordeaux mixture and Bordeaux paste 10%.	01
7	Preparation of Jivamruta.	01
8	Study of Koch's Postulates.	01
9	Study of Fungicides and Microbial pesticides.	01
9	Study of Geological time scale	01
10	Study of types of Fossils : i) Coal ball ii) Rhynia vii) Lyginopteris iii) Pentoxylon iv) Nipaniophyllum v) Lepidodendron	01
11	Demonstration of any three evidences of Organic Evolution	01
12	Numerical Problems based on Allele frequency and Genotype frequency	01
13	Numerical Problem based on Hardy-Weinberg Equilibrium	01

14	Study of Sympatric and Allopatric speciation with suitable example	01
15	Study of Isolation mechanism : Prezygotic & Postzygotic(Any one example from each)	01
16	Submission of Report on Visit to Paleobotany Laboratory/Museum/Fossil Garden	01

**T.Y.B.Sc. Botany CBCS Pattern
Practical (Semester V Paper IX) 2020-2021
BO 369: Practical based on BO365 and BO366 (2 Credits)**

Sr. No.	Title	No. of Practical
1.	Preparation and sterilization of MS Medium and Callus Induction using leaf primordia	01
2	Production of secondary metabolites in any suitable plant material	01
3	Artificial seed production by Sodium Alginate method encapsulation (somatic embryogenesis)	01
4	Demonstration to equipments used in genetic engineering like gene gun, PCR, gel doc, microcentrifuge, electrophoresis, micropipettes, incubator, shaker etc. (live/videos/photographs/visit to research labs)	01
5	Study of Transgenic plants- Arabidopsis thaliana as a model plant, Bt- Brinjal, Flr-svr Tomato, and other GM crops like soybean, maize, tobacco as a pharmaceuticals, banana as a edible vaccine etc. (live/videos/photographs/visit to research labs)	01
6	Preparation of plant based nano-particles	01
7	Demonstration to Fermentation of fruit juice and wine production from grapes/pomegranate/jamun/ apple/ber (live/videos/photographs/visit to research labs)	01
8	Problems on genetic engineering (set of problems will be given on restriction enzymes, vectors etc.)	01

9	Demonstration of Hybridization Techniques (Emasculation, Hand Pollination, Bagging and Tagging) in cotton and tomato.	01
9	Effect of chemical mutagens on seed germination and seedling growth.	01
10	Study of pollen viability and floral morphology of crops	01
11	To test seed moisture by hot air oven method	01
12	To study germination methods (Paper, Sand and Soil)	01
13	Physical purity analysis of seed sample	01
14	Visual examination of dry seeds for disease symptoms	01
15	To study any one common seed insect pest w.r.t to their life cycle, way of infestation/damage, symptoms and control measures.	01
16	Visit to a Plant Breeding Research Centre/ Seed Industry and report submission	01

Note: Submission of minimum 10 seed samples along with their botanical names, family, variety etc. to the department at the time of final practical examination

Skill Enhancement course

T.Y.B.Sc. Botany CBCS Pattern (Semester VI, Paper X) 2020-2021

BO 3610: Nursery and Gardening Management- 2 Credits (30 Lectures)

Sr. No.	Topic Details	No. of Lectures
	Credit-I Nursery Management	15
1	Nursery: definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities - Planting - direct seeding and transplants.	03
2	Seed: Structure and types - Seed dormancy; causes and methods of breaking dormancy - Seed storage: Seed banks, factors affecting seed viability, genetic erosion –Seed production technology - seed testing and certification.	03
3.	Vegetative propagation: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants– greenhouse - mist chamber, shed root, shade house and glass house.	09

Credit-II Gardening Management		15
4	Gardening: definition, objectives and scope - different types of gardening - landscape and home gardening - parks and its components - plant materials and design -computer applications in landscaping - Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.	08
5.	Sowing/raising of seeds and seedlings - Transplanting of seedlings - Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes, and carrots - Storage and marketing procedures.	07

Suggested Readings

1. Bose T.K. & Mukherjee, D., Gardening in India, Oxford & IBH Publishing Co., New Delhi.1972.
2. Sandhu, M.K., Plant Propagation, Wile Eastern Ltd., Bangalore, Madras. 1989.
3. Kumar, N., Introduction to Horticulture, Rajalakshmi Publications, Nagercoil. 1997.
4. Edmond Musser & Andres, Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi.
5. Agrawal, P.K. Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi. 1993.
6. Janick Jules. Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, USA.1979.

**T.Y.B.Sc. Botany CBCS Pattern
(Semester VI, Paper X) 2020-2021
BO 3611: Biofertilizers- 2 Credits (30 Lectures)**

Sr. No.	Topic Details	No. of Lectures
Credit-I		15
1	Introduction: 1.1 Introduction, Scope and importance of Biofertilizers 1.2 General account of the microbes used as Biofertilizers	02
2	Bacterial Biofertilizers 2.1. Isolation of Rhizobium, Identification, Mass multiplication, Carrier based inoculants. 2.2. Azospirillum isolation and mass multiplication, carrier based	09

	<p>inoculants and associative effect of different organisms</p> <p>2.3. Azotobacter, classification and characteristics</p> <p>2.4. Crop response to Azotobacter inoculums, Mass multiplication of Azotobacter</p> <p>2.5. Applications of Azospirillum</p> <p>2.6. Phosphate solubilizing Bacteria</p>	
3.	<p>Algal Biofertilizers</p> <p>3:1. Cyanobacteria (Blue Green Algae): Isolation of Anabaena from Azolla, Mass Multiplication of Anabaena</p> <p>3.2. Azolla - Anabaena relationship</p> <p>3.3. Biological Nitrogen fixation</p> <p>3.4. Blue Green algae in a rice cultivation.</p> <p>3.5. Applications of BGA</p>	04
	Credit-II	15
4	<p>Fungal Biofertilizers</p> <p>4.1. Introduction, Occurrence and Distribution of Mycorrhizal association.</p> <p>4:2. Types of Mycorrhizal association, growth and yield - colonization of VAM - Vesicular Arbuscular Mycorrhiza</p> <p>4.3. Mycorrhizal applications in agriculture</p>	09
5.	<p>Compost and Manure</p> <p>5.1. Organic Farming, green manuring, organic manures and their uses</p> <p>5.2. Recycling by composting method of biodegradable, municipal, agricultural and industrial wastes</p> <p>5.3. Biocompost making methods, Types and methods of vermicomposting</p> <p>5.4. Benefits of vermicompost, field applications</p>	06

Suggested readings

1. Dubey, R. C. (2005). A text book of Biotechnology. S. Chand & Co. New Delhi, India.
2. Kumaresan, V. (2005). Biotechnology. Saras Publication, New Delhi, India.
3. Sathe, T. V. (2004). Vermiculture and Organic Farming. Daya Publishers, Delhi, India.
4. Jshon, Jothi Prakash, E. (2004). Outline of Plant Biotechnology. Emkay Publication, New Delhi, India.
5. Subha Rao, N. S. (2000). Soil Microbiology. Oxford and IBH Publishers, New Delhi, India.
6. Vayas, S. C., Vayas S. and Modi, H. (1990). Biofertilizers and Organic Farming. Ekta Publication, Nanded, India.

Webliography

1. Production of various Biofertilizers. www.biologydiscussion.com
2. Biofertilizers vikaspedia.in
3. www.solverchem.com

SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

B. Sc. Degree Course in
MICROBIOLOGY

Choice Based Credit System [CBCS]
2019 Pattern

Syllabus for Third Year
(To be implemented from Academic Year 2021-22)

Board of Studies (Microbiology)
Savitribai Phule Pune University [SPPU]
Pune-411007

GENERAL INFORMATION

Eligibility at third year B. Sc. Microbiology:

Student shall clear all First Year B. Sc. Microbiology courses and satisfactorily keep terms of Second Year of B. Sc. with Microbiology as one of the subjects.

Course Structure: T. Y. B. Sc. Microbiology course includes 12 theory papers (DSEC-Discipline Specific Elective Course), 06 practical courses and 04 skill enhanced courses (SEC). The 06 theory papers, 03 practical courses and 02 skill enhanced courses (SEC) will be taught in semester V and the remaining 06 theory papers, 03 practical courses and 02 skill enhanced courses (SEC) will be taught in semester VI. The examination will be held semester-wise for theory and practical papers.

Note:

- i. Each lecture (L) will be of 50 minutes.
- ii. Each practical of 4 hours 20 minutes and 12 practical sessions per semester
- iii. 12 weeks for teaching 03 weeks for evaluation of students (theory as well as practical).
- iv. For details refer UG rules and regulations (CBCS for Science program under Science and Technology) published on SPPU website.

Evaluation Pattern (As per CBCS rules, SPPU 2019 Pattern)

1. Each theory and practical course carry 50 marks equivalent to 2 credits.
2. Each course will be evaluated with Continuous Assessment (CA) and University Assessment (UA) mechanism.
3. Continuous assessment shall be of 15 marks (30%) while university Evaluation shall be of 35 marks (70%).
4. To pass each course, a student has to secure 40% mark in continuous assessment as well as university assessment i.e. 6 marks in continuous assessment and 14 marks in university assessment for the respective course.
5. For Continuous Assessment (internal assessment) minimum two tests per paper must be organized, of which one must be written test of 10 marks.
6. Method of assessment for internal exams: Viva-Voce, Project, survey, field visits, tutorials, assignments, group discussion, etc.

2.2 Mandatory Credit courses for award of B.Sc. Degree:

In addition to the compulsory credits of 132, the student has to earn additional 8 credits from following groups by taking/participating/conducting respective activities.

Courses in Group I are compulsory.

The student can earn **maximum 04 credits from an individual group from Group 2 to Group -9.**

These extra credits will not be considered for GPA calculation, however these are mandatory for the completion and award of B. Sc. Degree.

Group 1: Physical Education (at F. Y. B. Sc. Sem. I) -01 credit

Physical Education (at F. Y. B. Sc. Sem. II) - 01 credit

(Note: Group I is compulsory for all the students as stated above.)

Group 2: Sport representation at College level - 01 credit

Sport representation at University/Statelevel - 02 credits

Group 3: National Social Service Scheme (participation in Camp): 01 credits

N.C.C.(with participation in annual camp) -01 credit

N. C. C. (with B certificate/C certificate award)- 02 credits

N.S.S./N.C.C. Republic day parade participation - 04 credits

Group 4: Avishkar participation; Extension activity participation, Cultural activity participation -01 credit

Avishkar selection at University level - 02 credits

Avishkar winner at state level - 04 credits

Group 5: Research paper presentation at State/National level - 01credits

Research paper presentation at International level - 02 credits

Group 6: Participation in Summer school/programme; Short term course (not less than 1-week duration) - 03 credit.

Group 7: Scientific Survey, Societal survey, - 02 credits.

Group 8: Field Visits; Study Tours; Industrial Visits; Participation in curricular/ cocurricular competitions- 01 Credit.

Group 9: Online certificate Courses /MOOC Courses/ Career Advancement Course up to 04 credits (Minimum 10 Hrs. / credit)

**Equivalences for the New Courses (w. e. f. from 2021-22) with
Old Courses (2013 Pattern) in Microbiology
T. Y. B. Sc. Microbiology
Semester - V**

Theory/ Practical/ Skill Enhancement	Old Course Semester-III		New Course Semester-V (CBCS 2019 Pattern)	
	Course Number	Course Title	Course Number	Course Title
Discipline Specific Elective Course (DSEC) Theory	MB 331	Medical Microbiology-I	MB 351	Medical Microbiology-I
	MB 334	Immunology-I	MB 352	Immunology-I
	MB 333	Enzymology	MB 353	Enzymology
	MB 332	Genetics and Molecular Biology-I	MB 354	Genetics
	MB 335	Fermentation Technology -I	MB 355	Fermentation Technology-I
	MB 346	Agricultural and Environmental Microbiology	MB 356	Agricultural Microbiology
Discipline Specific Elective Course (DSEC) Practical	MB 349	Practical Course-III Diagnostic Microbiology and Immunology	MB 357	Practical course-I based on: MB 351 Medical Microbiology-I MB 352 Immunology I
	MB 348	Practical Course-II Biochemistry and Genetics	MB 358	Practical course-II based on MB 353 Enzymology MB 354 Genetics
	MB 347	Practical Course I Applied Microbiology	MB 359	Practical course-III based on: MB 355 Fermentation Technology-I MB 356 Agricultural Microbiology
Skill Enhancement course	-	-	MB 3510	Marine Microbiology
	-	-	MB 3511	Dairy Microbiology

Equivalences for the New Courses (w. e. f. from 2021-22)

With old Courses (2013 Pattern) in Microbiology

T. Y. B. Sc. Microbiology Semester-VI

Theory/ Practical/ Skill Enhancement	Old Course Semester-III		New Course Semester-VI (CBCS 2019 Pattern)	
	Course Number	Course Title	Course Number	Course Title
Discipline Specific Elective Course (DSEC) Theory	MB 341	Medical Microbiology-II	MB 361	Medical Microbiology II
	MB 344	Immunology-II	MB 362	Immunology II
	MB 343	Metabolism	MB 363	Metabolism
	MB 342	Genetics and Molecular Biology-II	MB 364	Molecular Biology
	MB 345	Fermentation Technology-II	MB 365	Fermentation Technology II
	MB 336	Food and Dairy Microbiology	MB 366	Food Microbiology
Discipline Specific Elective Course (DSEC) Practical	MB 349	Practical course-III Diagnostic Microbiology and Immunology	MB 367	Practical course-I. Based on: MB 361 Medical Microbiology II and MB 362 Immunology II
	MB 348	Practical course-II Biochemistry and Genetics	MB 368	Practical course-II. Based on: MB 363 Metabolism and MB 364 Molecular Biology
	MB 347	Practical course-I Applied Microbiology	MB 369	Practical course III. Based on: MB 365 Fermentation technology-II and MB 366 Food Microbiology
Skill Enhancement course	-	-	MB 3610	Waste management
	-	-	MB 3611	Nano biotechnology

Evaluation Pattern
T. Y. B. Sc. Microbiology

Courses							
Semester-V				Semester-VI			
Paper	Course Title	Internal examination Marks	University examination Marks	Paper	Course Title	Internal Exam Marks	University examination Marks
MB 351	Medical Microbiology I	15	35	MB 361	Medical Microbiology II	15	35
MB 352	Immunology I	15	35	MB 362	Immunology II	15	35
MB 353	Enzymology	15	35	MB 363	Metabolism	15	35
MB 354	Genetics	15	35	MB 364	Molecular Biology	15	35
MB 355	Fermentation technology I	15	35	MB 365	Fermentation Technology II	15	35
MB 356	Agricultural Microbiology	15	35	MB 366	Food Microbiology	15	35
MB 357	Practical course-I Based on: MB351 and MB 352	15	35	MB 367	Practical course I Based on: MB 361 and MB 362	15	35
MB 358	Practical course-II Based on MB 353 and MB 354	15	35	MB 368	Practical course II Based on: MB 363 and MB 364	15	35
MB 359	Practical course-III Based on:MB 355 and MB 356	15	35	MB 369	Practical course III Based on: MB 365 Fermentation technology II, MB 366 Food Microbiology	15	35
MB 3510	Marine Microbiology	15	35	MB 3610	Waste Management	15	35
MB 3511	Dairy Microbiology	15	35	MB 3611	Nano biotechnology	15	35

Semester V

DSEC-MB 351: Medical Microbiology- I

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcomes:

- Understand the human anatomy, pathogens associated with diseases.
- Acquire knowledge of principles underlying establishment of pathogens in human body.
- Comprehend of pathogenesis of specific pathogens causing microbial diseases.
- Assess epidemiological patterns of microbial disease transmission as various modes, intensity at local and global level.
- Gain Knowledge principles of chemotherapy of microbial diseases and development of drug resistance among pathogens and strategies to mitigate.
- Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures.

Credit No.	Topics	No. of Lectures
	Introduction to infectious diseases and Epidemiology	18
Credit I	1. Introduction to infectious diseases of following human body systems: (Brief anatomy and Physiology, Diseases, Pathogens, common symptoms)	
	a. Respiratory system	2
	b. Gastrointestinal system and liver	2
	c. Urogenital system	2
	d. Central nervous system	2
	2. Epidemiology:	
	a. Case control and cohort studies – Study design and application	2
	b. Principle and methods – Clinical trials of drugs and vaccines (Randomized control trials Concurrent parallel and cross-over trials)	3
	c. Epidemiology of infectious diseases	
	i. Sources and Reservoirs of Infection	1
ii. Modes of Transmission of Infections	1	
iii. Disease Prevention and Control Measures, Vaccine-preventable bacterial diseases and nonvaccine-preventable bacterial diseases	3	

	Study of bacterial pathogens:	18
Credit II	3. Study of following groups of bacterial pathogens: (With respect to- Classification and Biochemical characters, Antigenic structure, Viability characteristics, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis, Epidemiology, Prophylaxis and Chemotherapy):	
	<i>a. Salmonella, Vibrio</i>	2
	<i>b. Streptococcus pneumoniae, Streptococcus pyogenes, Neisseria meningitidis and Neisseria gonorrhoeae</i>	4
	<i>c. Pseudomonas aeruginosa</i>	2
	<i>d. Treponema, Leptospira</i>	2
	<i>e. Clostridium tetani</i>	2
	<i>f. Mycobacterium tuberculosis and Mycobacterium leprae</i>	4
	<i>g. Rickettsial diseases - Scrub typhus, Spotted fevers</i>	2

References: MB 351 Medical Microbiology-I

1. Chakraborty P. (2013). A Textbook of Microbiology. 3rd edition. New Central Book Agency. India. ISBN-13: 978-8173818769
2. Champoux J. J., Neidhardt F. C., Drew W. L. and Plorde J. J. (2004). Sherris Medical Microbiology: An Introduction to infectious diseases. 4th edition. Ryan K. J. and Ray C. G. (editors). McGraw-Hill Companies. DOI: 10.1036/0838585299
3. Dey N. C., Dey T. K. and Sinha D. (2013). Medical Bacteriology Including Medical Mycology and AIDS. 17th Edition. New Central Book Agency (P) Ltd (Publisher). India
4. Dulbecco R., Eisen H. N. and Davis B. D. (1990). Microbiology. United States: Publisher -Lippincott. ISBN: 9780608072432
5. Finch R., Greenwood D., Whitley R. and Norrby S. R. (2010) Antibiotic and Chemotherapy. 9th Edition. Elsevier. ISBN: 9780702040641
6. Franklin T.J and Snow G. A. (1989). Biochemistry of Antimicrobial Action. Springer. First Edition. ISBN: 978-94-009-0825-3
7. Goering R., Dockrell H., Zuckerman M., Roitt I. and Chiodini P. L. (2018). Mims' Medical Microbiology and Immunology. 6th Edition. Elsevier. ISBN:9780702071546
8. Greer D. L., Kane J., Summerbell R., Sigler L., Krajden S. and G. Land (Editors).(1999). Laboratory Handbook of Dermatophytes: a clinical guide and laboratory manual of dermatophytes and other filamentous fungi from skin, hair, and nails. Mycopathologia. 147: 113–114
9. Joklik W. K., Willett H. P., Amos D. B. and Wilfert C. M. (1995). Zinsser's

Microbiology. 20th Edition. Appleton and Lange Publisher. ISBN-13: 978- 0838599839

10. Kanungo Reba. (2017). Ananthanarayan and Paniker's Textbook of Microbiology. Tenth edition. The Orient Blackswan Publisher. ISBN-13: 978-9386235251
11. Kaslow R. A., Stanberry L. R. and Le Duc J. W. (2014). Viral Infections of Humans: Epidemiology and Control. 5th edition. Springer. ISBN 978-1-4899-7448-8
12. Mayers D. L., Sobel J.D., Ouellette M., Kaye K.S. and Marchaim D. (Eds.) (2017). Antimicrobial Drug Resistance: Mechanisms of Drug Resistance. Volume 1. Edition 2. Springer. ISBN 978-3-319-46718-4
13. Mayers D. L., Sobel J.D., Ouellette M., Kaye K.S. and Marchaim D. (Eds.) (2017). Antimicrobial Drug Resistance: Clinical and Epidemiological Aspects. Volume 2. Edition 2. Springer. ISBN 978-3-319-47266-9
14. Mukherjee K. L. and Ghosh S. (2010). Medical Laboratory Technology. Volume I: Procedure Manual for Routine Diagnostic Tests. 2nd edition. McGraw Hill Education (India) Private Limited. ISBN-13: 978-1259061233
15. Mukherjee K. L. and Ghosh S. (2010). Medical Laboratory Technology. Volume II: Procedure Manual for Routine Diagnostic Tests. 2nd edition. McGraw Hill Education (India) Private Limited. ISBN-13: 978-1259061240
16. Mukherjee K. L. and Ghosh S. (2010). Medical Laboratory Technology. Volume III: Procedure Manual for Routine Diagnostic Tests. 2nd edition. McGraw Hill Education (India) Private Limited. ISBN-13: 978-1259061257
17. Park K. (2019). Park's Preventive and Social medicine. 25th Edition. Banarsidas Bhanot Publisher, Jabalpur. ISBN-13: 978-9382219156
18. Roth J. A., Bolin C., Brogden K. A., Chris Minion K. F. and Wannemuehler M. J.(1995). Virulence mechanisms of bacterial pathogens. Second edition. American Society for Microbiology. ISBN-13: 978-1555810856
19. Sastry G. A. and Rama Rao P. (2001). Veterinary Pathology. Seventh Edition. CBS Publishers, Delhi. ISBN: 9788123907389
20. Schuenke S. (1997). Medical Microbiology. Fourth edition. University of Texas Medical Branch of Galvesion. Samuel Baron (Editor). ASIN: B008UYPLIO
21. Tiwari S., Singh R. K., Tiwari R. and Dhole T. N. (2012). Japanese encephalitis: a review of the Indian perspective. The Brazilian Journal of Infectious Diseases. 16(6): 564-573. <https://doi.org/10.1016/j.bjid.2012.10.004>
22. Tortora G. J., Funke B. R. and Case C. L. (2016). Microbiology: An introduction 12th Edition, Pearson. ISBN-13: 9780321929150

Links:

1. <https://www.who.int/travel-advice/disease-information>
2. <https://Microbenotes.Com/Remdesivir/#Mechanism-Of-Action-Of-Remdesivir>
3. *Aspergillus* <https://www.cdc.gov/fungal/diseases/aspergillosis/index.html>
4. *Histoplasma capsulatum* <https://www.cdc.gov/fungal/diseases/histoplasmosis/>
5. *Cryptococcus neoformans* www.cdc.gov/fungal/diseases/cryptococcosis-neoformans/

Semester V

DSEC-MB-352 Immunology- I

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcomes

- Understand immune system structure, composition, function and comparison of different types of immunity.
- Acquire knowledge about antigens, Recognition of pathogens; antigen processing and presentation; Immunity to infection and pathological consequences of immunodeficiencies.
- To learn the applications of Immunology in monoclonal antibodies, vaccines production and Immunotherapy.
- Understand abnormal working of Immune system in hypersensitivity, auto immune diseases, immune tolerance and transplantation immunology.
- To develop strategies for Diagnosis of diseases based on antigen and antibody reactions with emphasis on prevailing communicable diseases.

Credit No.	Topics	No. of Lectures
Credit I	Organs of immune system, Innate immunity, Antigen and Immunoglobulins	18
	1. Organs of immune system:	
	a. Primary lymphoid organs (Thymus and Bone Marrow): Thymus – structure, thymic education (positive and negative selection) Bone marrow –Structure and Negative selection	2
	b. Secondary lymphoid organs – structure and functions of spleen and lymph node, mucous associated lymphoid tissue, lymphatic system and lymph circulation	2
	2. Innate immunity: Non-specific mechanisms of defense: Second line of defense:	
a. Humoral components: Defensins, pattern recognition proteins (PRP) and pathogen associated molecular patterns (PAMPs), complement, kinins, and acute phase reactants.	1	
b. Cellular components: Phagocytic cells – PMNL, macrophages (reticulo-endothelial cell system) and dendritic cells	1	
c. Phagocytosis (oxygen dependent and independent systems), Complement activation (Classical, Alternative and lectin pathway), Inflammation (cardinal signs, mediators, vascular and cellular changes, role of Toll-like receptors)	5	

	3. Antigen: a. Factors affecting immunogenicity b. Antigenic determinants, haptens and cross-reactivity, Carrier, Adjuvants c. Types of antigens: Thymus-dependent and thymus-independent antigens, Synthetic antigens, Soluble and particulate antigens, Autoantigens, Isoantigens	1 1 1
	4. Immunoglobulins: a. Characteristic of domain structure, functions of light and heavy chain domains and antigenic nature of immunoglobulin molecules b. Molecular basis of antibody diversity (kappa, lambda and heavy chain)	2 2
	Antigen- Antibody Interactions, Major Histocompatibility Complex, Transplantation and Immunity and Hybridoma Technology and Monoclonal Antibodies	18
Credit II	5. Antigen- Antibody Interactions: A. Principles of interactions: Antibody affinity and avidity, ratio of antigen antibody, lattice hypothesis and two stage theory, antigen-antibody reaction kinetics (dialysis equilibrium experiment) B. Visualization of antigen antibody complexes: a. Precipitation reactions: in fluid and in gel, immunoelectrophoresis b. Agglutination reactions: hemagglutination, bacterial agglutination, passive agglutination and agglutination-inhibition c. Immunofluorescence techniques: direct and indirect, fluorescence-activated cell sorting (FACS) d. Enzyme-linked immunosorbent assay (ELISA), biotin-avidin system and enzyme-linked immune absorbent spot (ELISpot) assay e. Radioimmunoassay RIA	2 1 1 2 2 1
	6. Major Histocompatibility Complex: a. Structure of MHC in man and mouse b. Structure and functions of MHC class-I and class-II molecules c. MHC antigen typing (microcytotoxicity and mixed lymphocyte reaction)	1 1 1
	7. Transplantation and Immunity; a. Types of Grafts, Allograft rejection mechanisms b. Prevention of allograft rejection	2 1

	8. Hybridoma Technology and Monoclonal Antibodies; a. Preparation, HAT selection and propagation of hybridomas secreting monoclonal antibodies b. Applications of monoclonal antibodies	 2 1
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DSEC-MB 353: Enzymology**[2 Credits; 36 Lectures]****[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]****Course Outcomes**

- To understand methods of active site determination, role of enzymes and its cofactors in microbial physiology.
- To learn to perform enzyme assay, purification and quantification of enzymes activity, enzyme kinetics in terms of initial, final velocity, mathematical expression of enzyme kinetic parameters.
- To correlate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes
- To learn mechanisms of transport of solutes across the membrane
- To get acquainted with mechanism of biosynthesis and degradation of bio molecules
- To comprehend basic concept of autotrophic mode of metabolism of prokaryotes

Credit No.	Topics	No. of lectures
	Enzymes:	18
Credit I	1. Structure of enzymes:	
	a. Methods to determine amino acid residues at active site (Physical method e.g. x-ray crystallography and chemical methods such as trapping of ES complex, use of inhibitors, use of pseudo-substrate change of pH)	3
	b. Role of vitamins in metabolism: Occurrence, Structure and Biochemical functions of the following:	2
	i. Thiamine (Vitamin B1) and Thiamine Pyrophosphate	
	ii. Vitamin D	
	2. Enzyme assays:	
	a. Principles of enzyme assays and calculation of enzyme unit, specific activity	1
	b. Enzymes assays with examples by:	2
	i. Spectrophotometric methods	
	ii. Radioisotope assay	

	3. Principles and Methods of Enzyme purification:	
	a. Methods of cell fractionation	2
	b. Principles and methods of enzyme purification:	
	i. Based on molecular size	2
	ii. Based on charge	2
	iii. Based on solubility differences	2
	iv. Based on specific binding property and selective adsorption	1
	c. Construction of enzyme purification chart	1
	Enzyme Kinetics, metabolic regulation and Immobilized Enzymes:	18
Credit II	4. Enzyme Kinetics:	
	a. Concept and use of initial velocity	2
	b. Michaelis-Menton equation for the initial velocity of single substrate enzyme catalyzed reaction. Brigg's Haldane modification of Michaelis Menton equation. Michaelis Mentonplot, Lineweaver and Burk plot. Definition with significance of Km, Ks, Vmax	5
	5. Metabolic Regulations:	
	a. Enzyme compartmentalization at cellular level	1
b. Allosteric enzymes	1	
c. Feedback mechanisms	2	
d. Covalently modified regulatory enzymes (Glycogen phosphorylase)	1	
e. Proteolytic activation of zymogens	1	
f. Isozymes - concept and examples	1	
g. Multienzyme complex e.g. Pyruvate dehydrogenase complex (PDH)	1	
	6. Immobilization of enzymes:	3
	Concept, methods of immobilization and applications	

References: MB 353 Enzymology

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4. Garrett R. H. and Grisham C. M. (2013). Biochemistry. 5th Edition. Brooks/Cole, Publishing Company, California. ISBN-13: 978-1-133-10629-6

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Semester V

DSEC -MB 354: Genetics

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18

lectures] **Course Outcomes**

- To exhibit a knowledge base in Genetics and Molecular Biology
- To understand the central dogma of Molecular Biology
- To construct genetic map of bacteria and fungi
- To get introduced to concept of recombination and bacteriophage Genetics
- To understand the concept cloning in bacteria
- To demonstrate the knowledge of common and advanced laboratory practices in Molecular Biology

Credit No.	Topics	No. of lectures
Credit I	DNA Replication and Gene Expression	18
	1. Process of prokaryotic DNA replication	4
	a. Single replicon b. Bidirectional movement of replication fork c. Ori C d. Pre-priming and Priming reaction. e. DNA polymerases, DNA synthesis of leading, lagging strand Okazaki fragments. f. Termination- Ter sequence, Tusprotein	
	2. Prokaryotic and Eukaryotic Transcription	3
	i. Transcription in Prokaryotes	
	a. Structure of promoter b. Structure and function of RNA polymerase c. Steps of transcription: Initiation, Elongation and termination	
	ii. Transcription in eukaryotes with respect to protein coding Gene:	4
	a. Promoter, promoter proximal elements and enhancers b. Transcription regulatory proteins c. RNA polymerases d. Steps in transcription: Initiation, Elongation, Termination e. Post transcriptional modifications: 5' capping, 3' polyadenylation and introduction to RNA splicing	

	3. Regulation of transcription: Concept and components of operon: Lac operon: Inducible operon	2
	4. Translation in prokaryotes and eukaryotes a. Structure and role of m-RNA, t-RNA and Ribosomes in Translation b. Role of Aminoacyl t-RNA synthetase in translation c. Steps in translation: Initiation, elongation, translocation and termination of protein synthesis d. Salient features of Eukaryotic translation	5
	Gene transfer and mapping techniques	18
Credit II	5. Gene transfer by Transformation a. Discovery of Transformation b. Natural transformation Systems- <i>Streptococcus pneumoniae</i> and <i>Haemophilus influenzae</i> . c. Factors affecting transformation i. Competence development ii. Size of DNA iii. Concentration of DNA	4
	6. Gene transfer by Conjugation a. Discovery of Conjugation, b. Properties of F plasmid, F ⁺ , F ⁻ , Hfr and F' strains c. Process of conjugation between F ⁺ and F ⁻ , Hfr and F ⁻ , F' and F-	4
	7. Gene transfer by Transduction a. Discovery of Transduction b. Generalized transduction mediated by P22 c. Specialized transduction mediated by lambda phage	4
	8. An introduction to Gene mapping a. Gene linkage and concept of genetic recombination b. Recombination mapping: Map unit, recombination frequency c. Mapping of genes by co-transformation d. Mapping of genes by co-transduction e. Mapping by interrupted mating experiment f. Numerical problems based on co-transformation, co-transduction and interrupted mating	6

References: MB 354 Genetics

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32. Watson J.D., Baker, T.A., Bell, S.P., Gann A., Levine M. and Losick R. (2014). Molecular Biology of the gene. 7th edition. Pearson. ISBN: 9780321762436

Reference-Links:

1. Potential biohazards of recombinant DNA molecules:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC388511/?page=1>
2. National Academies Press: Introduction of Recombinant DNA-Engineered Organisms Into the Environment: Key Issues: <https://www.nap.edu/download/18907#>
3. Guidelines and Handbook for Institutional Biosafety Committees (DBT, Govt. of India and BCIL):<https://thsti.res.in/pdf/IBG.pdf>
4. University of North Carolina's Biosafety Guidelines (Principles, Risk assessment, Biosafety levels, Guidelines):
<https://ehs.unca.edu/laboratory-safety/biological-safety/>
<http://www.informatics.jax.org/silver/chapters/7-1.shtml>

Semester V

DSEC -MB 355 Fermentation Technology– I

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcomes

- To impart technical understanding of commercial fermentations.
- To apply classical, advanced strain improvement and isolation techniques for fermentation processes.
- To optimize and sterilize media used in fermentation industry for commercially economical and efficient fermentations.
- To recover the product using suitable methods and ensuring quality of the finished product by quality assurance tests.
- To acquaint fermentation economics, process patentability, process validation.
- To comprehend the large-scale productions of commercially significant fermentation products of classical and recent significance.

Credit No.	Topics	No. of lectures
Credit I	Upstream processes of fermentations	18
	1. Strain Improvement:	
	a. Objectives of strain improvement	1
	b. Methods for strain improvement:	
	i. Types of mutants used in strain improvement (altered cell permeability mutants, auxotrophs, analogue resistant mutants, revertants)	1
	ii. Selection of different types of mutants (replica plate method, filtration enrichment, penicillin enrichment method, gradient plate technique)	2
	iii. Application of rDNA technology (significance, technique for commercial recombinant products like insulin)	1
2. Media optimization		
a. Objectives of media optimization	1	
b. Methods of media optimization:		
i. Classical approach – One factor at a time, Full factorial design	1	
ii. Plackett and Burman Design (with example) (Numerical problems of PBD can be discussed using software)	2	
iii. Response Surface Methodology (RSM)	1	

	3. Sterilization of Media: a. Methods of sterilization b. Batch sterilization and Continuous sterilization (direct and indirect methods) c. Concept and derivation of Del factor d. Filter sterilization of liquid media	1 1 1 1
	4. Scale-up and Scale-down: a. Objectives of scale-up b. Levels of fermentation (laboratory, pilot-plant and production level – flow sheet to explain scale up) c. Criteria of scale-up for critical parameters [Aeration (kLa Volumetric Mass transfer coefficient), Agitation (P/V ratio, N_{Re} Reynolds number, N_p Power number, N_{Fr} Froudes number), Sterilization and broth rheology (Newtonian and non Newtonian fluids - bacterial and mycelia fungal fermentations)] d. Scale-down (example of anyone commercial fermentation)	1 1 1 1
	Downstream processing and Quality assurance of fermentation products	18
Credit II	5. Downstream processing of fermentation products: (method, principle, types, examples of fermentations, factors affecting, merits and demerits at large scale operation) a. Cell disruption methods b. Filtration c. Centrifugation d. Liquid-liquid extraction e. Distillation f. Drying	1 1 1 1 1 1
	6. Quality assurance of fermentation products (as per IP, USP) a. Methods of detection and Quantification of the fermentation product: physicochemical, biological and enzymatic methods b. Sterility testing (direct inoculation method, membrane filtration method) c. Bioburden test	2 1 1

d. Microbial limit test	1
e. Pyrogen testing: Endotoxin detection (LAL test)	1
f. Ames test and modified Ames test	1
g. Toxicity testing (Acute toxicity)	1
h. Shelf life determination	1
7. Fermentation economics:	
a. Contribution of various expense heads to a process (Recurring and nonrecurring expenditures) citing any suitable example.	1
b. Introduction to Intellectual Property Rights – Types of IPR (patenting in fermentation industry)	1
c. Concept of validation (significance of SOPs)	1

References: MB 355 Fermentation Technology- I

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23. Wiseman A. (1983) *Topics in Enzyme and Fermentation – Biotechnology*. Volume 7. Ellis Horwood Limited, Publishers: Chichester. John Wiley and sons, New York.

Reference links:

24. Guidelines for Tetanus Vaccine production:

https://www.who.int/biologicals/vaccines/Tetanus_Recommendations_TRS_980_Annex_5

<https://academic.oup.com/jimb/article-pdf/18/5/340/34773995/jimb0340.pdf>.

25. Large scale production of rabies vaccine:

26. Large scale production of tetanus vaccine:

<http://nopr.niscair.res.in/bitstream/123456789/26533/1/JSIR%2060%2810%29%20773-778.pdf>.

27. USA Clinical Laboratory Standards Institute(CLSI) Guidelines 2021: <https://clsi.org/>

Semester V

DSEC - MB 356: Agricultural Microbiology

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcomes

- To understand plant growth improvement with respect to disease resistance, environment tolerance.
- To correlate stages of plant disease development, epidemiology, symptom based classification, control methods.
- To understand the importance of microorganisms in sustainable agriculture, biotechnological application of bio films, edible vaccines.
- To correlate Soil Micro biome and Role of microorganisms in soil health
- To determine the use of Microorganisms as tools in plant genetic engineering.

Credit No.	Topics	No. of lectures
Credit I	Plant Pathology	18
	1. Plant growth improvement and Stages in development of a disease a. Plant growth improvement with respect to disease resistance b. Stages in development of a disease: Infection, invasion, colonization, dissemination of pathogens and perennation	3
	2. Classification of disease based on symptoms (with one example of the following): Canker, Downy mildew, Mosaic	3
	3. Plant disease epidemiology Concepts of monocyclic, polycyclic and polyetic diseases with one example of each, disease triangle and forecasting of plant diseases.	6
	4. Methods of plant disease control i. Eradication ii. Chemical control iii. Biological control (employing bacterial and fungal cultures) iv. Integrated pest management v. Genetic engineering for disease resistant plants	6

Credit II	Microorganisms in sustainable Agriculture and tools in plant genetic engineering	18
	5. Microorganisms in sustainable Agriculture	
	a. Soil Micro biome (plant Micro biome)	2
	b. Concept, Composition, functioning and methods to study:	
	i. Conservation of soil health: Role of microorganisms in soil health	1
	ii. Phytonutrient availability by soil microorganisms Mechanism of diazotrophy, Phosphate solubilization, Potassium mobilization, micronutrient availability	4
	iii. Biofilm in plant surfaces, Biofilm formation; Biofilm in Phyllosphere and rhizosphere, Examples of plant- microbe interactions in biofilms, Biotechnological applications of plant biofilms	3
	6 Microorganisms in plant genetic engineering:	
	a Concept of GM crops (Transgenic crops) w.r.t. to edible vaccines, insecticide resistance, herbicide resistance, improved varieties, new variants, disease resistance	2
	b. Tools and techniques:	
	i. Microorganisms as tools in plant genetic engineering (Shuttle vectors)	1
	ii Technology of BT resistant crops	1
	iii. Concept of edible vaccines	1
	iv Technique of use of plant viruses in genetic engineering	1
	c. RNAi Technology and antisense RNA technology in disease resistant plant varieties	2

References: MB 356 Agricultural Microbiology

1. Bahadur B., Venkat rajam M., Sahijram L. and Krishnamurthy K.V. (2012). Plant Biology and Biotechnology. Vol II: Plant Genomics and Biotechnology. Springer Publications.
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Semester V

Practical Course-I

DSEC-MB – 357: Diagnostic Microbiology and Immunology

[2 Credits; 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Sr. No	Title of the Practical	No. of Practicals
1.	Clinical microbiology: Physical, Chemical and Microscopic examination of Clinical samples - Urine, stool and pus	2
2.	Isolation, identification of following pathogens from clinical samples: i. <i>Klebsiella</i> spp. ii. <i>Salmonella</i> spp. iii. <i>Pseudomonas</i> spp iv. <i>Streptococcus</i> spp. and <i>Enterococcus</i> spp (for identification use of keys as well as Bergey's Manual is recommended)	4
3.	Agglutination tests: Widal test (Slide test and Tube Test) and Rapid Plasma Reagin (RPR) test	1
4.	Epidemiological survey: Development of hypothesis, Data collection, organization, statistical analysis, graphical representation using computers and interpretation, Preparation of report	2
5.	Hemogram: a. Estimation of hemoglobin (Acid hematin and Cyan-methemoglobin method) b. ESR and PCV determination, c. White blood cell differential count from peripheral blood d. Counting of RBCs and WBCs using counting chamber e. Calculation of hematological indices	3

References: MB 357: Diagnostic Microbiology and Immunology

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Practical Course – II

MB 358: Enzymology and Genetics

[2 Credits; 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Sr. No.	Title of the Practical	No. of Practical
1.	Determination of absorption spectra and molar extinction co-efficient of two different dyes (by colorimetry /spectrophotometry)	1
2.	Qualitative analytical tests using flow charts for i. Proteins (tests for aromatic amino acids, sulfur containing amino acids, different amino acids) ii. Carbohydrates (tests for monosaccharides, disaccharides, and polysaccharides)	2
3.	Preparation of buffers and calibration of pH meter	1
4.	Paper Chromatography i. Separation and Identification of amino acids from mixture by paper chromatography ii. Separation and Identification of sugars from mixture by paper chromatography	1
5.	Extraction and quantitative estimation of total carbohydrate /proteins from natural sample: i. Estimation of total carbohydrates from natural sources by Phenol Sulphuric acid method ii. Estimation of reducing sugar from natural sources by DNSA method iii. Estimation of proteins from natural sources by Folin Lowry method	3
6.	Isolation of genomic DNA from bacteria	1
7.	Determination purity of DNA and its quantification: a. Estimation of DNA by UV- spectrophotometric method, 260/280 ratio b. Estimation of DNA by the diphenylamine	1
8.	Bacterial Conjugation	1
9.	Chromosome Staining (G-banding) Giemsa staining of chromosome from eukaryotic cell extract	1

Practical course-III

DSEC-MB 359 Fermentation Technology- I and Agricultural Microbiology

[2 Credits; 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Sr. No	Title of the Practical	No. of Practical
1.	Sterility Testing of pharmaceuticals (non-biocidal injectables): Direct inoculation method, membrane filtration method, using control test cultures as per IP guidelines (availability at the center).	2
2.	Minimum inhibitory concentration and minimum bactericidal concentration of antibacterial compounds (MIC and MBC)	2
3.	Antibiotic and growth factor assay (agar gel diffusion technique)	2
4.	Isolation and identification of <i>Xanthomonas</i> spp. from Citrus canker	1
5.	Isolation of <i>Plasmopara viticola</i> from grapes (Downy Mildew)	1
6.	Collection of plant disease specimens and study of symptoms/ Project based on digital record of plant diseases (Group Activity)	1
7.	Isolation of PGPR with phosphate solubilization potential/Vesicular-Arbuscular Mycorrhiza (VAM), Preparation of liquid bioinoculants	2
8.	Validation of commercial formulations of bioinoculants based on BIS standards, Pot studies to check effect of bioinoculants on plant growth	1

References: MB 359 Fermentation Technology- I and Agricultural Microbiology

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10. Validation of standards of biofertilizers:
 - Manual - <https://law.resource.org/pub/in/bis/S06/is.6092.3.2.2004.pdf>
 - Rhizobial and azotobacterial biofertilizers: <https://bio-fit.eu/q8/lo6-quality-control-of-biofertilizers?start=4>.
 - Organic Farming: Organic Inputs and Techniques:
http://agritech.tnau.ac.in/org_farm/orgfarm_biofertilizertechnology.html.
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 - <https://www.ijnpnd.com/article.asp?issn=2231-0738;year=2013;volume=3;issue=1;spage=29;epage=33;aulast=Ranjan>.
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SEM V

Skilled Base Elective MB 3510 Marine Microbiology

2 Credit Course: 1.5 credit theory+0.5 credit Practical

Course Outcome:

- To impart the awareness of unseen and unexplored niche of marine ecosystem of microbes.
- To acquire advances in the knowledge of marine microbes and marine ecology.
- To learn the field research on marine processes and laboratory research on microorganisms.
- To comprehend the role of marine microbes in bioremediation and bioprospecting.
- To avail career opportunities in marine education, industry and research.

Theory Total Lectures: 21

Credit	Theory	No. of lectures
Credit 1.5	1. Marine ecology and sampling	
	a. Marine Habitats – estuaries, mangroves, coral reefs, salt marshes, coastal ecosystems, deep sea, hydrothermal vents, Polar habitat – Arctic, Antarctica, Southern Ocean	3
	b. Physiology of marine microorganisms – metabolic diversity, marine loop, marine snow, Role of marine microorganisms in biogeochemical cycles, nutrient cycling and hydrocarbon degradation	4
	c. Sampling methods– water sampling (Niskin sampler) and sediment sampling (Grab sampler, box corer, gravity corer), Culturing methods – VBNC, biofilm, mats from vents and estuarine sample.	4
	2. Marine microbes, role in bioremediation and bioprospecting	
	a. Extremophilic microorganisms – econiches, different types with examples and significance	2
	b. Archaea –biodiversity, stress response, adaptation and significance	3
c. Marine mycology – econiche, types of marine fungi and significance	2	
d. Bioremediation – heavy metals, hydrocarbon pollutants – tar ball and oil spills	3	

Skilled Based Elective MB 3510:**Marine Microbiology Practical****Total Lectures: 15 Practical 03 x 05 lectures=15 lectures**

Credit	Practical	No. of Practicals
Credit 0.5	1. Physico-chemical analysis of sea water	1
	2. Isolation of marine bacteria/ fungi from different niches – coastal waters, deep sea, estuarine waters, sediments	1
	3. Isolation of extremophilic bacteria – halophiles, thermophiles, acidophiles, alkalophiles, psychrophiles, osmophiles (any two of these)	1

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Semester V

Skilled Base Elective MB 3511 Dairy Microbiology

2 Credit Course: Total lectures: 36: Theory-21 L; Practical-15L

Course Outcome:

- To understand prospects of dairying at commercial marketing.
- To acquire skills of processing of milk and dairy products.
- To assess quality control in dairy industry.
- To comprehend production of dairy products of commercial significance with emphasis to local and global market demand.

Skilled Base Elective MB 3511 Dairy Microbiology Theory Total Lectures: 21

Credit No.	Theory	No of Lectures
Credit 1.5	1. Definition, types, microflora and pathogens: i. Definition of milk, Composition and physicochemical properties of Milk of different animals. Difference between colostrum and milk. ii. Types of milk: whole, toned, double toned, homogenized, and skimmed milk, dehydrated milk iii. Microflora associated with milk and its importance. iv. Sources of contamination of raw milk and relative importance in influencing quality of milk during production, collection, transportation, and storage, milk borne diseases.	8
	2. Processing Techniques and naturally occurring preservatives i. Bacteriological aspects of processing techniques like bacto-fugation, thermisation, pasteurization (in detail process is expected), sterilization and boiling. ii. Naturally occurring preservative systems in milk like LP system, immunoglobulins, Lysozyme, Lactoferrin etc.	4
	3. Spoilage of Milk i. Spoilage of Milk ii. Succession of microorganisms in milk leading to spoilage iii. Stormy fermentation, ropiness, sweet curdling iv. Color and flavor defects v. Preservation of Milk and Milk products by physical (irradiation) and Chemical agents, food grade bio preservatives (GRAS), Bacteriocins of LAB	5

	<p>4. Microbiological aspects of quality control and quality assurance in production of milk and milk products.</p> <p>i. Good Manufacturing Practices,</p> <p>ii. Sanitary standard operating procedures,</p> <p>iii. Total quality management and application of HACCP program in dairy industry.</p> <p>iv. Safety concern of biofilm formation on equipment surfaces and their control measures</p>	4
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Skilled Base Elective MB 3511

Dairy Microbiology Practical

Total Lectures: 15 Total Practical 05 x 05 lectures=15 Lectures

Credit	Practicals	Number of Practical
	<p>1. Microbiological analysis of milk:</p> <p>Enumeration of bacteria. (Standard Plate Count (SPC) and Direct Microscopic Count) – raw milk and pasteurized milk</p>	1
	<p>2. Microbiological quality control tests for milk:</p> <p>i. Dye reduction tests (MBRT/Resazurin)</p> <p>ii. Mastitis test</p> <p>iii. Somatic cell count</p> <p>iv. Phosphatase test</p>	1
<p>Credit 0.5</p>	<p>3. Microbiological quality of indigenous dairy products:</p> <p>i. Khoa</p> <p>ii. Kulfi</p> <p>iii. Shrikhand</p> <p>iv. Paneer</p> <p>v. Curd/ Buttermilk</p>	1

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Semester VI

DSEC-MB 361: Medical Microbiology II

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Credit No.	Topics	No. of lectures
Credit I	Chemotherapy	18
	1. Routes of drug administration.	1
	2. Mode of action of antimicrobial agents on:	
	a. Bacteria:	
	i. Cell wall: Beta lactams: 1 st to 6 th Generation- e.g. Meropenem, Imipenem, Piperacillin, Tazobactam	2
	ii. Cell membrane: Polymyxin	1
iii. Protein synthesis: Streptomycin, Tetracycline	1	
iv. Nucleic acids: Fluroquinolones, Rifamycin	1	
v. Enzyme inhibitors: Trimethoprim, Sulfomethazole	1	
b. Fungi: Griseofulvin, Amphotericin B, Anidulafungin, Vericonazole	3	
c. Viruses: Acyclovir, Oseltamivir, Remdecivir	1	
d. Protozoa: Metronidazole, Chloroquine	1	
	3. Mechanisms of drug resistance on:	
	a. Genetic basis:	3
	i. Mutations in gene(s)	
	ii. Acquisition of foreign DNA coding for resistance determinants through horizontal gene transfer.	
	b. Mechanisms of drug resistance by:	3
	i. Limiting uptake of a drug.	
	ii. Modification of a drug target.	
	iii. Inactivation of a drug.	
	iv. Active efflux of a drug.	

Credit II	Human and Animal Viruses, Fungal and Protozoal Pathogens	18
	4. Introduction to cultivation of viruses	2
	5. Study of following groups of viral pathogens:	
	a. Human viruses (with respect to – Virion, Characteristics, Viability characteristics, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis including serological diagnosis, Epidemiology, Prophylaxis and Chemotherapy):	
	i. Respiratory Viruses: Influenza Virus, Corona Virus	2
	ii. Hemorrhagic Virus: Dengue	2
	iii. Hepatic Virus: Hepatitis A Virus	1
	iv. Gastrointestinal Virus: Rotavirus	1
	v. Cutaneous Viruses: Human papillomavirus	1
	vi. Neurological Viruses: Japanese Encephalitis Virus	1
b. Animal Viruses: FMD Virus and Rinderpest Virus	2	
6. Study of following groups of parasites (with respect to Classification, Lifecycle, Morphological characteristics, Viability characteristics, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis (Serological diagnosis wherever applicable), Epidemiology, Prophylaxis and Chemotherapy):		
a. <i>Plasmodium</i>	2	
b. <i>Entamoeba</i>	1	
7. Study of following groups of yeast and fungal pathogens (With respect to – Morphological and cultural characteristics, Classification, Pathogenicity, Pathogenesis, Symptoms, Laboratory diagnosis, Epidemiology, Prophylaxis and Chemotherapy)		
a) <i>Aspergillus</i> species (Pathogenic)	1	
b) <i>Cryptococcus neoformans</i>	1	
c) <i>Histoplasma capsulatum</i>	1	

References: MB 361 Medical Microbiology- II

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Links:

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7. <https://Microbenotes.Com/Remdesivir/#Mechanism-Of-Action-Of-Remdesivir>
8. *Aspergillus* <https://www.cdc.gov/fungal/diseases/aspergillosis/index.html>
9. *Histoplasma capsulatum* <https://www.cdc.gov/fungal/diseases/histoplasmosis/>
10. *Cryptococcus neoformans* www.cdc.gov/fungal/diseases/cryptococcosis-neoformans/

Semester VI

DSEC-MB 362 Immunology– II

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Credits	Topics	No. of Lectures
Credit I	Cytokines, Adaptive / Acquired Immunity, Hypersensitivity, Autoimmunity and Autoimmune diseases and Immunodeficiency	18
	1. Cytokines:	
	a. Concept- Cytokines, lymphokines, monokines, interleukines, chemokines, interferons and tumor necrosis factor	1
	b. Properties, Attributes and biological functions of cytokines	2
	2 Adaptive / Acquired Immunity (Third line of defense):	
	A. Humoral Immune Response	
	i. Primary and secondary response kinetics, significance in vaccination programs	2
	ii. Response of secondary lymphoid organs to antigen	1
	iii. Antigen processing and presentation (Major Histocompatibility class I and class II restriction pathways), cell-cell interactions and adhesion molecules, response to super-antigens, role of cytokines in activation and differentiation of B-cells	5
	B. Cell Mediated Immune Response	
i. Activation and differentiation of T cells, role of cytokines in activation		
ii. Mechanism of Cytotoxic T lymphocytes (CTL) mediated cytotoxicity, Antibody-dependent cellular cytotoxicity (ADCC)	2	
iii. Significance of Cell Mediated Immune Response (CMI)	3	
iv. Immune response against tumors and foreign transplanted cells	1	
	1	

Credit II	Hypersensitivity, Autoimmunity and Autoimmune diseases and Immunodeficiency	18
	3. Hypersensitivity	
	a. General principles of different types of hypersensitivity reactions	2
	b. Gell and Coomb's classification of hypersensitivity – mechanism with examples for type I (Immediate), II, III and IV (delayed)	5
	4. Autoimmunity and Autoimmune diseases:	
	a. Immunological tolerance	1
b. Types of autoimmune diseases	1	
c. Factors contributing development of autoimmune diseases	1	
d. Immunopathological mechanisms	1	
e. Diagnosis and treatment of autoimmune diseases: Myasthenia gravis and Rheumatoid arthritis	2	
f. Therapeutic immunosuppression for autoimmunity	1	
5. Immunodeficiency:		
i. Complement deficiencies	2	
ii. Introduction to congenital immunodeficiency disorders: Common Variable Immune Deficiency (CVID) and acquired immunodeficiency: Immune mechanisms in AIDS	2	

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Semester VI

DSEC-MB 363: Metabolism

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Credit No.	Topics	No of lectures
Credit I	Membrane transport and Bioenergetics	18
	1. Membrane transport mechanisms: i. Passive transport - Diffusion, Osmosis, Facilitated transport ii. Active transport - Active transport systems in bacteria iii. Group translocation of sugars in bacteria iv. Ionophores: Mechanism and examples	6
	2. Bioenergetics: i. Laws of thermodynamics- first and second law	1
	ii. Concepts of free energy, entropy, high energy compounds: Pyrophosphate, enolic phosphates, acyl phosphates, thioester compounds, and guanidinium compounds	4
	iii. Mitochondrial electron transport chain: components, arrangement of different components in the inner membrane, structure and function of ATP synthetase, inhibitors and uncouplers of ETC and oxidative phosphorylation, energetics of mitochondrial electron transport chain	7
Credit II	Metabolic pathways and Autotrophy	18
	3. Biosynthesis and Degradation: a. Chemistry, concept of polymerization of macromolecules: Polysaccharides. (Starch, and peptidoglycan) and Lipids (Fatty acids, triglycerides and phospholipids) b. Degradation of macromolecules – Polysaccharides (starch), Lipids (fatty acids oxidation e.g. β oxidation), Proteins (urea cycle)	6 6
	4. Bacterial Photosynthesis: Photosynthetic bacteria with reference to photosynthetic apparatus, energy generation, and CO₂ fixation a. Cyanobacteria, b. Purple bacteria	2 2
	5 Chemolithotrophy: Concept and one example, Iron oxidizing bacteria	2

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14. Garrett R. H. and Grisham C. M. (2013). Biochemistry. 5th Edition. Brooks/Cole, Publishing Company, California. ISBN-13: 978-1-133-10629-6
15. Katoch R. (2011). Analytical Techniques in Biochemistry and Molecular Biology. Springer New York. ISBN 978-1-4419-9785-2.
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Semester VI

DSEC -MB-364: Molecular Biology

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Credit No	Topics	No. of lectures
Credit I	Genetic Recombination and Bacteriophage Genetics.	18
	1. Gene linkage and crossing over a. Mendel's laws: Eukaryotic Cell cycle, Mitosis, Meiosis b. Holliday model for Homologous recombination, Role of Rec and Ruvproteins c. Genetic mapping by Tetrad analysis in <i>N. crassa</i> (Numerical Calculations using PD, TT and NPD) d. Genetic Mapping by Parasexual cycle in <i>A. nidulans</i>	9
	2. Bacteriophage Genetics a. Lytic cycle: Virulent phages, T-series phages, Concept and formation of plaque, Lysogenic cycle: Temperate phage (λ phage) b. Bacteriophage mutants: Plaque morphology (r type), Host range, Conditional lethal mutants (Ts and Am) c. Concept of Genetic Complementation and Cis-trans test of genetic function. (Intergenic- rII locus of T4 phage, Mechanism of Intragenic complementation.) d. Fine structure mapping of rII locus of T4 phage using Benzer's spot tests and deletion mapping	9
Credit II	DNA damage and repair mechanisms, Recombinant DNA technology	18
	3. DNA damage and Repair mechanisms a. DNA damage by hydrolysis, deamination, alkylation, oxidation, Radiation (X rays and UV rays) b. DNA repair by Photo reactivation c. DNA repair by Mismatch repair mechanism d. DNA repair by Excision repair mechanisms (BER/NER)	5

	<p>4. Recombinant DNA Technology Tools and basics of recombinant DNA technology</p> <p>a. Introduction to recombinant DNA technology</p> <p>b. Restriction enzymes: Concept, Nomenclature, properties and types with examples (Eco R1, Sma I, Pst I).</p> <p>c. Vectors: Features of an ideal vector</p> <p>i. Plasmids: pBR322</p> <p>ii. Bacteriophage vectors: Lambda</p> <p>iii. Cosmids</p> <p>iv. High capacity vectors: YACs, BACs</p> <p>v. Expression vectors</p> <p>d. Joining of DNA molecules- DNA Ligases (<i>E. coli</i> and T4 phage), Use of Linker / Adaptor / Homopolymer tailing</p> <p>e. Methods to transfer recombinant DNA into bacterial host cells (Physical – Electroporation, Gene gun, Chemical –CaCl₂ mediated, liposome mediated)</p> <p>f. Methods of screening recombinants using selective markers and Blue-White screening</p>	10
	<p>5. Molecular techniques used in RDT</p> <p>a. Isolation of genomic DNA</p> <p>b. Principle and methodology of Agarose gel electrophoresis and its applications</p> <p>c. Concept, Methodology and applications of Southern, Northern and Western blotting</p>	3

References: MB 364 Molecular Biology

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5. Potential biohazards of recombinant DNA molecules:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC388511/?page=1>
6. National Academies Press: Introduction of Recombinant DNA-Engineered Organisms Into the Environment: Key Issues: <https://www.nap.edu/download/18907#>
7. Guidelines and Handbook for Institutional Biosafety Committees (DBT, Govt. of India and BCIL):<https://thsti.res.in/pdf/IBG.pdf>
8. University of North Carolina's Biosafety Guidelines (Principles, Risk assessment, Biosafety levels, Guidelines):
[https://ehs.unca.edu/laboratory-safety/](https://ehs.unca.edu/laboratory-safety/biological-safety/)
<http://www.informatics.jax.org/silver/chapters/7-1.shtml>

Semester VI

DSEC - MB 365 Fermentation Technology – II

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Credit No.	Topics	No. of lectures
Credit I	Solid state and Submerged state fermentations and Large scale fermentations	18
	1. Introduction to Solid State Fermentation and Submerged Fermentation: Process, production strains, media, fermentor design, fermentation conditions, applications, merits and demerits	1
	2. Large scale production of (process with flow sheet, nature of the product, production pathway, applications, production strains, media, fermentation process, parameters, product recovery)	3 3 4
	a. Primary Metabolites: i. Vitamins (B12 and B2) ii. Amino acids - Glutamic acid, Lysine iii. Organic acids (Citric acid, Vinegar and Lactic acid)	1 3
b. Secondary metabolites: i. Bioethanol ii. Alcoholic Beverages - a. Beer (Lagering, Maturation, Types of beer) b. Wine (Aging, Malo-lactic acid fermentation, types of wine, wine defects, comparison of white and red wine) iii. Antibiotics [Penicillin (natural and semi synthetic) and Streptomycin]	3	

Credit II	Large scale production of enzymes, steroids, biomass-based products, milk products, vaccines, immune sera and Modern trends in microbial production	18
	3. Enzymes	
	i. Amylase	1
	ii. Esterases	1
	iii. Proteases	1
	4. Microbial transformation of steroids	2
	5. Biomass based products:	
	i. Yeast: Baker's and Distiller's yeast	2
	ii. Probiotics: <i>Lactobacillus sporogenes</i>	1
	6. Milk products:	
	i. Cheese (Processed, soft, semi-hard, hard ripened types- bacterial and mold)	2
ii. Yogurt (plain, flavoured, fruit, sundae style. Stirred type, set type, probiotic yoghurt)	2	
7. Vaccines		
i. Polio – Inactivated Polio Vaccine, Oral Polio Vaccine	1	
ii. Tetanus – Tetanus toxoid (TT)	1	
iii. Rabies – HDCC, Chick embryo cell line, Vero cell line	1	
8. Immune sera		
i. Anti tetanus serum (ATS)	1	
ii. Anti rabitic serum (ARS)	1	
9. Modern trends in microbial production:		
Biosurfactant and bioemulsifier	1	

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Reference links:

51. Guidelines for Tetanus Vaccine production:
https://www.who.int/biologicals/vaccines/Tetanus_Recommendations_TRS_980_Annex_5
<https://academic.oup.com/jimb/article-pdf/18/5/340/34773995/jimb0340.pdf>.
52. Large scale production of rabies vaccine:
53. Large scale production of tetanus vaccine:
<http://nopr.niscair.res.in/bitstream/123456789/26533/1/JSIR%2060%2810%29%20773-778.pdf>.
54. USA Clinical Laboratory Standards Institute(CLSI) Guidelines 2021: <https://clsi.org/>

Semester VI

DSEC - MB 366: Food Microbiology

[2 Credits; 36 Lectures]

[1 credit=15hrs x 60 mins = 900mins/50mins=18 lectures]

Course Outcome

- To describe food safety problems and solutions in India and global scale.
- Identify and classify types of microorganisms in food processing and compare their Characteristics and behaviour
- To learn food classification based on their perishability, intrinsic and extrinsic factors affecting the growth of microbes in foods, role of microorganisms in food fermentation.
- To acquire knowledge about food spoilage, food borne diseases, predisposition and preventive and control measures.
- To apply principles of sanitation, heat treatment, irradiation, modified atmosphere, antimicrobial preservatives and combination of method (hurdle concept) to control microbial growth with emphasis on HACCP guidelines.

Credit No	Topics	No. of lectures
Credit I	Introduction to properties of food and spoilage of food	18
	1. Classification of food- Perishable, non-perishable, and stable. Sensory characters of food- a. Definition of food b. Sensory or organoleptic factors- appearance factors (size, shape, color, gloss, consistency, wholeness) c. Textural factors- texture changes d. Flavor factors (taste, smell, mouthfeel, temperature)	4
	2. Factors affecting Microbial growth in food a. Intrinsic factors- pH, water activity, O-R potential, nutrient content, biological structure of food, inhibitory substances in food. b. Extrinsic factors- Temperature of storage, Relative humidity, concentration of gases.	5
	3. Sources of food spoilage microorganisms a. Contamination and spoilage of perishable foods- vegetables and fruits, Meat and meat products, Fish and other sea food, Egg and poultry products. b. Contamination and spoilage of canned foods c. Contamination and spoilage of- cereals and cereal products, sugar and sugar products, salad dressings, spices and condiments.	9

Credit II	Food Preservation and food in relation to disease	18
	a. Principles of food preservation a. Importance of TDP, TDT, D, F, Z values b. Use of low and high temperature for food preservation. c. Use of chemicals and antibiotics in food preservation, d. Canning e. Dehydration f. Use of radiation g. Tetra pack technology h. Food grade bio preservatives	10
	5. Microbial food poisoning and food infection a. Food poisoning - <i>Clostridium botulinum</i> , <i>Aspergillus flavus</i> b. Food infection- <i>Salmonella typhimurium</i> , <i>Vibrio parahaemolyticus</i>	4
	6. Concept of Prebiotic and Probiotic and fermented food- definition, Health effects, Quality assurance, Safety, side effects and risk. Potential applications of Prebiotic, Probiotic and fermented food	2
	7. Food sanitation and regulatory authorities (ISO, FDA, WHO)	2

References: MB 366 Food Microbiology

1. Alias A K., Paliyath G. and Bhat R. (2012). Progress in Food Preservation. United Kingdom: Wiley. ISBN: 9780470655856
2. Banwart G. J. (1989). Basic Food Microbiology. 2nd edition. Chapman and Hall. International Thompson Publishing.
3. Bozoglu T. F. and Erkmen O. (2016). Food Microbiology. 2 Volume Set: Principles into Practice. United Kingdom: Wiley. ISBN: 9781119237761
4. Coles R. and Kirwan M. J. (2011). Food and Beverage Packaging Technology. Germany: Wiley. ISBN: 9781444392173
5. Early R. (2012). Guide to quality management for the food Industry. Blackie Academic and Professional. ISBN-13: 978-1461358879
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7. Garbutt J. (1997). Essentials of Food Microbiology. Taylor and Francis. ISBN: 9780340677018
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10. Jay J. M. and Loessner M. J. (2005). Modern Food Microbiology. 7th edition. Springer. ISBN 978-0-387-23413-7
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12. Makun H. A. (2016). Significance, Prevention and Control of Food Related Diseases. Croatia: IntechOpen. ISBN: 9789535122777
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15. Ray B. (2019). Food Biopreservatives of Microbial Origin. United States: CRC Press. ISBN: 9781351080514
16. Sivasankar B. (2009). Food processing and preservation. PHI Learning Pvt. Limited

Semester VI

Practical Course-I

DSEC-MB – 367: Diagnostic Microbiology and Immunology

[2 Credits: 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Sr. No.	Title of the Practical	No. of Practicals
1.	Study of permanent slides/ of following microbial pathogens: a) <i>Entamoeba histolytica</i> b) <i>Giardia</i> spp. c) <i>Plasmodium</i> spp. d) <i>Mycobacterium</i> (tuberculosis and leprae) e) <i>Epidermophyton</i> spp.	1
2.	Isolation and identification of following: Isolation and identification of <i>Candida</i> from skin/mouth. (Slide Culture Technique) a. i. Isolation and identification of <i>Aspergillus niger</i> ii. Determination of Koch's Postulates using <i>Aspergillus niger</i> . iii. Total fungal spore count by Neubauer's chamber	4
3.	Antibiotic sensitivity testing of the bacterial pathogens (for Gram negative and Gram Positive)	1
4.	Immuno-hematology: a. Determination of titre of Anti-A and Anti-B in human serum b. Cross-matching (Major and Minor) and Coomb's test (Direct and Indirect)	2
5.	Qualitative detection of Rheumatoid factor (RA factor) and Streptolysin O using Slide test.	1
6.	Immunoprecipitation: Double diffusion (Ouchterlony) technique	1
7.	Demonstrations of: a. ELISA (Antigen/ Antibody detection) b. Egg inoculation technique	1
8.	Visit to blood bank and preparation of visit report	1

References: MB 367: Diagnostic Microbiology and Immunology

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18. *Bergey's Manual of Systematic Bacteriology*. (2005). Volume Two: The Proteobacteria, Part B: The Gammaproteobacteria. Garrity G. Brenner D. J., Krieg N. R., and Staley J. R. (Eds.). Springer. ISBN 978-0-387-24144-9
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20. *Bergey's Manual of Systematic Bacteriology*. (2009). Volume Three: The Firmicutes. Part C: The Proteobacteria. Vos, P., Garrity, G., Jones, D., Krieg, N.R., Ludwig, W., Rainey, F.A., Schleifer, K.-H., Whitman, W. (Eds.). Springer. ISBN 978-0-387-95041-9
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23. Maheshwari N. (2017). *Clinical Pathology Hematology and Blood Banking (For Dmlt Students)*. 3rd edition. Jaypee Brothers Medical Publishers. ISBN-13: 978- 9386261182
24. Mukherjee K. L. and Ghosh S. (2010). *Medical Laboratory Technology, Volume I: Procedure Manual for Routine Diagnostic Tests*. 2nd edition. McGraw Hill Education (India) Private Limited. ISBN-13: 978-1259061233
25. Mukherjee K. L. and Ghosh S. (2010). *Medical Laboratory Technology, Volume II: Procedure Manual for Routine Diagnostic Tests*. 2nd edition. McGraw Hill Education (India) Private Limited. ISBN-13: 978-1259061240

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28. Talib V. H. (2019). Handbook Medical Laboratory Technology. 2nd edition. CBS Publishers and Distributors Pvt. Ltd. ISBN-13: 978-8123906775

Semester VI

Practical Course – II

SEC-MB 368: Metabolism and Molecular Biology

[2 Credits: 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Sr. No.	Title of the Practical	No. of Practical
1.	Clinical Biochemistry - Estimations of i. Blood sugar ii. Blood urea iii. Serum cholesterol iv. Serum proteins and albumin	3
2.	Enzyme production, purification, quantification and Immobilization: i. Lab scale production of amylase using isolates ii. Precipitation of amylase from fermentation broth (salt/solvent) iii. Determination of specific activity of crude and purified amylase iv. Immobilization of Amylase using calcium alginate	4
3.	Enrichment, Isolation and Enumeration of Bacteriophages (Principle, Methodology and Calculations of phage titer in PFU/ml)	2
4.	Isolation of Plasmid DNA and Agarose Gel Electrophoresis (Demonstration/hands on as per infrastructure availability)	1
5.	Study of Mitotic cell division from onion root tips	1
6.	Visit to a Biotechnology/ Biochemistry institute	1

References: MB 368 Metabolism and Molecular Biology

1. Ausubel F. M., Brent R., Kingston R. E., Moore D. D., Seidman J.G., Smith J. A. and Struhl K. (Editors.). (2003). Current Protocols in Molecular Biology. Copyright © John Wiley and Sons, Inc. ISBN: 047150338X
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Semester VI

Practical Course-III

DSEC-MB 369 Fermentation Technology- II and Food Microbiology

[2 Credits; 78 Lectures]

[1 credit=15hrs x 130 mins = 1950 mins/50 mins=39 lectures]

78 L distributed as 60 L for performing practicals and 18 L for internal evaluation

12 Practical x 5 lectures = 60 Lectures

Sr. No	Title of the practical	No. of Practicals
1.	Lab Scale production of the fermentation products: a. Ethanol (fermentation, recovery by simple distillation, estimation of end product by CAN method and fermentation efficiency) or b. Citric acid (fermentation, recovery by acid base precipitation and estimation of product by titrometry)	2
2.	Solid state fermentation for production of any one fermentation product (<i>Trichoderma sp.</i> / mushrooms / enzymes)	1
3.	Isolation and identification of Probiotic microflora from natural sources or any commercial formulation.	2
4.	Study of SOPs for pharmaceutical industry a. disinfectant efficacy testing b. Physical monitoring of microbiology section c. Handling of biological indicators d. Microbiological testing of vials e. Identification of contaminant in sterile area	1
5.	Detection of aflatoxin	1
6.	Determination of TDP and TDT value	2
7.	Determination of TDR and D value	1
8.	HACCP guidelines for food industry (activity based)	1
9.	Visit to any food industry or a fermentation industry	1

References: MB 369 Fermentation Technology- II and Food Microbiology

- Lab scale fermentations:
 - Casida L. E., Jr. (2019). Industrial Microbiology, New Age International Publishers, New Delhi. ISBN- 9788122438024

- Patel A. H. (2016). Industrial Microbiology. Trinity Press (Publisher). ISBN-13-9789385750267
<https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1541-4329.2005.tb00060.x>
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 - <https://iopscience.iop.org/article/10.1088/1757-899X/612/2/022111/pdf>.
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 - <https://www.frontiersin.org/articles/10.3389/fmicb.2019.01382/full>.
 - <https://www.hindawi.com/journals/ijmicro/2020/8865456/>.
 4. Study of SOPs:
 - <https://www.pharmaguideline.com/2012/01/sop-for-physical-monitoring-of.html>
 - <http://biomanufacturing.org/uploads/files/989767618742858542-sop-visual-inspection-process.pdf>.
 5. Detection of aflatoxin:
 - https://old.fssai.gov.in/Portals/0/Pdf/Draft_Manuals/MYCOTOXIN.pdf.
 - <https://journals.sagepub.com/doi/pdf/10.1177/156482659902000411>.
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 - Frazier W. C., Westhoff D. C. and Vanitha N. M. (2013). Food Microbiology. 5th edition. McGraw Hill education, India.
 - Jay J. M. and Loessner M. J. (2005). Modern Food Microbiology. 7th edition. Springer. ISBN 978-0-387-23413-7.
 7. HACCP:
https://www.fsai.ie/food_businesses/haccp/principles_of_haccp.html.

Semester VI

Semester VI Skilled Base Elective MB 3610 Waste Management

2 Credit Course: Total lectures: 36: Theory-21 L; Practical-15L

Course Outcome:

- To understand waste management and its practicable applicability.
- To assess the magnitude and influence of hazardous content of waste, pollution of waters and waste water treatment technologies.
- To learn the design and working of treatment plants and methods used for liquid and solid waste treatment.
- To impart the understanding of kinetics of biological systems used in waste treatment.
- To learn the standards of waste management and competent authorities involved at National and international level.

Skilled Base Elective MB 3610 Waste Management Theory Total Lectures 21

Credit	Theory	No. of Lectures
Credit	A. Liquid Waste Management	
1.5	<p>1. Principles of Wastewater Treatment</p> <p>i. The need for treatment of wastewater</p> <p>ii. General characteristics of liquid waste - pH, Color Turbidity, Odor, Electrical conductivity, COD, BOD, Total Solids, Total Dissolved Solids, Total Suspended Solids, Total Volatile Solids, Chlorides, Sulphates, Oil and Grease.</p> <p>2. Microbiology of Wastewater</p> <p>Role of microorganisms in wastewater treatment</p> <p>i. Aerobic and Anaerobic digestion models; attached / anchored and suspended growth.</p> <p>ii. Removal of pathogenic microbes, indicator microbes, enumeration of different types of microbes</p> <p>3. Unit operations in wastewater treatment plant</p> <p>i. Collection system - Methods of collection, conservancy systems, water carriage system, sewerage system.</p> <p>ii. Screen chamber, Grit chamber, Oil and grease removal</p> <p>iii. Stabilization pond, Aerated lagoon</p> <p>iv. Activated sludge process, Trickling filter</p> <p>v. Rotating biological contactors, anaerobic digestion processes, fluidized bed reactor.</p>	<p>4</p> <p>4</p> <p>4</p>

	Topic	No. of lectures
	B. Solid Waste Management and hazardous waste	
	4. Characterization of solid wastes: Dairy and e-waste	2
	5. Biomedical waste: Definition, Types, Processing	2
	6. Solid biodegradable waste processing: Composting, Vermicomposting, Biogas production	2
	7. Post-processing by-products of municipal solid waste treatment: leachate refused-derived fuel (RDF)	3

Skilled Base Elective MB 3610 Waste Management Practicals Total Lectures 15

Total Practicals 05 x 05 lectures= 15 lectures

Credit	Practicals	No. of Practicals
Credit 0.5	1. Determination of Solids in wastewater: Total Solids, Suspended Solids, Dissolved Solids, Volatile Solids, Fixed Solids, Settleable Solids	1
	2. Determination of Dissolved Oxygen, BOD and COD of waste water (before and after treatment) (MPCB Standards)	1
	3. Preparation of Project report based on a case study (Hotel/ Industry-Dairy, Food processing) Study of the source, generation rates and characteristics of hazardous wastes and their regulation, handling, treatment, and disposal. Special emphasis is placed on process design of waste handling, treatment and disposal systems.	1

References: Skilled Base Elective MB 3610 Waste Management

1. Chandrappa R. and Das D. B. (2012). Solid Waste Management-Principles and Practice. In Environmental Science and Engineering. Springer (Firm).
2. Dutta S., Neela Priya D., Chakradhar B. and Sasi Jyothsna T.S. (2019) Value Added By-products Recovery from Municipal Solid Waste in Waste Valorisation and Recycling. Springer, Singapore.
3. Masters G. M. (1994). Introduction to Environmental Engineering and Science. Prentice Hall of India (Private) Ltd., New Delhi.
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Semester VI

Skilled Base Elective MB 3611 Nano-biotechnology**2 Credit Course: 1.5 credit theory+0.5 credit Practical****Theory-21 L; Practical-15L****Course Outcome**

- To understand design, development and application of Nanomaterials and their application in Nanodevices.
- To learn fundamentals of nanotechnology as to Synthesis and characterization techniques of nanoparticles.
- To acquire knowledge of applications of nanomaterials in different disciplines of human life.
- To compare the merits of using nanotechnology with existing technologies.

Skilled Base Elective MB 3611 Nano-biotechnology Theory [total lectures 21]

Sr. No.	Topic	No. of Lectures
Credit 1.5	1. Introduction to Nano-biotechnology: a. Introduction to nanoscale, nanomaterials, nanoscience and nanotechnology b. Nanoscale bioassemblies c. Liposomes, viruses, DNA, polysaccharides and proteins (Protein nanotubes, nanofibers, peptide nanoparticles). d. Biomedical applications of bioassemblies e. Cell targeting, drug delivery, bioimaging and vaccine development.	6
	2. Microbial mediated metallic nanoparticles synthesis: a. Gold nanoparticles (AuNPs) b. Silver nanoparticles (AgNPs) c. Au-Ag alloy nanoparticles d. Oxide nanoparticles e. Magnetic nanoparticles f. Non-magnetic oxide nanoparticles g. Sulfide nanoparticles etc.	5
	3. Characterization techniques for nanomaterials: UV-visual spectroscopy, Fourier transform infrared (FTIR), X-ray diffraction (XRD), X-ray photoelectron spectroscopy (XPS), Scanning electron microscopy (SEM), Transmission electron microscopy (TEM) and dynamic light scattering (DLS).	6
		4

	4. Applications of nanoparticles: Antibacterial agent, drug delivery, biosensor, animal industry and nanotechnology in wastewater treatment.	
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Skilled Base Elective: MB 3611 Nano-biotechnology. Practicals [total lectures 15]

Credit	Practical	No. of Practicals
Credit 0.5	1. Microbial synthesis of metallic nanoparticle synthesis (any two): silver, chromium, cobalt)	1
	2. Detection and Characterization of metallic nanoparticles in colloidal solutions by: a. UV-Spectrophotometer b. FTIR analysis	1
	3. Application of nanoparticles- checking antimicrobial activities against the microbial synthesized metallic nanoparticles (any two)	1

References: Skilled Base Elective: MB 3611 Nano-biotechnology.

- Bujold K. E., Lacroix A., and Sleiman H. F. (2018). DNA Nanostructures at the Interface with Biology. *Chem.* 4: 495–521. Elsevier Inc.
- Chokriwal A., Sharma M. M. and Singh A. (2014). Biological synthesis of nanoparticles using bacteria and their applications. *American Journal of PharmTechResearch.* 4(6):38-61.
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10. Rajput N. and Bankar A. (2017). Bio-inspired gold nanoparticles synthesis and their anti-biofilm efficacy. *J. Pharm. Investig.* 47: 521–530.
11. Rattan R., Shukla S., Sharma B. and Bhat M. (2021). A mini review on lichen-based nanoparticles and their applications as antimicrobial agents. *Front. Microbiol.* <https://doi.org/10.3389/fmicb.2021.633090>
12. Salame P. H., Pawade V. B. and Bhanvase B. A. (2018). Characterization tools and techniques for nanomaterials. *Nanomaterials for Green Energy:* 83–111. doi:10.1016/b978-0-12-813731-4.00003-5
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14. Tiquia-Arashiro S. and Rodrigues D. (2016). Nanoparticles Synthesized by Microorganisms. In *Extremophiles: Applications in Nanotechnology.* 1-51. Springer, Cham.
15. Xiangqian Li, Huizhong Xu, Zhe-Sheng Chen, and Guofang Chen. (2011). Biosynthesis of nanoparticles by microorganisms and their applications nanostructures for medicine and pharmaceuticals Volume 2011 |Article ID 270974 | <https://doi.org/10.1155/2011/270974>
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Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Physics (Faculty of Science & Technology)

T.Y.B.Sc. (Physics)

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Salient Features of Revised Syllabi in Physics

As far as possible to promote:

1) Physics Education through Master Texts:

It helps in understanding the theoretical and mathematical development of the subject and to create interest in the subject.

2) Physics Education through Experimentation:

It helps in general to improve scientific attitude. So emphasis is given on the development of experimental skills, data analysis, calculations, and also on the limitations of the experimental method and data and, results obtained.

3) Physics Education through Problem Solving: It helps in understanding the concepts of physics. It underline the strength of equations, formulae, graphs, mathematical tools to tackle the problems. So accordingly, we have introduced compulsory problem part in the question paper.

4) Physics Education through History and Philosophy:

It helps in understanding the conceptual development of the subject and thereby increase the interest in the subject. A topic on this is introduced in the Physics Course.

5) Physics Education through Awareness of Misconceptions:

It improves the scientific awareness among the students. A discussion on different subjects are encouraged.

6) Physics Education through Proto-research:

It creates interest in the subject and improves technological aspect. Accordingly, mini projects, hands-on activities, projects, models and demonstrations etc. is included in the syllabi.

7) Physics Education through Qualitative Overview:

It creates interest in the subject to continue to work in the field of science in general and physics in particular. Accordingly future directions and frontiers of the subject are included in the syllabi.

8) Structure of Question paper:

Existing structure shall continue.

9) ATKT Rules:

Existing rules shall apply.

10) Structure of the Course:

Semester	Course Type	Course Code	Course Name	Credit	
V	Discipline Specific Elective Course	PHY-351	Mathematical Methods in Physics-II	2	
		PHY-352	Electrodynamics	2	
		PHY-353	Classical Mechanics	2	
		PHY-354	Atomic and Molecular Physics	2	
		PHY-355	Computational Physics	2	
		PHY-356: Elective-I (Select any One)			2
		PHY-356(A)	Astronomy and Astrophysics-I		
		PHY-356(B)	Elements of Materials Science		
		PHY-356(C)	Biophysics		
		PHY-356(D)	Renewable Energy Sources-I		
		PHY-356(E)	Applied Optics		
		PHY-356(F)	C# programming		
		PHY-356(G)	Acoustics-I		
		PHY-357	Physics Laboratory-3A	2	
	PHY-358	Physics Laboratory-3B	2		
	PHY-359	Project-I	2		
	Skill Enhancement Course	PHY-3510: Skill Enhancement Course-I (Select any One)			2
		PHY-3510(H)	Python Programming		
		PHY-3510(I)	Energy studies		
		PHY-3510(J)	Introduction to Arduino		
PHY-3510(K)		Sensors and Transducer			
PHY- 3511: Skill Enhancement Course-II (Select any One)			2		
PHY-3511(L)		Physics Workshop Skill			
PHY-3511(M)		Biomedical Instrumentation			
PHY-3511(N)		Non-destructive Testing Techniques			
PHY- 3511(O)		Acoustics Applications			
VI	Discipline Specific Elective Course	PHY-361	Solid State Physics	2	
		PHY-362	Quantum Mechanics	2	
		PHY-363	Thermodynamics and Statistical Physics	2	
		PHY-364	Nuclear Physics	2	
		PHY-365	(A) Electronics-II OR	2	

		(B) Advanced Electronics		
		PHY-366: Elective-II (Select any One)		
		PHY-366(P) Medical Electronics	2	
		PHY-366(Q) Physics of Nanomaterials		
		PHY-366(R) Microcontrollers		
		PHY-366(S) Lasers		
		PHY-366(T) Astronomy and Astrophysics-II		
		PHY-366(U) Renewable Energy Sources-II		
		PHY-366(V) Acoustics-II		
		PHY-367 Physics Laboratory-4A		2
		PHY-368 Physics Laboratory-4B	2	
		PHY-369 Project-II	2	
	Skill Enhancement Course	PHY-3610: Skill Enhancement Course-III (Select any One)		
		PHY-3610(W) Scientific Data Analysis using Python	2	
		PHY-3610(X) Solar PV System: Installation, Repairing and Maintenance		
		PHY-3610(Y) Applications of Internet of things (IOT)		
		PHY-3610(Z) Calibration Techniques		
			PHY- 3611: Skill Enhancement Course-IV (Select any One)	
			PHY- 3611(AA) Microcontrollers	2
			PHY- 3611(AB) Instrumentation for Agriculture	
			PHY- 3611(AC) Radiation Physics	
			PHY- 3611(AD) Photography	

Semester-V

T.Y.B.Sc. (Physics) (Sem-V)
PHY-351: Mathematical Methods in Physics-II

Lectures: 36

(Credits-02)

1: Curvilinear Co-ordinates

(10L)

Review of Cartesian, spherical and cylindrical co-ordinate, transformation equation, General Curvilinear co-ordinate system: Co-ordinate surface, co-ordinate lines, length, surfaces and volume elements in curvilinear co-ordinate system.

Orthogonal curvilinear co-ordinate system, expressions for gradient, divergence, Laplacian, and curl, special case for gradient, divergence and curl in Cartesian, spherical polar and cylindrical co-ordinate system, Problems.

2: The Special Theory of Relativity

(10L)

Introduction, Newtonian relativity, Galilean transformation equation, Michelson-Morley experiment, Postulates of special theory of relativity, Lorentz transformations, Kinematic effects of Lorentz transformation, Length contraction, Proper time, Problems.

3: Partial Differential Equations

(8L)

Introduction to Partial differential equations (PDE), General methods for solving second order PDE, Method of separation of variables in Cartesian, Spherical polar and cylindrical co-ordinate system (two dimensional Laplace's equation, one dimensional Wave equation), Singular points ($x = x_0$), Solution of differential equation-Statement of Fuch's theorem, Frobenius method of series solution.

4: Special Functions

(8L)

Introduction, generating function for Legendre Polynomials: $P_n(x)$, Properties of Legendre Polynomials, Generating function for Hermite Polynomials: $H_n(x)$, Properties of Hermite Polynomials, Bessel function of first kind: $J_n(x)$, Properties of Bessel function of first kind, Problems.

Reference books:

1. Mathematical methods for physicists, Arfken and Weber, Academic press Newyork, 7th Edition.
2. Mathematical physics, Rajput, Pragati prakashan-1997.
3. Mathematical methods in the physical sciences – Marry L. Boas, John Willy & Sons publication, 3rd Edition-2005.
4. Introduction to special relativity, Robert Resnick, John Wiley & Sons, Inc.-1968.
5. Mathematical physics, B. D. Gupta, Vikas publishing house Pvt. Ltd., 4th edition-2010.
6. Mathematical physics, H. K. Dass, Dr. Rama Varma, S. Chand & Company Pvt. Ltd., 7th Edition-2014
7. The Special Theory of Relativity: A Mathematical Approach-Farook Rahaman, Springer Publication -2014.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-352: Electrodynamics

Lectures: 36

(Credits-02)

1: Electrostatics

(12 L)

- a. Revision of Coulomb's law, Gauss law, Electric field, Electrostatic Potential.
- b. Potential energy of system of charges.
- c. Statement of Poisson's and Laplace's equation, Boundary Value problems in electrostatics- Solution of Laplace equation in Cartesian system, Boundary conditions.
- d. Polarization **P**, Electric displacement **D**, Electric susceptibility and dielectric constant, bound volume and surface charge densities.
- e. Electric field at an exterior and interior point of dielectric.

2: Magnetostatics

(12 L)

- a. Concepts of magnetic induction, magnetic flux and magnetic field.
- b. Magnetic induction due to straight current carrying conductor, magnetization of matter, relationship between **B**, **H** and **M**.
- c. Boundary conditions at the interface of two magnetic media (Normal and tangential components).
- d. Biot-Savart's law, Ampere's force law, Magnetic force between two current carrying loops, Ampere's circuital law.
- e. Equation of continuity, Magnetic vector potential **A**, Magnetic susceptibility and permeability.

3: Electrodynamics

(12 L)

- a. Concept of electromagnetic induction, Faradays law of induction, Lenz's law, displacement current, generalization of Amperes' law.
- b. Maxwell's equations (Differential and Integral form) and their physical significance.
- c. Polarization, reflection & refraction of electromagnetic waves through media.
- d. Wave equation and plane waves in free space.
- e. Poynting theorem & Poynting vector.

Reference Books:

1. Introduction to Electrodynamics; D. J. Griffith; Cambridge India; Fourth edition (2020)
2. Classical Electrodynamics; J. D. Jackson; Wiley; Third edition (2007)
3. Introduction to Electrodynamics; A. Z. Capri, Panat P. V.; Alpha science international ltd; Illustrated edition(2002)
4. Foundations of electromagnetic theory; Reitz, Milford and Christy; Pearson education India; Fourth edition (2010)
5. Electrodynamics; Gupta, Kumar, Singh; Pragati Prakashan; Ninteenth edition (2011)
6. Electromagnetic field and waves; Paul-Lorrain, D. R. Corson; W.H. Freeman & co. Ltd; Second edition (1970)
7. Electricity and magnetism; Murugesan; S. Chand; (2020)
8. Electromagnetic theory and electrodynamics; Satya Prakash; Kedar Nath Ram Nath; (2020)

T.Y.B.Sc. (Physics) (Sem-V)
PHY-353: Classical Mechanics

Lectures: 36

(Credits-02)

1: Motion of Particles

(8L)

- a. Charged Particles: Motion of a charged particle in constant electric, magnetic and electromagnetic field,
- b. System of particles: Concept of Centre of mass, Conservation of linear momentum, angular momentum, energy of system of particles.(statements only)
- c. Problems

2: Central force Field

(8L)

- a. Central force Field: Definition and Properties of central force field. Reduction of two body problem to an equivalent one body problem
- b. Motion in central force field,
- c. Kepler's laws of planetary motion and their proof
- d. Artificial satellite and its orbit
- e. Problems.

3: Scattering of particles

(10L)

- a. Elastic and inelastic scattering: Definition and properties,
- b. Elastic scattering - Laboratory and center of mass system.
- c. Scattering: Scattering angles in laboratory and center of mass system.
- d. Differential cross-section, impact Parameter, total cross-section in brief.
- e. Problems

4: Langrangian and Hamiltonian formulation

(10L)

- a. Limitations of Newton's Law of Motion,
- b. Constraints and Their Classification, Example of Constrains, degrees of freedom, generalized coordinate, configuration space,
- c. Principle of Virtual work done,
- d. D'Alemberts Principle of virtual work,
- e. Langrangian equation from D'Alembert's principle, cyclic coordinates,
- f. Phase space, Hamiltonian's equations
- g. Problems

Reference books:

1. **Classical Mechanics**, J.C. Upadhyaya, Himalaya publishing Houses, 2nd Edition of 2005.
2. **Introduction to Classical Mechanics**, R. G. Takawale, P. S. Puranik, Tata McGraw Hill publishing Company Ltd., New Delhi.
3. **Classical Mechanics**, NC Rana and PS Joag, Tata McGraw Hill Education Private Limited, New Delhi, 1991.
4. **Classical Mechanics** by P.V.Panat.
5. **Classical Mechanics**, Herbert Goldstein, Narosa Publishing House.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-354: Atomic and Molecular Physics

Lectures: 36

(Credits-02)

1: Atomic structure

(6 L)

1. Revision of various atomic models
2. Vector atom model (Concepts of space quantization and electron spin)
3. Pauli Exclusion Principle and electron configuration, Quantum states, Spectral notations of quantum states.
4. Problems

2: One and Two Valence electron systems

(12 L)

1. Spin-Orbit Interaction (Single valence electron atom), Energy levels of Na-atom, Selection rules, Spectra of sodium atom, Sodium doublet.
2. Spectral terms of two electron atoms, terms for equivalent electrons, LS and JJ-coupling schemes.
3. Singlet-Triplet separations for interaction energy of LS coupling, Lande's interval rule, Spectra of Helium atom.
4. Problems

3: Zeeman Effect

(4 L)

1. Zeeman Effect
2. Experimental arrangement
3. Normal and anomalous Zeeman Effect
4. Stark effect (Qualitative discussion)
5. Applications of Zeeman effects
6. Problems

4: Molecular spectroscopy

(8 L)

1. Introduction of molecular spectra and its types
2. Rotational energy levels, Rotational spectra of rigid diatomic molecule
3. Vibrational energy levels
4. Rotational and Vibrational spectra
5. Electronic spectra of molecules
6. Applications of UV-Vis spectroscopy
7. Problems

5: Raman spectroscopy

(6 L)

1. History of Raman effect, Molecular polarizability
2. Classical theory and Quantum theory of Raman Effect
3. Characteristics Raman Lines and Applications of Raman spectroscopy
4. Problems

Reference books:

- 1) R. Murugesan, Er. K. Sivaprasath, Modern Physics, S. Chand, 2014, Revised edition
- 2) Robert Eiseberg, Robert Resnik, Quantum Physics of Atoms, Molecules, Solids, Nuclei and Particles, Wiley, 2016, 2nd edition
- 3) G. Aruldas, Molecular structure and Spectroscopy, PHI, 2015, 2nd edition
- 4) Colin Banwell, Elaine McCash, Fundamentals of Molecular Spectroscopy, TMH, 4th ed
- 5) Arthur Baiser, Concepts of Modern Physics, McGraw Hill International, 4th edition
- 6) White H. E, Introduction to Atomic spectra, McGraw Hill International

T.Y.B.Sc. (Physics) (Sem-V)
PHY-355: Computational Physics

Lectures: 36

(Credits-02)

1: Concepts of Programming and Introduction to C-programming: (14 L)

- a) Definition and Properties of algorithms, Algorithm development, Flow charts- symbols and simple flowcharts.
- b) Introduction and Structure of C-program, 'C' Character set, key words, Constants and variables, Variable names, Data types, qualifiers and their declarations, Symbolic Constants.
- c) Input/output functions: scanf(), printf(), getchar(), putchar(), gets(), puts().
- d) Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Conditional Operator.
- e) Control statements: if, if else, while, do while, for loop, nested control structures (nested if, nested loops), break, continue, switch- case statement, goto statement.
- f) Use of Library functions: e.g. mathematical, trigonometric, graphics.

2: Arrays, Pointers and user defined function in C-Language (8 L)

- a) Arrays: 1-D, 2-D: Arranging numbers in descending and ascending order, Sum of matrices, multiplication of matrices.
- b) Concept of pointers with suitable illustrative examples.
- c) User defined functions: Definitions and declaration of function, function prototype, passing arguments (Call by value, Call by reference). Simple illustrative examples.

3: Graphics in C-Language: (3 L)

Concepts of graphics in C, Some simple graphic commands- Point, Line, Circle, Arc, Ellipse, Bar with suitable illustrative examples.

4: Computational Physics: (11 L)

Numerical Methods to solve the Physics Problems

- a) **Iterative methods:** Bisection method and Newton-Raphson Method– Algorithm, Flowchart and writing C- program for finding the roots of the equation, problems
- b) **Integration:** Trapezoidal rule, Simpson's $1/3^{\text{rd}}$ rule – Algorithm, Flowchart and C-program, problems

Reference Books:

1. Programming in C- (Schaum's series), Gottfreid, TMH
2. Programming in C- Balgurusami, Prentice Hall publications
3. Let us C- Yashwant Kanetkar, BPB publications
4. Programming with C- K.R. Venugopal, S. R. Prasad, TMH.
5. Introductory methods of numerical analysis-S. Sastry, Prentice Hall
6. Computer oriented numerical methods – V. Rajaraman.

PHY-356: Elective-I

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (A): Astronomy and Astrophysics-I

Lectures: 36

(Credits-02)

1: Fundamentals of Astronomy: (10 L)

Introduction: Components of the Universe; Stars, Planets, Asteroids, Meteors, Comets, Galaxies.

Solar System: Age, Origin Basic measurements: Planetary orbits, distances, physical size, mass, density, temperature, rotation period determination, Co-ordinate system, Celestial hemisphere,

2: Astronomical Instruments: (8 L)

Optical telescopes, mounts, light gathering power, magnification, Resolution. Spectroscopes, CCD camera, photometer, filters Radio telescopes, Interferometry (only introduction)

3: Star Systems and basic observations: (10 L)

Stars life cycle, Stellar processes (Nuclear). Neutron stars, black holes, Chandrasekhar limit.

Spectral classification of stars, O, B, A, F, G, K, M. Star Systems: Binaries / Cepheids / RR Lyrae,

Observation of Sun: Eclipses, Moon, planets, meteor showers, transits, occultations.

4: Galaxies, Dark Matter and Dark Energy (8 L)

A) Galaxies, types, their formation, Hubble's tuning fork diagram, Open and Globular clusters, Dark Matter / Energy (evidence for both), Cosmology: Theories: BBT, Steady State, Oscillating Universe Theory.

B) **Observational Astronomy:** Concept of time, Magnitudes: apparent and absolute, introduction to Constellations, Star dial.

Reference books:

1. Astronomy structure of the Universe. A.E. Roy and D. Clarke, Adam Hilger Pub.
2. Source Book of Space Sciences, Samuel Galsstone; D.Van Nostrand Co. Inc
3. Astrophysics - Stars and Galaxies, K.D. Abhyankar, Tata McGraw Hill Pub.
4. Textbook of Astronomy and Astrophysics with elements of cosmology, V.B. Bhatia, Narosa Pub.
5. Structure of the Universe, J.V. Narlikar
6. Astrophysics, Baidyanath Basu.
7. Astrophysical Techniques, third Edition, C. R. Kitchin
8. Fundamentals of Astronomy, Michael Seed
9. Telescopes and techniques, C. R. Kitchin (Springer)

List of experiments: (Any 2)

1. Study of Binocular, refracting and reflecting telescopes and their mounts.
2. To determine the diameter of the Moon.
3. Measurement of Solar Constant.
4. Observation of emission, continuous and absorption spectra. (Mercury, sodium or iodine spectra could be obtained.)
5. Study of Construction and working of CCD.
6. Study of Solar Eclipse and Lunar Eclipse.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (B): Elements of Material Science

Lectures: 36

(Credits-02)

-
- 1: Defects in Solids** (7 L)
1. Material Properties – Mechanical, Electrical, and thermal
 2. Impurities in solids.
 3. Solid solutions in metals.
 4. Rules of solid solubility.
 5. Imperfection in crystals.
 6. Defects in solids point, line, surface, and volume.
 7. Atomic diffusions definition, mechanism, Fick's laws.
- 2: Single Phase Metals** (6 L)
1. Single phase alloys
 2. Deformation
 3. Elastic Deformation and Plastic Deformation
 4. Mechanism of plastic Deformation by slip
 5. Critical resolved shear stress (CRSS)
 6. Plastic deformation in poly crystalline materials
- 3: Ceramic Materials** (10 L)
1. Ceramic Phases, Classification of ceramic materials
 2. Ceramic crystals (AX)
 3. Mechanical behavior of ceramics
 4. Electromagnetic behavior of ceramics –
 - a) Electric properties dielectrics, semiconductors, piezoelectric
 - b) Magnetic Properties Magnetic Ceramics, hard and soft ferrites
- 4: Phase Diagrams** (9 L)
1. Basic terms System, Surrounding, Component, Coordinates, Phase, Equilibrium.
 2. Phase Diagram definition, importance, and objective
 3. Lever rule
 4. Gibb's phase rule
 5. Phase diagram of a) Sugar water b) NaCl water
 6. Types of phase diagrams with construction
 - a) Type I Lens type CuNi phase diagram
 - b) Type II Only introduction
 - c) Type III Eutectic type PbSn phase diagram
 7. Isothermal cuts
- 5: Introduction to smart materials** (4 L)
1. Definition of smart materials
 2. Types and structure of smart materials,
 3. Properties of smart materials
 4. Applications of smart materials.

Reference books :

1. Elements of Materials Science and Engineering I. H. Vanvlach (4th Edition)
2. Materials Science and Engineering - V. Raghavan

List of experiments : (Any 2)

1. To determine the dipole moment of a given liquid
2. To determine magnetic susceptibility of FeCl_3
3. To determine the specific heat of graphite
4. Determination of the yield point and the breaking point of an elastic material
5. Ionic conductivity of NaCl/ NaI
6. Grain size and grain boundary measurement using optical microscope.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (C): Biophysics

Lectures: 36

(Credits-02)

1: Introduction of Biophysics

(13L)

- 1.1 History of Biophysics, Concept of Biophysics and Physical properties applied to biology- Surface tension, Viscosity, adsorption, diffusion, osmosis, Definition for Biostatistics and Biometry
- 1.2 Cell: Animal and plant cell, types of cell, Functional aspects of cell membrane, cytoplasm, nucleus, mitochondria and chloroplast
- 1.3 Protein structure (Primary and Secondary), amino acid structure, Genetic code- symmetry, DNA structure
- 1.4 Photosynthesis process:- electron transport, Gibbs's free energy, Redox couple, Redox potential, Oxidation and reduction, Examples of redox potential in biological system.

2: Bio-potentials

(9L)

- 2.1 Bioelectric signals: structure of neuron, resting potential, action Potential, Nernst equation
- 2.2 Bioelectrodes- Half-cell potential, polarizable and non-polarizable electrodes, Microelectrode- metal and glass electrodes
- 2.2 Study of Cardiovascular system, Compound action potential of human body-ECG (Electrocardiography), Electrodes for ECG

3: Bio-instruments

(6L)

- 3.1 Basic principle, Construction and working of colorimeter, spectrophotometer, PH meter and Centrifuge measurement.
- 3.2 Electron Microscope: SEM, TEM.

4: Radiation Biophysics

(8L)

- 4.1 Definition, Units of Radioactivity and radiation doses, Types of radiation (Ionizing and non- ionizing), radioimmunoassays.
- 4.2 Applications: PET (Positron Emission Tomography), NMR (Nuclear Magnetic Resonance), MRI (Magnetic Resonance Imaging Techniques), Ultrasonography, CT (Computed Tomography) Scan.

Reference books:

1. Introduction to Biophysics - by P. Narayanan. New Age P.
2. Medical Instrumentation - by Khandpur, TMH
3. Laboratory Manuals of Biophysics Instruments - by P.B. Vidyasagar
4. Biophysics -by Vatsala Piramal, Dominant Publisher and Distributors, New Delhi-110002
5. Textbook of Biophysics - by R.N. Roy
6. Photosynthesis - by Hall and Rao.
7. Introduction to Biomedical Equipment Technology (Fourth Edition) by-Joseph J.Carr
8. Text Book of Bio-medical Electronics-by S.S. Agrawal

List of Experiments : (Any 2)

1. Recording and analysis of ECG signals
2. Verification of Beer's and Lambert's Law
3. Absorption spectrum of Blood/Chlorophyll.
4. pH value of Amino acids.
5. Bimolecular model building using standard kits.
6. Separation of components of Milk/Chlorophyll using centrifuge machine.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (D): Renewable Energy Sources-I

Lectures: 36

(Credits-02)

1: An Introduction to Energy Sources: (10L)

1. Energy: Definition, Classifications of energy sources
2. Conventional and non-conventional energy sources.
3. Sun: The source of energy (Structure, Characteristics and Composition)
4. Solar Constant
5. Electromagnetic Energy Spectrum.
6. Solar radiations outside earth atmosphere.
7. Solar radiation at the earth surface.
8. Problems.

Ref.1- page no. 1 to 11 and 15 to 37

Ref.3- 3.1, 3.2, 3.3, 3.4, 3.5

2: Photothermal Applications: (10L)

1. Photothermal devices: Solar Insolation, Selective Coating, Glass Cover, Heat Conductor and Heat Insulation.
2. Solar water heating systems: Types, construction and working of Liquid Flat Plate Collector (FPC) and Evacuated Tube Collector (ETC)
3. Energy Balance Equation (without thermal Analysis).
4. Concentrating collectors: Flat plate collector with plane reflector, Cylindrical parabolic, Compound parabolic, Collector with fixed circular concentrators and moving receiver, paraboloid concentrator.
5. Comparative study between flat plate collector and solar concentrators.
6. Solar distillation, Solar dryer, Solar cooker (box type)

Ref. 1: 3.3, 3.3(A), 3.5, 3.7, 3.8, 5.2, 5.8, 5.11.

Ref. 2: 2.2.6

3: Photovoltaic systems: (10L)

1. Introduction to Photovoltaic effect and Photovoltaic Conversion.
2. Basic photovoltaic system for power generation
3. Basics of Solar Cell, PV modules, Arrays,
4. Solar Cell: I-V characteristics, Power output and conversion efficiency.
5. Factors affecting on photovoltaic efficiency. (Change in amount of input light, solar cell area, Change in angle, Change in operating Temperature etc.)
6. Types of solar cells: p-n junction solar cell, p-i-n diode solar cell, cadmium sulphide solar cell, Gallium arsenide solar cell, Indium phosphide solar cell, nano-crystalline solar cell.
7. Application of solar photovoltaic systems.

Ref.3 -15.1, 15.3, 15.4, 15.5, 15.7, 15.8, 15.10.

Ref.8 – 3.6.1, 3.6.2, 3.6.3, 3.6.4, 3.6.5

4: Energy Storage:

(06L)

1. Importance and Needs of Energy storage in Conventional and Nonconventional Energy Systems.
2. Various forms of Energy Storage
3. Electrical Energy: Super capacitors
4. Electrochemical Energy: Battery
5. Chemical Energy: Hydrogen Production and storage

Ref.4 - Ref.5 - Ref.6 - Ref.7 -

Reference books:

1. Non-conventional Energy sources, G. D. RAI (4th edition), Khanna Publishers, Delhi.
2. Solar Energy, S.P. Sukhatme (second edition), Tata Mc. Graw Hill Ltd, New Delhi.
3. Solar Energy Utilizations, G. D. RAI (5th edition), Khanna Publishers, Delhi.
4. Energy Storage: Fundamentals, Materials and Applications, by Huggins R. A., Springer
5. Chemical and Electrochemical Energy System by R. Narayan and B. Viswanathan, University Press.
6. Battery Systems Engineering by C. D. Rahn and C. Wang, Wiley Pub.
7. Electrochemical Energy Storage for Renewable sources and grid balancing by P. T. Moseley and J. Garche, Elsevier Science.
8. Solar Photovoltaic Technology and Systems by C S Solanki

List of Experiments: (Any 2)

1. To calculate the thermal efficiency of liquid flat plate collector.
2. To study the box type solar cooker.
3. To determine an instantaneous thermal efficiency of parabolic collector.
4. To calculate an efficiency and fill factor of PN junction solar cell.
5. To study I-V characteristic of various types of solar cells.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (E): Applied Optics

Lectures: 36

(Credits-02)

1: Fermat's Principle and Matrix Methods in Paraxial Optics: (9L)

- 1.1 Introduction to Fermat's Principle and its Applications.
- 1.2 Laws of Reflection and Refraction from Fermat's Principle.
- 1.3 Ray paths in an Inhomogeneous Medium.
- 1.4 Introduction to Matrix methods in Paraxial Optics.
- 1.5 The matrix method, Unit planes and Nodal planes.
- 1.6 A System of two thin lenses.
- 1.7 Problems.

2: Multiple-Beam Interferometry and Diffraction: (9L)

- 2.1 Introduction to Multiple-Beam Interferometry.
- 2.2 Michelson Interferometer
- 2.3 The Fabry-Perot Etalon.
- 2.4 The Fabry-Perot Interferometer.
- 2.5 Introduction and revision of diffraction.
- 2.6 Two slit and N-Slit Fraunhofer diffraction pattern.
- 2.7 Fresnel half period zones, the zone plate and Fresnel Diffraction.
- 2.8 Problems.

3: Polarization and Holography: (9L)

- 3.1 Introduction and Revision of Polarization.
- 3.2 Malus law, Double refraction,
- 3.3 Phase retarded plate, Quarter wave plate and half wave plate
- 3.4 Optical activity and Polarimeter
- 3.5 Introduction and Theory of Holography.
- 3.6 Importance of coherence and Principle of holography.
- 3.7 Characteristics, recording and reconstruction of Holography
- 3.8 Applications of Holography.
- 3.9 Problems.

4: Fibre Optics: (9L)

- 4.1 Introduction to Fibre Optics.
- 4.2 The Optical Fibre: Principle and Structure.
- 4.3 Fibre Optics: Numerical aperture and Acceptance angle, Pulse dispersion and Calculation of pulse dispersion.
- 4.4 Types of Optical Fibres: Concept of Mode, Multimode and Single mode fibre.
- 4.5 Attenuation in optical fibers, single mode and multimode fibers.
- 4.6 Fibre Optic communication system: Fiber optical telecommunication system.
- 4.7 Advantages of Fibre Optics.
- 4.8 Applications of Fibre Optics.
- 4.9 Problems.

Reference Books:

- (1) Ghatak Ajoy, Optics 3rd Edition, The McGraw Hill companies.
- (2) N. Subrahmanyam, A textbook of Optics, S. Chand publications.
- (3) Optical Fiber and Fiber Optic communication System, S.K Sarkar S. Chand.
- (4) Practical Optics, Naftaly Menn, Academic press (2004)
- (5) M. Born and E. Wolf, Principles of Optics, Cambridge University Press
- (6) F. A. Jenkins, H.E White, Fundamental of Optics, McGraw companies

List of Experiments : (Any 2)

- (1) Determination of the numerical aperture of the given optical fibre.
- (2) Determination of the optical power loss in attenuators.
- (3) Fabry Perot Etalon
- (4) To study the nature of polarization of laser light using photo cell and quarter wave plate.
- (5) To determine the Brewster's angle for glass using a polarized monochromatic light source.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (F): C# Programming

Lectures: 36

(Credits-02)

1: MS.NET Framework Introduction (8L)

• The .NET Framework - an Overview • Framework Components • Framework Versions • Types of Applications which can be developed using MS.NET • MS.NET Base Class Library • MS.NET Namespaces • The Common Language Runtime (CLR), Common Type System (CTS) • Common Language Specification (CLS) . Installing Required Software – SQL Server and Management studio

2: C # Language Syntax (8L)

• Datatypes • Global, Stack and Heap Memory • Common Type System • Reference Type and Value Type • Datatypes and Variables Declaration • Implicit and Explicit Casting • Checked and Unchecked Blocks – Overflow Checks • Casting between other datatypes • Boxing and Unboxing • Enum and Constant • Operators • Control Statements • Working with Arrays • Working with Methods • Pass by value and by reference and out parameters • Writing, testing and execution of program to understand general syntax and functions available in C#.

3: Database Programming Using ADO.NET (8L)

• Prerequisite - Knowledge of SQL Queries • Introduction and Evolution of ADO.NET • Understanding the Role of Managed Provider and ADO.NET Objects • connecting to Database and Connection Pooling • Performing Insert, Update and Delete Operations • Fetching Data from database - Executing Select Statements • How to implement Login facility with database

4: Interactive methods (6L)

Preparing flowchart, algorithm for interactive methods, Bisection Methods, Newton Rapson Method, Numerical integration by Trapezoidal rule, Simpson 1/3rd rule.

5: Hands on training: (6L)

Hands on training to execute numerical problems for interactive methods, Bisection Methods, Newton Rapson Method, Numerical integration by Trapezoidal rule, Simpson 1/3rd rule.

Reference Books:

1. C# 8.0 Pocket Reference: Instant Help for C# 8.0 Programmers
2. Programming in C# by E Balagurusamy
3. Beginning C# Object-Oriented Programming (English, Paperback, Clark Dan)
4. Pro C# 9 with .NET 5: Foundational Principles and Practices in Programming by Troelsen, Andrew, Japikse, Philip

Web References:

1. <https://dotnet.microsoft.com/learn/csharp>
2. <https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/>
3. <https://www.pragimtech.com/courses/c-sharp-tutorial-for-beginners/>
4. https://www.tutorialspoint.com/csharp/csharp_tutorial.pdf

List of Experiments: (Any 2)

1. Write a program that converts 1 lower case letter ("a" - "z") to its corresponding upper case letter ("A" - "Z"). For example if the user enters "c" then the program will show "C" on the screen.
2. Write a program using a switch statement that takes one value from the user and asks about the type of conversion and then performs a conversion depending on the type of conversion. If user enters:
3. Write a program using conditional operators to determine whether a year entered through the keyboard is a leap year or not.
4. Write a program using a for loop that prints the following output (you need to find a pattern to print letters in this order): A B D H P
5. Write a program using a loop that prints the following output.
1 2 2 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 6 . . . nth iteration.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-356 Elective-I (G): Acoustics-I

Lectures: 36

(Credits-02)

1: Fundamentals of Sound:

Velocity of sound in fluids; Acoustic standards and reference conditions; Decibel scales: Intensity level (IL), Sound pressure Level (SPL), Sound Power Level (PWL); Problem-solving; Sound fields: Near, far, reverberant, and free. (6L)

2: Speech, Hearing and Community Noise Criteria:

Voice mechanism, acoustic power output of speech; Mechanism of hearing, thresholds of the ear; Equivalent continuous sound pressure level (L_{Aeq}); Perceived noise level (L_{EPN}); Audiometry (6L)

3: Architectural Acoustics and Audio Rooms:

Reverberation time: Concept and measurement, problem-solving relating to reverberation time; Management of sound absorption: porous absorbers, effect of density, thickness, airspace, acoustic tiles, foam board insulation, carpet absorption; Anechoic chamber; Haas effect and delay; Room modes: concept and room mode calculation; Room acoustics: Sound Transmission Class (STC), high-loss acoustic frame walls, acoustic floor, and ceiling systems (10L)

4: Resonators, Filters and Active Noise Control:

Helmholtz resonator; Acoustic, electrical, and mechanical analogues; Expansion chamber muffler, Active noise control: Noise Cancellation, Pros and cons of headphones, earphones, earbuds (8L)

5: Bioacoustics and Music:

Animal sounds: Bird songs, whale sounds - FFT and Wavelet Analysis (introductory) with examples; Pitch and timbre; Characteristics of musical notes: Vibrato, Tremolo, Portamento; Musical Instruments Digital Interface (MIDI) (6L)

Reference Books:

1. Fundamentals of Acoustics, L.E. Kinsler and A. R. Frey, Wiley Eastern
2. Audio and Video Systems, R. G. Gupta, Tata McGraw Hill, 2010
3. Acoustics, W.W. Seto, Schaum's Outline Series, McGraw Hill, 1970
4. Handbook of Sound Engineers, G.M. Ballou, Academic Press
5. Basic Acoustics, D.E. Hall, Oxford University Press
6. Design for good Acoustics and Noise Control, J. E. Moore, Univ. Press
7. Acoustics of Ducts and Mufflers, M. L. Munjal, John Wiley & sons

List of Experiments (Any two):

1. Transmission loss of an expansion chamber muffler.
2. Reverberation time measurement using a storage oscilloscope.
3. Calculation of room modes for a typical room and verification using an online mode calculator
4. Sound mapping using localized SPL measurement.
5. FFT: Square wave, animal sound recording

T.Y.B.Sc. (Physics) (Sem-V)
PHY-357: Physics Laboratory-3A

Lectures: 36

(Credits-02)

(General Laboratory, Electromagnetism, Atomic and Molecular Physics, and Optics)

(Any Eight)

GROUP-I: GENERAL PHYSICS (any FOUR)

1. Kater's pendulum
2. Moment of Inertia by Bifilar suspension
3. Young's modulus by Koeing method
4. Surface tension of mercury by ripple method
5. Surface tension liquid by Fergusson method
6. Surface tension of mercury by Quincke's method
7. 'Y' by vibration of wooden scale
8. Young's modulus by Newton's rings
9. Determination of wavelength of light by Michelson's interferometer
10. Study of damped oscillations of physical pendulum and finding log decrement

GROUP-II: ELECTROMAGNETISM (any TWO)

1. Study of forced oscillations by electromagnetically driven simple pendulum
2. Self-Inductance by Anderson's bridge
3. Core losses in transformers
4. Electromagnetic pendulum
5. Self-Inductance by Maxwell's bridge

GROUP-III: ATOMIC AND MOLECULAR PHYSICS AND OPTICS (any TWO)

1. Determination of Rydberg's constant
2. Zeeman Effect
3. Llyod's mirror
4. Determination of Resolving Power of grating
5. Determination of wavelength by Constant deviation spectrometer

Additional Activities (Any ONE)

- Demonstrations: Any 2 demonstrations equivalent to 2 experiments
- Study tour with report equivalent to 2 experiments
- Mini project equivalent to 2 experiments
- Computer aided demonstrations (simulations or animations)
(Any 2 demonstrations equivalent to 2 experiments)

*Note: Students have to perform **ten** experiments or **one** additional activities in addition to **eight** experiments mentioned above. Total laboratory work with additional activities should be equivalent to **ten** experiments.*

T.Y.B.Sc. (Physics) (Sem-V)
PHY-358: Physics Laboratory-3B

Lectures: 36

(Credits-02)

GROUP-I: EXPERIMENTS USING CRO/INSTRUMENTATION (any TWO)

1. Charging and discharging of capacitor and RC time constant
2. Measurement of g using simple pendulum
3. Velocity of sound
4. Radiation detection
5. IV Characteristics of diode
6. Measuring a value of a capacitor using CRO.
7. Temperature controller using AD590
8. Study of IC 7490 as mod 2, mod 5, mod 7 and mod 10 counter.

GROUP-II: C-PROGRAMMING (any TWO)

1. Factorial of a number by simple and recursive method.
2. To find out the first 100 prime numbers
3. Matrix multiplication
4. Position time data using kinematic equations
5. Finding pressure using Van-der-Waals' equation of state

GROUP-III: COMPUTATIONAL PHYSICS (NUMERICAL BASED) (any TWO)

1. Roots of an algebraic equation (Bisection)
2. Roots of polynomial (Newton Raphson)
3. Numerical Integration by Trapezoidal rule
4. Numerical Integration by Simpson's 1/3 rule

GROUP-IV: PRACTICAL FROM OPTIONAL COURSE (Any TWO)

Additional Activities (Any ONE)

- Demonstrations: Any 2 demonstrations equivalent to 2 experiments
- Study tour with report equivalent to 2 experiments
- Mini project equivalent to 2 experiments
- Computer aided demonstrations (simulations or animations)
(Any 2 demonstrations equivalent to 2 experiments)

***Note:** Students have to perform **ten** experiments or **one** additional activities in addition to **eight** experiments mentioned above. Total laboratory work with additional activities should be equivalent to **ten** experiments.*

T.Y.B.Sc. (Physics) (Sem-V)
PHY-359: Physics Project-I

Lectures: 36

(Credits-02)

Guidelines:

It is expected that,

1. The student does work equivalent to about ten (10) laboratory experiments throughout the semester in the third year.
2. One bears in mind that the project work is a practical course and it is intended to develop a set of skills pertaining to the laboratory work apart from the cognition of students. Therefore, the guides should not permit projects that involve no contribution on part of student.
3. The project must have a clear and strong link with the principles of basic physics and/or their applications.
4. The theme chosen should be such that it promotes better understanding of physics concepts and brings out the creativity in the students.
5. The evaluation of the project work must give due credit to the amount of the project work actually done by a student, skills shown by the student, understanding of the physics concepts involved and the final presentation at the time of viva voce.
6. It is also recommended that a teacher will look after Four (4) projects at one time.
7. Practical examination will be conducted semester wise.
8. The student can perform an Experimental/Theoretical/Computational Project in Physics or interdisciplinary areas under the supervision of one or more guides.
9. The student can learn the basics of the topic chosen for project, to learn how to do literature survey and set up the basic experimental/theoretical and computational techniques needed for the project.
10. The department encourage to students for projects both in experimental and theoretical areas of Physics in collaboration with other institutes and industry.

The Project work shall consist of the following Criteria.

1. Project work is mandatory for all the T. Y .B. Sc. students.
2. All the T. Y. B. Sc. students will be have to complete the Project work prescribed by the Board of Studies in Physics of Savitribai Phule Pune University during the Vth Semester.
3. The Project work shall consist of the following Criteria.
 - It is expected that students must finalize the Title of Project, Aim and objective, Significance, Literature survey, Materials required, Method and Application etc.
 - Introduction to foundations of Project Work.
 - Introduction of Project Research Methodology.
 - Study of Data Collection Methods.
 - Project Problem Writing and Presentation Skills.

Evaluation weightage:

- Project-I: Semester End University Examination : 35 Marks
- Internal Examination: 15 Marks

Skill Enhancement Courses

Skill Enhancement Courses (SEC)

a) Selection of Skill enhancement courses

There are two skill enhancement courses (SEC) in 5th semester (PHY-3510 and PHY-3511). For 5th semester, there are four options available. The college has to select any one from the given four options. It is advised that college should not offer elective and skill enhancement course of same theme.

b) Teaching Learning process for Skill Enhancement Courses

Skill base courses are intended to explore the applications of physics knowledge. Learning in skill enhancement courses is largely experience based. The skill enhancement courses may be categorized as knowledge skill or technical skill. For knowledge skill courses one can use the conventional method for teaching along with problem solving, assignments seminars etc. For acquiring the technical skill, the students will get adequate 'hands-on' experience. The teachers may use demonstrations and activity-based learning techniques. On field visits, study tour and mini projects will enrich the learning experience of the students.

c) Assessment methods for skill enhancement courses

Continuous evaluation will be the best method for assessment of skill enhancement courses.

One can use tools like assignments, mini projects or activities, problems, etc and grade the students according to their performance. The internal assessment should have 50 % weightage.

The University examination may be conducted for the remaining 50%.

The University examination question paper should have adequate proportion of objective and subjective question.

d) List of Skill Enhancement Courses:

Semester-V th	Semester-V th
PHY-3510	PHY-3511
PHY-3510(H): Python Programming	PHY-3511(L): Physics Workshop Skill
PHY-3510(I): Energy studies	PHY-3511(M): Biomedical Instrumentation
PHY-3510(J): Introduction to Arduino	PHY-3511(N): Non-destructive Testing Techniques
PHY-3510(K): Sensors and Transducer	PHY-3511(O): Acoustics Applications

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3510 SEC (H): Python Programming

Lectures: 36

(Credits-02)

Pre-requisite	: Basic mathematics (XII-Science)
Version of python	: 3.4
Proposed IDE	: Spider, Py Charm or Jupyter

Python Programming:

Python is one of the top ten popular programming languages. Python is a general purpose and high level programming language. You can use Python for developing desktop GUI applications, websites and web applications. Also, Python, as a high level programming language, allows you to focus on core functionality of the application by taking care of common programming tasks. The simple syntax rules of the programming language further makes it easier for you to keep the code base readable and application maintainable. There are also a number of reasons why you should prefer Python to other programming languages.

Advantages of Python Programming

- i.) Readable and Maintainable Code
- ii.) Multiple Programming Paradigms
- iii.) Compatible with Major Platforms and Systems
- iv.) Robust Standard Library
- v.) Many Open Source Frameworks and Tools
- vi.) Simplify Complex Software Development
- vii.) Adopt Test Driven Development

Objectives:

- i.) To build foundation for understanding Python environment to enhance computational skills.
- ii.) Understand variables, input and output functions in python and To Apply computational skill in problem solving approach of Physics
- iii.) Get exposure to arithmetic, assignment, relational, logical and Boolean operators.
- iv.) Be familiar with Python modules and Libraries

Course outcomes:

After completion of this course student will be able

- i.) To write code for complex scientific computational requirement.
- ii.) Use Libraries like NumPy for numeric computation
- iii.) Use Library SciPy for scientific and technological calculations
- iv.) Use Library Matplotlib for plotting of graph and its visualization.
- v.) Develop own functions for Physics or mathematics.

Syllabus

a) Python Programming:

Unit No.	Topic	Lectures
1	Introduction to Python Programming Language: Introduction to Python Language, <ul style="list-style-type: none">• Strengths and Weaknesses,• IDLE, Dynamic Types,• Naming Conventions,• String Values,• String Operations,• String Slices,• String Operators,• Numeric Data Types,• Conversions,• Built In Functions	03
2	Data Collections and Language Component: <ul style="list-style-type: none">• Introduction,• Control Flow and Syntax,• Indenting,• The if Statement,• Relational Operators,• Logical,• Operators,• True or False,• Bit Wise Operators,• The while Loop, break and continue,• The for Loop, Lists,• Tuples,• Sets,• Dictionaries,• Sorting Dictionaries,• Copying Collections.	05
3	Functions and Modules : <ul style="list-style-type: none">• Introduction• Defining Your Own Functions Parameters• Function Keyword and Optional Parameters• Passing Collections to a Function• Variable Number of Arguments Scope• Functions Passing Functions to a Function• Mapping Functions in a Dictionary	05

	<ul style="list-style-type: none"> • Modules • Standard Modules – sys • Standard Modules – math • Standard Modules – time • The dir Function 	
5	Modules and packages in Python : <ul style="list-style-type: none"> • NumPy, SciPy • MathPlot etc 	05

a) **Demonstrations :**

Sr. No.	Practical Demonstration to Communicate Concepts and Application in Physics, Electronics, Statistics and Mathematics
1	Write python program to use basic math and string operations.
2	Write python program to find roots of quadratic equation, prime numbers etc
3	Write python program to store data in list and perform matrix operation
4	Write python program to do numerical methods
5	Write python program involving tuples, dictionaries in problems related to physics or mathematical concepts
6	Write python program to use random number generator as probability density to show expected value is 0.5 to explain quantum mechanical behaviour of particle in one dimensional well.
7	Write python program to use NumPy library for more complex arithmetic operations
8	Write python program to use complex numbers and complex algebra
9	Write python program to use bitwise operation
10	Write python program to plot graphs using matplotlib or similar library

Reference books:

- Python Programming: Using Problem Solving Approach. By Reema Thareja.
- Think Python By Allen Downey
- Problem Solving and Python Programming By Balguruswami McGraw Hill
- Let Us Python By Aditya Kanetkar
- Learning with Python By Allen Downey
- Data Analytics By Bharti Motwani

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3510 SEC (I): Energy Studies

Lectures: 36

(Credits-02)

Course Objectives:

1. Students understand the comparative aspects, advantages and disadvantages of various sources of energy. They understand the facts and myths regarding the energy sources.
2. Students learn the basic principles involved and technologies developed in the uses of solar energy, biomass energy, wind energy, fuel cells.
3. Students understand the challenges and opportunities in conversion of energy from one form to another, generation of electricity and mechanical work using different energy sources.
4. Students get acquainted with challenges and recent trends in energy storage devices and they learn more about super-capacitors and batteries, electrical vehicles. They can imagine about future road maps in the fields of energy conversion and storage technologies.

Course Outcomes:

1. Students become capable of conducting energy audits and give consultancy in that field.
2. Students can design different types of solar heaters for small domestic as well as large scale community level applications.
3. Students acquire skills to implement solar P-V systems at domestic levels as well as for office premises and educational institutions. Students become able to start their own enterprise in net metering.
4. Students get ideas and hence become self-employed in the field of design , production, commissioning and implementation of bio-mass energy sources , bio-gas plants, gasifiers, wind mills, hybrid systems etc.
5. Students can go for research in the fields of super-capacitors, battery technologies, fuel cells and material synthesis for implementation of these technologies.
6. Students become successful entrepreneurs in the energy field.

Students strive to make the regions where they live and work self-sufficient in generating and fulfilling their own energy needs using different energy solutions.

Unit No.	Topic	Lectures
1	An Introduction to Energy Sources: Classification and comparison of energy sources (hydro, thermal, nuclear, solar, wind, biomass, and fossil fuels) considering environmental, safety, economy, production and distribution aspects. Facts and Myths about various sources of energy, thermal, nuclear sources of energy, Hybrid sources. Energy audit. Activity: 1. Energy audit of college campus/public campus/home/building 2. Comparison of energy sources. Visits to energy generation/distribution sites.	6
2	Solar thermal Applications: Sun as a source of energy, Solar Constant, Liquid flat plate collector, construction and working, Concentrating collectors, Solar drying, Solar water heating systems. Activity:	6

	<ol style="list-style-type: none"> 1. Study of solar water heaters 2. Study of large scale solar heaters for industrial/cooking/water heating applications. 3. Study of flat plate, parabolic solar concentrators 	
3	<p>Solar Photovoltaic systems Applications: Photovoltaic principle, Power output and conversion efficiency, Limitation to photovoltaic efficiency, Basic photovoltaic system for power Generation, Application of solar photovoltaic systems, Advantages and disadvantages of Solar PV Systems.–Configurations of Solar Photovoltaic Systems: Off-grid, Grid-Tied and Grid-Storage; Net metering and steps in installation of a rooftop solar PV System design. Activity: <ol style="list-style-type: none"> 1. Efficiency measurement of PV systems using I-V characteristics of Amorphous Si, Mono-crystalline Si, Polycrystalline Si in individual, series and parallel combinations. 2. Effect of intensity of incident light, incident angle and shading on Solar PV Module on Output power. 3. Study of design of solar lanterns, street lights using solar systems 4. Study of Installation and commissioning of roof top solar PV systems 5. Study of net metering systems </p>	8
5	<p>Biomass and wind energy: Bio-mass conversion technologies, Bio-gas generation, Working of biogas plant, Bio-gas from plant wastes, Methods for obtaining energy from biomass, Thermal gasification of biomass, Introduction to wind energy, Classification and description of wind machines, Wind energy, Wind data. Activity <ol style="list-style-type: none"> 1. Visit to bio gas plant 2. Visit to bio diesel plants 3. Study of modified bio mass plants 4. Design and implementation of domestic/small scale biogas plants. 5. Study of different types of gasifiers 6. Study of wind mill / visit to wind mill </p>	8
	<p>Energy storage devices and electrical Vehicles : Recent trends in batteries, super-capacitors, fuel cells. Applications of storage devices: Electrical Vehicles (EV), Converter, Inverter, Controls & Controllers in EV, Future Trends in Electric Cars. Activity <ol style="list-style-type: none"> 1. Preparation and testing of fuel cell on Laboratory scale 2. Preparation and testing of super capacitors on Laboratory scale 3. Preparation and testing of paper batteries and other types of batteries on Laboratory scale. 4. Design and implementation of battery-operated toys using green technology </p>	8

Reference books:

1. Non-conventional Energy sources- G. D. RAI (4th edition), Khanna Publishers, Delhi
2. Solar Energy - S. P. Sukhatme (Second Edition), Tata Mc Graw Hill Ltd., New Delhi.
3. Solar Energy Utilisation - G. D. RAI (5th edition), Khanna Publishers, Delhi.

4. Renewable Energy Technology: A practical guides of beginners, Chetan Singh Solanki, PHI Learning Private-Ltd., New Delhi.
5. Solar Photovoltaics: Fundamentals, Technologies and Applications, Chetan Singh Solanki, PHI Learning Private-Ltd., New Delhi

Note :

1. It is expected that students should undertake at least 1 activity from each unit and total 6 activities amounting to 18 lectures time.
2. Out of the total time allotted to each unit, half the time should be utilized for classroom teaching and remaining half for the activity.
3. Students should be encouraged to study this course by using Case–Study approach.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3510 SEC (J): Introduction to Arduino

Lectures: 36

(Credits-02)

Introduction:

Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino board designs use a variety of microcontrollers. Boards are equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various circuits. It has USB that is used for loading programs. Microcontrollers can be programmed using C / Python programming languages. This course will focus on creative thinking and on hands-on project development using Arduino Boards.

Objectives:

- To create general awareness and interest in Arduino Boards.
- To provide knowledge of different Arduino boards and various sensors and actuators.
- The course enables student to understand the basics of interfacing with Arduino Boards.
- To familiarize students with Arduino as IDE, programming language & platform and to Program basic Arduino examples.
- To provide knowledge of different Smart System applications.
- Develop skills to design and implement various smart system application.

Course Outcomes: After successful completion of this course, student will be able to

- Students will be able to understand and use various Arduino Boards, and its various components, Input / Output Pins, Input / Output Devices.
- Understand general concepts of Programming Arduino Boards.
- Apply the knowledge gain to design applications using Arduino in different domains.
- To analyze and evaluate the performance of various Arduino based devices.
- Learn and understand about any new IDE, compiler, and MCU chip in Arduino compatible boards or similar types.

Instructions: This course consists of two parts

- Part I: Theory and Part II: Practical / Project.
- Out of which 1 Credit is for Theory and 1 credit is for Practical work.
- Part II has two sub parts:
- Part II(A) : Practical / Demonstration & Part II(B) : Project. The A or B parts are optional, students can opt any one for 1 credit

Part I: Theory

Unit	Topics	Lectures
I : Introduction to Microcontrollers	<ul style="list-style-type: none">• Introduction to Embedded Systems, Block Diagram, Single Board Computers (SBC) and System on Chip (SoC), Single Board Microcontroller (SBM), microprocessor vs microcontrollers, Basic system with microcontroller such as Arduino (SBM), Raspberry Pi (SoC) etc.	04

II : Introduction to Arduino and Arduino Programming	<ul style="list-style-type: none"> • Arduino Basics: What is Arduino, Advantages of Arduino, Arduino Types, Arduino Components, Arduino Uno Architecture • Arduino Hardware: Types of Arduino boards, Various components on Arduino Board, Various sensors and actuators: Overview of Sensors working, Analog and Digital Sensors 	06
III : Introduction to Programming for Arduino	<ul style="list-style-type: none"> • Arduino Software: Integrated Simulation Environment (IDE), Setup the IDE, Arduino Libraries, What is Sketch, Writing Arduino Sketches, Serial Monitor, <p>Introduction to programming: Functions, Variables & Basic Structure of Arduino (C++) Code, Basics Programs (Hello Word, Blinking of LED), Loading program through USB and Test performance of the System, Integration of Sensors and Actuators with Arduino</p>	08

Part II (A): Arduino Programming (Practical / Demonstration) : Any 6 [18 L]

Simple Practical using Arduino Uno Board (Software + Hardware): Choose any-3 Practical from group-1 and any-3 practical from group-2. (Total = 6 practical)

Sr No	List of Practical's
Group 1 : Any-3	
1	Demonstration of Arduino Uno Board, Its Various Components, Pins
2	Installation Arduino Software (IDE) on computer, Introduction to Sketch, Loading of Program from computer, Simple programs: Hello Word, Blinking of LED on Arduino board etc.
3	Interfacing external LED (ON & OFF); Fading of LED
4	Analog Read Serial: 1. Read a potentiometer, print its state out to the Arduino Serial Monitor. 2. Read an analog input and prints the voltage to the Serial Monitor.
5	Digital Read Serial: Interfacing a switch, Read a switch, print the state out to the Arduino Serial Monitor.
6	Digital: Interfacing push Button: Use a push button to control an LED or Buzzer
7	Digital : State Change Detection: Count the number of button pushes.
8	Analog In Out Serial: Read an analog input pin, map the result, and then use that data to dim or brighten an LED.
Group 2 : Any 3	
9	Knock: Detect knocks with a piezo element.
10	Interfacing of Ultrasonic Sensor, Detect objects with an ultrasonic range finder.
11	Interfacing of Proximity Sensor

12	Interfacing of Temperature & Humidity Sensor : To interface DHT11 sensor for recording temperature and humidity readings with Arduino.
13	Interfacing LCD display with Arduino
14	Interfacing of Relay Switch and Servo Motor with Arduino
15	Interfacing Bluetooth Module to Arduino
16	Interfacing of Motion (PIR Sensor) or Light Sensor using (LDR & LED) or Gas Sensor (MQ-2) with Arduino

OR

Part II (B): Arduino Programming (Practical / Demonstration)

Project : any-1 Simple Projects Using Arduino Uno Board

[18 L]

Sr No	List of Simple Projects
1	Line Following Robot with Arduino
2	Obstacle Avoiding Robot with Arduino
3	Weather Station using Arduino
4	Home Automation using Arduino
5	Android Based Air quality Monitor
6	Intelligent automatic irrigation system

References:

1. www.arduino.cc
2. <https://www.arduino.cc/en/Tutorial/BuiltInExamples>
3. <https://create.arduino.cc/projecthub>

Course Objectives:

- To make students familiar with the constructions and working principle of different types of sensors and transducers.
- To make students aware about the measuring instruments and the methods of measurement and the use of different transducers.

Course Outcomes: At the end of the course, a student will be able to:

- Use concepts in common methods for converting a physical parameter into an electrical quantity
- Classify and explain with examples of transducers, including those for measurement of temperature, strain, motion, position and light
- Choose proper sensor comparing different standards and guidelines to make sensitive measurements of physical parameters like pressure, flow, acceleration, etc
- Predict correctly the expected performance of various sensors
- Locate different type of sensors used in real life applications and paraphrase their importance
- Set up testing strategies to evaluate performance characteristics of different types of sensors and transducers and develop professional skills in acquiring and applying the knowledge outside the classroom through design of a real-life instrumentation system.

Syllabus:

[18 L]

1) **Mechanical and Electromechanical sensor:**

Definition, principle of sensing & transduction, classification. Resistive (potentiometric type): Forms, material, resolution, accuracy, sensitivity. Strain gauge: Theory, type, materials, design consideration, sensitivity, gauge factor, variation with temperature, adhesive, rosettes. LVDT: Construction, material, output input relationship, I/O curve, discussion.

2) **Capacitive sensors:**

Variable distance-parallel plate type, variable area- parallel plate, serrated plate/teeth type and cylindrical type, variable dielectric constant type, calculation of sensitivity. Stretched diaphragm type: microphone, response characteristics..

3) **Thermal sensors:**

Material expansion type: solid, liquid, gas & vapor Resistance change type: RTD materials, tip sensitive & stem sensitive type. Thermo emf sensor: types, thermoelectric power, general consideration, Junction semiconductor type IC and PTAT type.

4) **Magnetic sensors:** Sensor based on Villari effect for assessment of force, torque, proximity, Wiedemann effect for yoke coil sensors, Thomson effect, Hall effect, and Hall drive, performance characteristics. Radiation sensors: LDR.

Activity: Any-6

[18 L]

Based on chapter I

- 1) Linear displacement measurement using potentiometric sensor.

- 2) Displacement/pressure measurement using strain gauge sensor.
- 3) Linear displacement measurement using LVDT.

Based on chapter II

- 1) Capacitive type transducer measure small displacement/force varying plate area/distance of plate/dielectric constant.
- 2) Displacement/pressure measurement using microphone.
- 3) Liquid pressure measurement using pressure sensor

Based on chapter III

- 1) Measurement of temperature using RTD .
- 2) Measurement of temperature using Thermocouple transducer.
- 3) Silicon diode as temperature sensor

Based on chapter IV

- 1) Magnetic sensor/Hall effect/proximity sensor based measurement magnetic susceptibility magnetisation
- 2) LDR based measurement light intensity etc.

Reference books:

- 1) R Sensor & transducers, D. Patranabis, 2nd edition, PHI
- 2) Instrument transducers, H.K.P. Neubert, Oxford University press.
- 3) Measurement systems: application & design, E.A.Doebelin, Mc Graw Hill
- 4) Sensor & transducers, D. Patranabis, 2nd edition, PHI
- 5) Instrument transducers, H.K.P. Neubert, Oxford University press.
- 6) Measurement systems: application & design, E.A.Doebelin, Mc Graw Hill

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3511 SEC (L): Physics Workshop Skill

Lectures: 36

(Credits-02)

Objectives:

This course is to get exposure with various aspects of instruments and their usage through hands-on mode.

Course outcomes:-

After completion of this course students will able to handle and test various instruments.

Syllabus:

Unit-1. Basic of Measurement:

4L

- Accuracy, precision, sensitivity, resolution, range etc.
- Errors in measurements and loading effects.
- Principle and working of digital meters. Comparison of analog & digital instruments. Characteristics of a digital meter.

Multimeter:

- Block diagram and working of a digital multimeter.
- Principles of measurement of dc voltage and dc current, ac voltage, ac current and resistance.
- Specifications of a multimeter and their significance.

Unit-2. Electronic Voltmeter:

4L

- Principles of voltmeter, Construction (block diagram only).
- Specifications of an electronic Voltmeter and their significance.
- AC Milli Voltmeter: Type of AC Milli Voltmeters
- Block diagram ac Milli Voltmeter,
- Specifications and their significance.

Unit-3. Cathode Ray Oscilloscope:

5L

- Block diagram of basic CRO.
- Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only-no mathematical treatment),
- Brief discussion on screen phosphor, visual persistence & chemical composition.
- Time base operation, synchronization. Front panel controls.
- Specifications of a CRO and their significance.
- Use of CRO for the measurement of voltage (dc and ac frequency, time period.
- Special features of dual trace oscilloscope.
- Introduction to digital oscilloscope, Block diagram and principle and working.

Unit-4. Signal Generators and Analysis Instruments:

2L

- Block diagram, explanation and specifications of low frequency signal generators.
- Pulse generator, and function generator.

- Brief idea for testing, specifications. Distortion factor meter, wave analysis.

Unit-5. Impedance Bridges and Q-Meters:

3L

- Block diagram of bridge.
- Working principles of basic (balancing type) RLC bridge.
- Specifications of RLC bridge. Block diagram & working principles of a Q- Meter.
- Digital LCR bridges.

Activity: (Complete any activity of 18 L)

(18 L)

1. Use of Digital multimeter.(3L)
2. To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance. (3L)
3. To observe the limitations of a multimeter for measuring high frequency voltage and currents. (3L)
4. Measurement of voltage, frequency, time period and phase angle using CRO. (3L)
5. Measurement of rise, fall and delay times using a CRO. (3L)
6. To measure Q of a coil and its dependence on frequency, using a Q- meter. (3L)
7. Measurement of distortion of a RF signal generator using distortion factor meter. (3L)
8. Measurement of R, L and C using a LCR bridge/ universal bridge. (3L)

Reference Books:

- 1) A text book in Electrical Technology - B L Theraja - S Chand and Co.
- 2) Performance and design of AC machines - M G Say ELBS Edn.
- 3) Digital Circuits and systems, Venugopal, 2011, Tata Mc Graw Hill. Logic circuit design, Shimon P. Vingron, 2012, Springer.
- 4) Electronic Devices and circuits, S. Salivahanan & N. S.Kumar, 3, 2012, Tata Mc-Graw Hill
- 5) Electronic circuits: Handbook of design and applications, U.Tietze, Ch.Schenk, 2008, Springer
Electronic Devices, 7/e Thomas L. Floyd, 2008, Pearson India

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3511 SEC (M): Biomedical Instruments

Lectures: 36

(Credits-02)

Objectives

- Introduction to various bio-signals and their origin
- Understanding of electrode theory
- Use of transducers in biomedical instrumentation
- Patient safety while using biomedical instrumentation
- Instruments handling and analysis of the recorded data

Course Outcomes

- Students will acquire basic knowledge of biomedical instrumentation.
- Students can handle and operate different equipment's like ECG, Oxymeter, and Glucometer.
- Students will be able to record the different health parameters using it.
- Student will also able to analyze and interpret the recorded data.

Syllabus:

Unit-I: Physiological transducers

(7L)

- Introduction to physiological transducers
- Classification of Transducer
- Performance characteristic of transducer.
- Displacement, position and motion transducer.
- Pressure transducer for blood pressure measurement
- Transducer for Body temperature measurement
- Biosensors

Unit-II: Bioelectric signals and cardiovascular system:

(7L)

- Basics of signal measuring system
- Basic and essentials of biomedical instrumentation system.
- Heart and Cardiovascular system
- Resting and action potential, propagation of action potential, Passive and active conduction.
- Electro-conduction system of heart
- Blood Pressure measurement
- Heart Sounds, Phonocardiography
- Pulse oximetry

Unit-III: Electrocardiography:

(4L)

- Introduction and Principle
- Interpretation of Electrocardiogram
- Block diagram of electrocardiograph, ECG machine maintenance and trouble shooting
- The ECG leads
- Effect of artifacts on ECG recording

- Types of ECG recorders

Activities: (Any 6: 3 Lecture hours each)

(18L)

1. Study of ECG machine(Voltage gain , chart speed etc) and EEG placement of electrodes
2. ECG recording and analysis (Calculation of heart rate, measurement of peak amplitude and period of waves)
3. Study of analog sphygmomanometer and digital BP monitor – Measurement of SBP, DBP and pulse rate
4. Measurement of pulse parameter using pulse oxymetry /pulse measuring instrument
5. Use of biosensor (sugar level measurement / skin resistance).
6. To study Infrared sensor/ temperature gun and measuring values
7. Study of BMI/ body composition monitor and measurement of physiological parameters (BMI, % Body fat,
8. First aid for heart patient – study and practice
9. Study of Spirometer and practice for increasing lung capacity
10. Visit to established hospital

Reference Books:

1. Biomedical Instrumentation and Measurements (Second edition) - Leslie Cromwell, Fred J. Weibell, Erich A. Pfeiffer Pearson education.
2. Handbook of Biomedical Instrumentation (Second Edition) - R. S. Khandpur (Tata McGraw Hill).
3. Biomedical Instrumentation and Measurement by Carr and Brown-Pearson.
4. Biomedical instruments and measurements (Second edition) - R. Ananda Natarajan Eastern economy edition
5. A textbook of Biomedical engineering edited - R.M. Kenedi, blackie (Glasgow & London)
6. Medical instrumentation: Application and design (Third edition)- John G. Webster, Willey India Education

Required Equipment with Probable cost:

1. Electro Cardiogram- ECG machine- analog- Rs. 30000/-
2. SPO₂ meter- Analog- Rs. 3000/-
3. Fat Meter- Digital- Rs. 4000/-
4. Sphygmomanometer – Digital and analog: Rs. 3000/- each
5. Glucometer- Digital: Rs.2000 each.

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3511 SEC (N): Nondestructive Testing Techniques

Lectures: 36

(Credits-02)

Objective:

- To study and understand the various non-destructive testing (NDT) methods, and their industrial and scientific applications.

Outcomes:

- After completion of this course the students will be able to use NDT methods for defects and characterization of industrial components.

Unit No.	Topics	Lectures
I	Definition and objectives of NDT, introduction to materials testing, purpose of testing and properties of materials, classification of material testing, destructive testing and its examples only, Definition, Characteristics detected, principle, advantages, limitation and applications of various methods like Visual inspection, liquid penetrant testing, magnetic particle testing, thermography testing, eddy current testing, ultrasonic testing, acoustic emission testing, radiography testing,	6
II	What are the discontinuities, Types of discontinuities in materials? Processing the discontinuity, service induced discontinuity, factors for selection of NDT method in different cases of discontinuity, brief description of equipment used in visual testing method, Principles of liquid penetrant method, stages of liquid penetrant process, liquid penetrant process flow chart, chemical and solvent cleaning methods of surface preparation, how to apply and removal of excess penetrant?, application of developer, and observation of defects, penetrant, their types and properties, role of developer, their types, Magnetic particle testing method, procedure of Magnetic particle testing methods, portable magnetization equipment and stationary magnetization equipment, dry and wet particle inspection techniques and stages involved in it and its applications	6
III	Thermography testing, basics of infrared theory, range characteristics, wavelength, frequency, emission, convection, conduction, reflection, transmission, emissivity of infrared, basic principles of thermography testing, elements of infrared detection system, thermography testing active and passive approach, basics of eddy current testing, working principles of eddy current testing, stages in eddy current testing, factors influencing in eddy current testing, Ultrasonic testing and its methods (transmission and pulse echo method), Acoustic emission testing, factors influencing acoustic wave propagation and data acquisition, instrumentation of acoustic emission testing, Radiography testing, principle, various stages in testing, gamma ray radiography testing, SWSI and DWSI techniques in X ray testing, Fluoroscopy testing arrangement and working principle, Computed tomography in NDT	6

Activity: Any-6 demonstration activities from the followings (each activity will be equivalent to 3-hrs)

1. Video demonstration of any two NDT techniques
2. Study of different X ray photograph and MRI scan photographs in medicine
3. Study of NDT by acoustic method
4. Surface visual study of defects of various objects provided
5. Study of surface defects by liquid penetration method
6. Study of surface defects by liquid leak method
7. Study of surface defects by liquid spray method
8. Study of surface defects by using UV light and fluorescent liquid method
9. Visit to any industry and observing NDT method live (equivalent to two demonstrations)
10. Audio visual expert lecture of industrialist who is using NDT method for quality control.

Reference Books:

1. Non- destructive testing of materials, Dr V. Jaykumar, Dr. K. Elangovan, Lakshmi Publications, Tamilnadu, India.
2. Practical non-destructive testings, Baldev Raj, T. Jaykumar, M. Thavasimuthu, Narosa Publications
3. Basics of non-destructive testings, Lari and Kumar, S.K. Kataria& Sons publications
4. Non-destructive testing techniques, Ravi Prakash, New Age International Private Limited
5. Non-destructive test and evaluation of materials, J. Prasad, C.G.K. Nair, McGraw Hill Education

T.Y.B.Sc. (Physics) (Sem-V)
PHY-3511 SEC (O): Acoustics Applications

Lectures: 36

(Credits-02)

Objective:

To study and understand about sound physics, properties and their applications.

Outcomes:

After completion of this course the students will be able to use sound detection and characterization of sounds.

Syllabus:

Unit-1. Environmental Acoustics

(3 L)

- 1.1 Environmental Noise: sonic boom, aircraft flyover, foot-fall noise, slammed door
- 1.2 Weighted sound levels: Sound level meters, A-weighted & C-weighted sound level, Phon, Sone,
- 1.3 Noise rating: Community noise: Highway noise, Aircraft noise
- 1.4 Noise induced hearing loss: Chronic, Trauma.
- 1.5 Mufflers: Automobile, Silencers, Transmission loss,

Unit-2. Sound Reinforcement Systems

(5 L)

- 2.1 Microphones- Types, selection criteria, Professional grade, sensitivity, FM microphones
- 2.2 Loudspeakers- Direct Radiator type, Horn- Folded and Flared horn, Woofer, Squawker, Tweeter, Loudspeaker Cabinets- Enclosed cabinet, Open Cabinet, Bass Reflex Cabinet,
- 2.3 Amplifiers: Public Address systems, Gain and Bandwidth
- 2.4 Headphones- Noise cancellation features
- 2.5 Acoustic Delays
- 2.6 Synthesizers, Graphic equalizers, mixers
- 2.8 Basics of Audio Signal Processing
- 2.9 Monophonic and Stereophonic Systems

Unit-3. Musical Acoustics

(4 L)

- 3.1 Pitch, timbre, rhythm, intensity, loudness, consonance, dissonance, Bass, Treble, Harmonics and Overtones
- 3.2 Standing waves, interference, beats, harmony, melody
- 3.3 Octave: Musical Scales
- 3.4 Types of Musical Instruments: String - violin, guitar, Wind - Brass, Reed instruments, organ, Percussion - Drums, Tabla
- 3.5 MIDI - Musical Instruments Digital Interface
- 3.6 Audio file formats: MP 3 and MP 4 systems

Unit-4. Room Acoustics

(2 L)

- 4.1 Growth and decay of sound in live rooms
- 4.2 Sabine Equation, Reverberation time measurement methods
- 4.3 Room modes, Sound absorption materials
- 4.2 Speech Intelligibility: Articulation Test, Articulation Score

Unit-5. Acoustics in Medicine & Ultrasound

(2 L)

- 5.1 Audiometry and Hearing loss

5.2 Ultrasonography

5.3 Ultrasonic Transducers

5.4 Ultrasonic cleaning, Non Destructive Testing (NDT)

Unit-6. Underwater Acoustics

(2 L)

6.1 Speed of sound in sea water, Transmission loss

6.2 Sonar: Active and Passive Sonar

Activities: Any-6

[18L]

1. Frequency response of loudspeaker
2. Polar characteristics of a microphone
3. Study of Graphic Equalizer
4. Estimation and measurement of reverberation time
5. Expansion chamber mufflers Transmission Loss (TL)
6. Online calculators for Room Modes

Reference Books:

8. Fundamentals of Acoustics, L.E. Kinsler and A. R. Frey, Wiley Eastern
9. Audio and Video Systems, R. G. Gupta, Tata McGraw Hill, 2010
10. Acoustics, W.W. Seto, Schaum's Outline
11. Handbook of Sound Engineers, G.M. Ballou, Academic Press
12. Basic Acoustics, D.E. Hall, Oxford University Press
13. Design for good Acoustics and Noise Control, J.E. Moore, University Press

Semester-VI

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-361: Solid State Physics

Lectures: 36

(Credits-02)

1: The Crystalline Structures

(10 L)

Lattice, Basis, Translational Vectors, Primitive Unit Cell, Symmetry Operations, Different types of lattices: 2D and 3D (Bravais lattices) Miller indices, Inter Planer Distances, SC, BCC and FCC structures, Packing Fraction, Crystal structures NaCl, diamond, CsCl, ZnS, HCP, Concept of Reciprocal Lattice and its properties, Problems

2: X ray Diffraction and Experimental Methods

(9 L)

Bragg's Diffraction, Bragg's Law, Experimental X-ray diffraction Methods: The Laue Method, Bragg's Spectrometer, The Powder Crystal Method, Analysis of cubic structure by Powder Method, Ewald's Construction, Bragg's Diffraction condition in direct and reciprocal lattice, Problems

3: Free Electron and Band Theory of Metals

(9L)

Assumptions of Classical and Sommerfeld Free Electron model, Energy levels and Density of States (One and Three Dimensions), Nearly free electron model, Fermi energy, Fermi level, Hall Effect, Mobility, Hall Angle

Band Theory of Solids: Origin of energy gap, Energy bands in Solids, Distinction between metal, semiconductor and insulator, Problems

4: Magnetism

(8L)

Diamagnetism, Langevin theory of Diamagnetism, Paramagnetism, Langevin theory of Paramagnetism, Ferromagnetism, Antiferromagnetism, Ferromagnetic Domains, Hysteresis, Curie temperature, Neel temperature, **Superconductivity**, Problems

Reference books:

1. Solid State Physics S.O.Pillai, 6th Edition, New Age International (P) Ltd, Publisher, (2010).
2. Solid State Physics – Kakani S.L. and Hemrajani C, 4th Edition, S. Chand Publication (2005).
3. Fundamentals of Solid State Physics – B.S.Saxena, R.C.Gupta and P.N.Saxena, Pragati Prakashan, Meerut , Uttar Pradesh
4. Introduction to Solid State Physics- Charles Kittel, John Wiley and Sons, 7th Edition.
5. Solid State Physics- A.J.Dekker, Macmillan India Ltd, (1998).
6. Solid State Physics- R.K. Puri, V.K. Babbar, S. Chand Publication.
7. Elementary Solid State Physics Principles and Applications, M Ali Omar, Pearson Education, Inc. and Dorling Kindersley Publishing, Inc.(2006)
8. Problems and Solution in Solid State Physics-S.O. Pillai, New Age International (P) Ltd.
9. Solid State Physics, P.K. Palanisamy, Scitech Publications(India) Pvt Ltd, Chennai, 1st Edition (2004)
10. Solid State Physics: Essential Concepts, David W. Snoke, 2nd Edition, Cambridge University Press

1: Origin of Quantum Mechanics (08 L)

1. Historical Background: Black body radiation, photoelectric effects.
2. Matter waves - De Broglie hypothesis. Davisson and Germer experiment.
3. Wave particle duality
4. Concept of wave function, wave packet, phase velocity, group velocity and relation between them
5. Heisenberg's uncertainty principle with Electron diffraction experiment, different forms of uncertainty.
6. Different fields of applications of quantum mechanics
7. Problems

2: The Schrodinger equation (10 L)

1. Physical interpretation of wave function
2. Schrodinger time dependent equation.
3. Schrodinger time independent equation.(Steady state equation).
4. Requirements of wave function.
5. Probability current density, equation of continuity, and its physical significance.
6. An operator in Quantum mechanics, Eigen function and Eigen values.
7. Expectation value, Ehrenfest's theorem (Only statements)
8. Problems

3: Applications of Schrodinger Steady state equation (14 L)

1. Free particle.
2. Step potential.
3. Potential barrier. (Qualitative discussion). Barrier penetration and tunnelling effect.
4. Particle in infinitely deep potential well (one - dimension).
5. Schrodinger's equation in spherical polar co-ordinate system.
6. Rigid rotator (free axis).
7. Problems

4: Operators in Quantum Mechanics (4 L)

1. Hermitian operator.
2. Position, Momentum operator, angular momentum operator, and total energy operator (Hamiltonian).
3. Commutator brackets- Simultaneous Eigen functions.
4. Commutator Algebra
5. Commutator bracket using position, momentum and angular momentum operator
6. Concept of parity according to quantum mechanics, parity operator and its Eigen values.
7. Problems

Reference books:

1. Eisberg, Robert M., and Robert Resnick. *Quantum Physics of Atoms, Molecules, Solids, Nuclei, and Particles*. Wiley, 1985. ISBN: 9780471873730.
2. Liboff, Richard L. *Introductory Quantum Mechanics*. Addison Wesley, 2002. ISBN: 9780805387148.
3. Griffiths, David J. *Introduction to Quantum Mechanics*. Upper Saddle River, Pearson Prentice Hall, 2005. ISBN: 9780131118928
4. Feynman, Richard P., Robert B. Leighton, and Matthew L. Sands. *The Feynman Lectures on Physics*. Addison Wesley, 1989. ISBN: 9780201500646.
5. P M Mathews and K Venkatesan, *A Textbook of Quantum Mechanics*, Tata McGraw Hill publication, ISBN : 9780070146174
6. N. Zettili, *Quantum Mechanics- Concepts and applications*, Wiley publication, ISBN: 978-0-470-02679-3
7. Ajoy Ghatak, S. Lokanathan, *Quantum Mechanics: Theory and Applications*, Springer Publication, ISBN 978-1-4020-2130-5
8. G Aruldas, *Quantum Mechanics*, Phi Learning Private Ltd., ISBN : 97881203363
9. Shankar, Ramamurti. *Principles of Quantum Mechanics*. Springer, 2008. ISBN: 9780306447907.
10. Gupta, Kumar & Sharma, *Quantum Mechanics*, Jai Prakash Nath Publications.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-363: Thermodynamics and Statistical Physics

Lectures: 36

(Credits-02)

1: Transport phenomenon and Maxwell's relations: (9L)

Mean free path, Transport phenomenon, Viscosity, Thermal conductivity and diffusion.

Thermodynamic functions: Internal Energy, Enthalpy, Helmholtz function, Gibb's function,

Derivation of Maxwell Relations, Specific heat and latent heat equations, Joule Thomson effect (Throttling Process), Problems

2: Elementary Concepts of Statistics: (9L)

Probability, distribution functions, Random Walk and Binomial distribution, Simple random walk problem, Calculation of mean values, Probability distribution for large-scale N, Gaussian probability distributions, Problems

3: Statistical Distribution of System of Particles and Ensembles: (12L)

Specification of state of system, Statistical ensembles, Basic Postulates, Probability calculations, Behaviors of density of states, Thermal, Mechanical and general interactions

Micro canonical Ensemble (Isolated System), Canonical ensembles, simple application of canonical ensemble, Molecules in Ideal gas, Calculation of mean values in canonical ensemble.

Problems.

4: Introduction to Quantum Statistics: (6L)

Quantum distribution function, Maxwell-Boltzmann's statistics, Bose-Einstein Statistics, Fermi-Dirac Statistics, Comparison of the distributions. Problems.

Reference books:

- 1) Lokanathan, R.S. Gambhir, Statistical and Thermal physics
- 2) F. Reif, Fundamentals of statistical and thermal physics
- 3) A. Beiser, Perspectives of modern physics
- 4) B.B. Laud, Fundamental of Statistical Mechanics
- 5) R.B. Singh, A primer of Statistical Mechanics
- 6) Gupta, Kumar, Statistical Mechanics

1: Nuclear Structure, Properties and Radioactivity: (12 L)

Basic Concept of Nucleus:

- Composition, charge, size, density of nucleus(Revision)
- Nuclear Angular momentum,
- Nuclear magnetic dipole moment
- Electric quadrupole moment, Parity & symmetry,
- Mass defect and Binding energy, packing fraction,
- Classification of nuclei,
- Stability of nuclei (N Vs Z Curve) and problems.

Radioactivity:

- Radioactivity disintegration (concept of natural and artificial radioactivity, Properties of α , β , γ -rays, Laws of radioactive decay, half-life, mean life, Specific activity and its units (Revision)
- Successive disintegration and equilibriums and radioisotopes.
- Radiocarbon dating
- Application of radioactivity (Agricultural, Medical, Industrial, Archaeological).
- Problems

Ref.(1) Ch.(2,3), Ref.(3) Ch.(3, 6)

2: Particle Accelerator and Radiation Detectors: (06 L)

Particle Accelerators:

- Introduction and Classification
- Linear Accelerator (electron/proton LINAC)
- Cyclic Accelerator (Cyclotron)
- Particle Accelerators In India (Discussion only)

Ref.(1) Ch.(12)

Nuclear Detector:

- Classification of Nuclear Detectors
- Gas filled Detectors (G. M. counter)
- Solid state detectors (scintillation counter)
- Problems:

Ref.(2) Ch.(4), Ref.(3) Ch.(7, 15)

3: Nuclear forces and Nuclear Models: (09 L)

Nuclear Forces:

- Classification of Nuclear Forces
- Meson theory of nuclear forces,
- Properties Of nuclear forces, properties of deuteron system,

- Elementary particles,
- Quarks model for elementary particles
- Shell Model: Assumptions, Evidences, and Spin and Parity limitations.
- Liquid drop model: Assumptions
- Semi-empirical B.E. formula
- Problems:

Ref.(1) Ch.(9, 17, 18), Ref.(3) Ch.(18)

4: Nuclear Reactions and Reactor Theory:

(09 L)

Introduction to Nuclear reactions:

- Nuclear Reaction, Conservation laws (Revision)
- The Q-value equation, Exothermic and Endothermic reaction
- Compound nucleus
- Threshold energy
- Nuclear cross-section
- Nuclear fission , nuclear fusion stellar energy, chain reaction and critical mass,
- Nuclear reactor and its basic components, homogeneous and heterogeneous reactors, power reactor, fast breeders
- Nuclear Reactors In India (Discussion only)
- Problems.

Ref.(1) Ch.(14, 15), Ref.(3) Ch.(11, 13, 14)

Reference books:

1. Dr. S. N. Ghoshal, Nuclear Physics, Revised Edition, S. Chand Publication, 2014
2. D. C. Tayal, Nuclear Physics, Revised Enlarged Edition, Himalaya Publishing House.
3. K.S. Krane, Introductory Nuclear Physics, Wiley, India, 1988
4. B. L. Cohen, Concepts of Nuclear Physics, Tata McGraw Hill
5. I. Kaplan, Nuclear Physics, 2nd Edition, Narosa, New Delhi, 1989
6. S.B. Patel, Nuclear Physics: An Introduction, New Age International, 1991

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-365 (A): Electronics-II

Lectures: 36

(Credits-02)

1: Semiconductor Devices:

(9L)

- a. LED and Photodiode, Optocoupler. (Working Principles) Problems. Ref. 1.
- b. BJT: Transistor amplifier classifications - Class A, B, C and AB (working only), Differential amplifier (transistorized), Problems. Ref. 1.
- c. Field Effect Transistor: JFET (Introduction, classification, principle, working and IV characteristics) MOSFETs (DE-MOSFET and E only MOSFET). Problems. Ref. 1

2: Applications of Semiconductor Devices:

(9L)

- a. Three Pin Regulators: Block diagram of 3-pin IC regulator, study of IC-78XX, 79XX. Dual Power Supply using IC-78XX, 79XX. Ref. 1
- b. Switching Regulators (SMPS): Introduction, Block diagram, Advantages and Disadvantages. Ref. 4
- c. Modulation and Demodulation : Concept of Carrier Wave, Need of Modulation and Demodulation, Methods of Modulation like AM, FM, PM (Concepts Only),
- d. Concept of Modulation Index, Upper and Lower Side Band Frequencies in AM. Problems, Ref.3

3: Integrated Circuits:

(9L)

- a. Integrated Circuits: Introduction, Scale of Integration, Advantages and drawbacks of IC Ref.4
- b. OP-AMP Applications as Integrator, Differentiator, Comparator. Ref. 1
- c. Timer IC-555: Block diagram, Astable, monostable multivibrator (working and design). Problems, Ref. 1

4: Combinational and Sequential Circuits:

(9L)

- a. Combinational Circuits: Introduction to SOP and POS equation. Concept of Standard SOP and POS equation. Concept of K-map and their use in reduction of Boolean expressions, design of half adder, full adder, half subtract, Study of binary to gray and gray to binary code conversion. Problems. Ref. 2
- b. Sequential Circuits: RS flip flop using NAND/NOR, clocked RS, D, JK and T-flip flops. Application of flip flops in Sequential Circuits as Counters and Registers. Asynchronous and Synchronous Counters. (3-bit Counter), Shift Registers and their types of operation -SISO, SIPO, PISO, PIPO (Concepts only). Ref. 2

Reference books:

1. Malvino, Electronic Principles (6th Ed.), Tata McGraw Hill, New Delhi
2. R. P. Jain, Modern Digital Electronics (3rd Ed.), Tata McGraw Hill, New Delhi
3. B. L. Theraja, Basic Electronics - Solid State, S. Chand and Company, New Delhi
4. K. R. Botkar, Integrated Circuits, Khanna Publishers, Delhi

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-365 (B): Advanced Electronics

Lectures: 36

(Credits-02)

(Important Note: This course is designed for the student who has offered Electronics as one of the subjects at S.Y.B.Sc. level)

1: Sensors:

(9L)

Introduction to Sensors: Revision of temperature measurement and Pressure Measurement.

Motion sensors: Types of motions, Accelerometers' principles, Types of accelerometers, applications.

Optical sensors:

Photo detectors, Photo detector characteristics, photoconductive detectors, photo voltaic detectors, Photodiode detectors, photo emissive detectors.

Pyrometry: Thermal radiation, Broadband pyrometers, Narrowband pyrometers.

Optical sources: Conventional light sources, Laser light sources and principles.

Applications: Label inspection, Turbidity, Ranging.

2: Analog Signal Conditioning:

(11L)

Introduction to analog and digital signals: Analog Multiplexer and De-Multiplexer using Ic-4051, Ideal & Practical characteristics of Low Pass, High Pass, band pass and band reject filters. 2nd order active low pass and high pass filter using op-amp. Instrumentation amplifier using 3-OP-AMP, Application of Instrumentation Amplifier as thermocouple signal conditioning. Interpretation of integrator and differentiator as low pass and high pass filters respectively.

3: Digital signal conditioning:

(10L)

Digital Multiplexer and De-Multiplexer using NAND gate, Priority encoder using Ic-74148, Decoders: 2 to 4 decoder and 3 to 8 Decoder.

Signal Converters:

DAC: R-2R ladder type DAC, Binary weighted DAC.

ADC: Single slope ADC, Successive Approximation ADC, Flash ADC.

Data Acquisition System using 3-channels

4: Introduction to Process Control:

(6L)

Block diagram of Process control, Process control using ON-OFF controller, Op-amp and temperature sensor, Process control using Proportional Control Logic, Definition of Process LAG, and Problems.

Reference books:

1. C.D. Johnson, Process Control Instrumentation Technology, Pearson Education, 8th edition.
2. Krishna Kant, Computer Based Industrial Control, Eastern Economic Edition
3. Rangan, Mani, Sharma, Instrument of Device System
4. B. C. Nakra, K. K. Chaudhari, Instrument measurement and analysis

PHY-356: Elective-II

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (P): Medical Electronics

Lectures: 36

(Credits-02)

-
- 1: Introduction:** (9L)
- 1.1 Terminology of medical instrumentation,
 - 1.2 Physiological system of body
 - 1.3 Sources of bioelectric signals,
 - 1.4 Origin of bioelectric signals,
 - 1.5 Analysis of ECG pattern
 - 1.6 Nernst equation
 - 1.7 Various types of bioelectric signals,
 - 1.8 Basic medical instrumentation system,
- Problems
Ref: 1
- 2: Bio potential Electrodes and sensors:** (9L)
- 2.1 Electrode-electrolyte interface,
 - 2.2 Polarizable and non-polarizable electrodes,
 - 2.3 Electrodes for ECG, EEG, EMG,
 - 2.4 Resistive sensor
 - 2.5 Capacitive sensor
 - 2.6 Inductive sensor
 - 2.7 Piezoelectric sensor
 - 2.8 Temperature sensor
- Problems
Ref: 2
- 3: Amplifiers and Signal Processing:** (9L)
- 3.1 Introduction
 - 3.2 Basic amplifier requirements
 - 3.3 The Differential amplifier
 - 3.4 Common mode rejection
 - 3.5 Instrumentation amplifier
 - 3.6 Isolation amplifier
 - 3.7 Patient safety
 - 3.8 Cardiac monitor
- Problems
Ref: 2
- 4: Measurements of Pressure and Volume Flow of Blood:** (9L)
- 4.1 Direct measurements of blood pressure,
 - 4.2 Indirect measurements of BP.
 - 4.3 Heart sounds,

- 4.4 Phonocardiography,
 - 5.4 Ultrasonic blood flow meter
 - 5.5 Laser Doppler blood flow meter
- Ref: 1

Reference books :

1. Handbook of Biomedical Instrumentation, R.S. Khandpur
2. Medical Instrumentation application design, John G Webster, Houghon Mifflin Co.
3. Clinical Biophysics, P. Narayanan
4. Introduction to biomedical equipment technology J. Carr and John M. Brown
5. Introduction to Biomedical Electronics, Joseph DfuBovy, Mc Graw Hill.

List of Experiments: (Any Two)

1. Measurement of BP using Mercury sphygmomanometer and digital BP monitor
2. Study of ECG machine. Gain, chart speed arrangements and positioning electrodes
3. Recording of ECG and its analysis.
4. Absorbance using calorimeter/ Absorption spectra using Spectrophotometer.
5. Pulse oximetry. Measurement of SpO₂
6. Use of thermal scanner/Thermal gun
7. Study of glucometer as a sensor and measurement of BSL

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (Q): Physics of Nanomaterials

Lectures: 36

(Credits-02)

-
- 1: Introduction to nanomaterials:** (10 L)
- Introduction to Nano-sized materials and Structures
 - Significance of Nano-size
 - Properties of Nanomaterials: Mechanical, Electrical, Thermal and Optical properties
 - Classification of nanostructured materials
- 2: Methods for Synthesis of Nanomaterials:** (08 L)
- Bottom-up and Top-down approaches
 - Classification of Synthesis Techniques: Vapour phase and Liquid phase approach.
 - Synthesis Methods: Thermal Evaporation, Sputter deposition, Colloidal method, Sol-gel Method, Chemical Vapour deposition and Electrochemical Deposition.
- 3: Characterization techniques:** (08 L)
- Over view of structural characterization of nanomaterials by XRD
 - Microstructural characterization and elemental analysis of nanomaterials using Scanning electron microscopy (SEM) and Energy Dispersive Spectroscopy (EDS)
 - Structural characterization of nanomaterials using Transmission electron microscopy (TEM)
 - Optical characterization of nanomaterials using UV- visible spectroscopy
- 4: Special nanomaterials:** (04 L)
- Carbon nanotubes, their types and properties
 - Quantum dots and their properties
- 5: Applications:** (06L)
- Nanomaterials for application in Nano-electronics, Cosmetics, Medical, Biosensors Automobiles, Space, Sports, Cloth industry etc.
 - Nanomaterials for environmental pollution monitoring and reduction etc.
 - Nanomaterials for energy generation and storage

Reference books :

1. Nanotechnology: Principles and Practices by Sulbha Kulkarni, Capital Publishing Co. New Delhi.
2. Introduction to nanotechnology, by C. P. Poole Jr. and F. J. Ownes, Willey Publications.
3. Origin and development of nanotechnology by P. K. Sharma, Vista International publishing house.
4. Nanostructure and nanomaterials synthesis, Properties and applications, by G. Cao, Imperials College Press, London.
5. The chemistry of nanomaterials: Synthesis, properties and applications, C. N. R. Rao, A. Muller, A. K. Cheetham (Eds) Wiley VCH Verlag GmbH & Co, Weinheim, 2004.

List of experiments: (Any Two)

1. Synthesis of metallic nanoparticles by wet chemical method.
2. Synthesis of Metal Oxide Nanoparticle using different techniques.
3. Synthesis of silver nanoparticles from silver nitrate by colloidal solution method.
4. Study of optical absorption of nanoparticles.
5. Determination of crystallite size from X-ray diffraction spectra.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (R): Microcontrollers

Lectures: 36

(Credits-02)

1: ARCHITECTURE OF 8051: [10L]

- 1.1 Comparison of Microprocessor and Microcontroller,
- 1.2 Intel 8051 Microcontroller: Block Diagram and Functions of each block, Pinout details, A and B CPU registers, Program status word (PSW) register, Program Counter, Data Pointer, Stack and Stack Pointer.
- 1.3 Memory Organization of 8051, Internal RAM, Register Banks, Special function registers, Internal ROM, I/O Ports and their functions, Oscillator and Clock.

2: 8051 ASSEMBLY LANGUAGE PROGRAMMING: [16L]

- 2.1 Introduction to 8051 Assembly programming, 8051 data types and assembler directives, Different Addressing modes, Concept of Unsigned and Signed numbers.
- 2.2 Instruction Set of 8051 microcontroller: Data Transfer instructions, Arithmetic Instructions, Logic and compare instructions, rotate instructions, Branch (Jump, Call RET) instructions.
- 2.3 Use of Instruction Set in Assembly Language Programming.

3: 8051 INTERRUPTS, TIMERS/COUNTERS AND SERIAL COMMUNICATION: [10L]

- 3.1 Interrupts and their vector structure, IE register, Interrupt priority in the 8051
- 3.2 Timers and Counters: Use of Basic Registers in Programming 8051 timers, Timer/ Counter Operation modes. Problems on Timer clock frequency and its Period.
- 3.3 Basics of Serial Data Communication, Types of Serial Data Communication, Concept of Baud Rate, RS 232 Standards, 8051 connection to RS 232, Functions of SBUF and SCON Registers.

Reference Books:

1. 8051 Microcontroller by Kenneth J. Ayala.
2. 8051 Microcontroller and Embedded Systems using Assembly and C by Mazidi and D Mac Kinlay, 2006 Pearson Education Low Price Edition.
3. 8051 Microcontroller – Hardware, Software and Applications by V Udayashankara, M S Mallikarjunaswamy, McGraw Hill Education (India) Pvt.Ltd, New Delhi.
4. Microprocessor and Microcontroller by R. Theagarajan, Sci Tech Publication, Chennai
5. Programming customizing the 8051 Microcontroller by Myke Predko, Tata McGraw Hill

List of Experiments : (Any Two)

Use Keil / Pinacle software for:

1. Addition of two 16 bit numbers
2. Multiplication of two 8 bit numbers.
3. Write a program to find largest/smallest number of N numbers in given block.
4. Memory block transfer from one location to another.
5. Find one's and two's complement of given number.
6. Subtraction two 8 bit numbers using two's complement method.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (S): Lasers

Lectures: 36

(Credits-02)

-
- 1: Introduction to Lasers:** (8 L)
Brief history of Lasers, Interaction of radiation with matter, Energy levels, Population density, Boltzmann distribution, Stimulated Absorption, Spontaneous Emission and Stimulated Emission, Einstein's Coefficients, Einstein's relations.
Characteristics of Laser: Directionality, Mono-chromaticity, Coherence,
- 2: Laser Action:** (6 L)
Population inversion, Condition for light amplification, Gain coefficient, Active medium, metastable states.
Pumping schemes: three level and four level
- 3: Laser Oscillator:** (6 L)
Optical feedback, round trip gain, critical population inversion, Optical resonator, condition for steady state oscillations, cavity resonance frequencies.
- 4: Laser Output:** (3 L)
Line-shape broadening: Lifetime broadening, Collision broadening
- 5: Types of Lasers:** (7 L)
Solid State Lasers – Ruby Laser, Diode Laser, Gas Lasers – HeNe Laser, CO₂ Laser
- 6: Applications of Lasers:** (6 L)
Industrial: welding, cutting, drilling
Nuclear Science: laser isotope separation, laser fusion,
Medical: eye surgery

Reference books :

1. An introduction to Lasers - Theory and applications, M.N. Avadhanulu, S. Chand and Co. New Delhi
2. Experiments with He-Ne Laser by Sirohi
3. Optical fibre and Laser - Principle and applications, Anuradha De, New Age International Publishers,

List of Experiments: (Any Two)

1. Determination of wavelength of He-Ne Laser by transmission grating
2. Determination of Angle of prism (Pin and drawing paper)
3. Study of Lissajous figures using diode Laser and mirrors
4. Beam divergence of a Diode Laser.
5. Determination of the diameter of a thin wire using a laser.
6. Measurement of wavelength of Laser beam using Michelson Interferometer.
7. To study the interference of light using optical fibers
8. Measurement of the focal length of a given convex lens using a laser.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (T): Astronomy and Astrophysics-II

Lectures: 36

(Credits-02)

1: Astronomical Scales: (10 L)

Measurement of Astronomical Quantities, Astronomical Distances, Stellar Radii, Masses of Stars, Stellar Temperature, Measurement of Time, Sidereal Time, Apparent Solar Time, Mean Solar Time, Equation of Time, Astronomical Coordinate system (only introduction)

2: The Milky Way and Universe: (8 L)

Basic Structure and Properties of the Milky Way, Active Galaxies, Quasars and Radio Galaxies, Hubble's law with equation, its significance, Concept of space time, fate of our universe, Multiverse (only introduction)

3: The Stellar Phenomenon: (10 L)

Basic Composition of Interstellar Medium, Sun: Solar Cycle, Activity, Butterfly diagram, Photospheric phenomenon, Stars as distance estimators, Hydrostatic Equilibrium of a Star, Stellar models (only introduction).

4: Non-optical Astronomy: (8 L)

Basic parameters of an antenna, various types of antennas. UV, IR, X-ray and Gamma ray Telescopes, Detectors for optical and infrared regions. Orbiting space based telescopes: HST, Chandra.

List of Reference Books:

1. Astronomy structure of the Universe, A. E. Roy and D. Clarke, Adam Hilger Pub.
2. Source Book of Space Sciences, Samuel Galsstone; D.Van Nostrand Co. Inc
3. Astrophysics - Stars and Galaxies, K.D. Abhyankar, Tata McGraw Hill Pub.
4. Textbook of Astronomy and Astrophysics with elements of cosmology, V.B. Bhatia, Narosa Pub.
5. Structure of the Universe, J.V. Narlikar
6. Astrophysics, Baidyanath Basu.
7. Astrophysical Techniques, third Edition, C. R. Kitchin
8. Fundamentals of Astronomy, Michael Seed
9. Telescopes and techniques, C. R. Kitchin (Springer)

List of experiments: (Any Two)

1. To determine the temperature of an artificial star.
2. To observe the Fraunhofer lines in sunlight and determine the elements present.
3. To obtain the solar image on the screen and trace out the existing sunspots.
4. To locate and observe the various stars, constellation, planets. (At least 2 observation of each)
5. To polar Align an astronomical telescope.
6. To study the solar limb darkening effect.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (U): Renewable Energy Sources-II

Lectures: 36

(Credits-02)

1: Bioenergy and Biofuels:

(10L)

Bioenergy:

1. Introduction to Bioenergy
2. Basic Routs: Biochemical, Thermochemical, Transesterification
3. Biochemical- Biogas generation/methanation
4. Biogas plant: Floating gas holder and fixed dome type biogas plant, construction and working
5. Factors affecting on bio-digestion (list of factors).
6. Thermochemical: Pyrolysis, Gasification, Carbonization
7. Transesterification:
8. Comparative study of floating gas holder and fixed dome type biogas plant.
9. Working of downdraft gasifier.
10. Various methods to obtain energy from biomass.

Biofuel:

1. Introduction to Biofuels
2. Production of Biofuels (Jatropha and Sugar cane bagasse)

Ref 1: 7.1, 7.2, 7.2.1, 7.2.2, 7.4, 7.5, 7.6, 7.7, 7.8, 7.11, 7.23, 7.24.1

Ref 2: 10.3 (page no 374 to 380)

2: Wind Energy

(08L)

1. Introduction to wind energy.
2. Principles and components of wind energy conversion system.
3. Classification of wind machines: Horizontal axial machine and vertical axial machine.
4. Advantages and disadvantages of wind energy.
5. Wind data

Ref -1: 6.1, 6.2, 6.3, 6.5, 6.7, 6.8

3: Other Energy Sources:

(08L)

1. Introduction to tidal and geothermal energy.
2. Tidal energy: methods of utilization of tidal energy.
3. Advantages and disadvantages of tidal power generation.
4. Geothermal energy: Geothermal sources and energy conversion.
5. Advantages and disadvantages of geothermal energy.
6. Introduction to Thermocell

Ref -1 (9.3), pages from 510-532),

Ref -1 (8), pages from 443, 470-476, 477) Ref -1 (11), pages from 609-657)

4: Energy Management:

(10L)

1. Introduction to Energy Management (Definition, Principles etc)
2. Need of Energy Saving and Management
3. Different strategies of Energy Management
4. Role of Energy Managers and Auditors,

5. Energy Audit Measurements and Instruments, and Preparation of Energy Audit Report (in brief).
6. Case studies of Energy Audit & Management (e.g. Industries & Green Buildings, Boilers, Furnaces, Refrigeration and Air conditioning, Cogeneration, Waste Heat recovery, Electric motors, Pumping systems, Fans and blowers, Cooling Towers, Industrial/Commercial Lighting system, BEE Star rated equipment) any one.

Ref- 4 to 12 - Use any book for reference

Reference books:

1. Non-conventional Energy Sources, G. D. RAI (4th edition), Khanna Publishers, Delhi.
2. Solar Energy, S.P. Sukhatme (second edition), Tata Mc Graw Hill Ltd, New Delhi.
3. Solar Energy Utilisation, G. D. RAI (5th edition), Khanna Publishers, Delhi.
4. Energy Management: W.R.Murphy, G.Mckay (Butterworths).
5. Energy Management Principles: C.B.Smith (Pergamon Press).
6. Efficient Use of Energy: I.G.C.Dryden (Butterworth Scientific)
7. Energy Economics -A.V.Desai (Wiley Eastern)
8. Industrial Energy Conservation: D.A. Reay (Pergammon Press)
9. Energy Management Handbook – W.C. Turner (John Wiley and Sons, A Wiley Inter science publication)
10. Industrial Energy Management and Utilisation –L.C. Witte, P.S. Schmidt, D.R. Brown (Hemisphere Publication, Washington)
11. Hand book of Energy Audit by Sonal Desai (Publisher Tata McGraw Hill.)
12. Energy Management and Conservation Handbook, Frank Kreith and Yogi Goswami, (CRC Press)

List of Experiments: (Any Two)

1. Fuel value of wood/charcoal.
2. Study of sensible heat storage using liquid.
3. Selective and Non-selective coatings – Determination of Selectivity ratio.
4. To do energy audit of home/society/college/industry and prepare a detail audit report.
5. Study and analysis of home Electricity Bill
6. Study of Power consumption of conventional tube light vs LED fitting

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-366 Elective-II (V): Acoustics-II

Lectures: 36

(Credits-02)

1: Microphones:

Carbon, Moving Coil and Condenser microphones: construction, equivalent circuit, expression for sensitivity (no derivation), constant pressure frequency response and sensitivity related problem-solving (6L)

2: Loudspeakers:

Direct radiator loudspeaker: construction, equivalent circuit, expression for efficiency (no derivation), acoustic power radiated; problem-solving relating to efficiency and acoustic power; Woofer, tweeter and squawker; Bass-reflex cabinet; Horn Loudspeakers: types, wave equation, cut-off frequency, folded horns, problem-solving relating to exponential horns and cut-off frequency (8L)

3: Sound systems, Recording and Reproduction:

Amplifier power specifications for auditoria: Power required for various applications, expression for power calculation; problem-solving related to power; Audio file formats: Lossy compressed (MP3, WMA), uncompressed (WAV, AIFF, AU); Dynamic range; Volume compressors, expanders, and limiters; Graphic equalizer; Monophonic and Stereophonic sound reproducing systems; Dolby Noise Reduction, Dolby Atmos (12L)

4: Environmental Acoustics:

Community noise criteria: Highway noise, aircraft flyover noise, sonic boom; Weighted sound levels: A-weighted sound level, C-weighting, Phon, Sone, Noise induced hearing loss: Trauma and chronic Hearing aids (6L)

5: Ultrasound: Ultrasound Transducers, Medical Ultrasound, Ultrasonography, Distance Measurement, NDT (4L)

Reference Books:

1. Fundamentals of Acoustics, L.E. Kinsler and A. R. Frey, Wiley Eastern
2. Audio and Video Systems, R. G. Gupta, Tata McGraw Hill, 2010
3. Acoustics, W.W. Seto, Schaum's Outline Series, McGraw Hill 1970
4. Handbook of Sound Engineers, G.M. Ballou, Academic Press
5. Basic Acoustics, D.E. Hall, Oxford University Press
6. Design for good Acoustics and Noise Control, J.E. Moore, Univ. Press
7. Consumer Electronics, S. P. Bali
8. Modern Electronics, A. B. Gupta, Books and Allied (P) Ltd

List of experiments (Any two):

1. Polar response of a microphone
2. Speaker response of a direct radiator loudspeaker
3. Graphic equalizer
4. Acoustic power of direct radiator loudspeaker using hemispherical array
5. Distance measurement using ultrasound transducer

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-367: Physics Laboratory-4A

Lectures: 36

(Credits-02)

(General Physics, Thermodynamics and Statistical Physics, Nuclear Physics and Quantum Mechanics)

(Any Eight)

GROUP-I: GENERAL PHYSICS (any FOUR)

1. Surface Tension of Mercury by method of Ripples.
2. Viscosity of Liquid by rotating cylinder method.
3. Coefficient of sound absorption
4. 'Y' by Cornu's Method
5. Hall Effect: To measure the Hall coefficient
6. Energy gap of a semiconductor
7. Study of XRD spectrum of any material.
8. Resistivity by Four probe method
9. Platinum resistance thermometer

GROUP-II: THERMODYNAMICS AND STATISTICAL PHYSICS (any TWO)

1. Determination of pressure coefficient of air by constant volume thermometer.
2. Verification of Stefan's fourth power law by bulb filament
3. Thermal conductivity by Forbes Method.
4. Thermal conductivity of rubber tube.
5. Thermal diffusivity of Brass.
6. Thermal and Electrical conductivity of Cu.

GROUP-III: NUCLEAR PHYSICS AND QUANTUM MECHANICS (any TWO)

1. Characteristics of G.M. tube
2. Inverse square law (γ -rays)
3. e/m by Thomson method
4. Determination of Planck's constant
5. Study of Gaussian distribution by G. M. tube.

Additional Activities (Any ONE)

- Demonstrations: Any 2 demonstrations equivalent to 2 experiments
- Study tour with report equivalent to 2 experiments
- Mini project equivalent to 2 experiments
- Computer aided demonstrations (simulations or animations)
(Any 2 demonstrations equivalent to 2 experiments)

*Note: Students have to perform **ten** experiments or **one** additional activities in addition to **eight** experiments mentioned above. Total laboratory work with additional activities should be equivalent to **ten** experiments.*

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-368: Physics Laboratory-4B

Lectures: 36

(Credits-02)

(Electronics (Essential) or Advanced Electronics, acoustics and Lasers, Optional Courses)

(Any Eight)

GROUP-I: ELECTRONICS (ESSENTIAL) (any TWO)

(For the students not offering advance electronics in theory courses)

1. Characteristics of JFET
2. Design and built astable multivibrator using IC 555/IC 741
3. Half adder /Full adder
4. Integrator and differentiator using IC 741
5. IC 723 as regulated power supply

GROUP-I: ADVANCED ELECTRONICS (any TWO)

(For the students offering advance electronics in theory courses)

1. Instrumental amplifier using three op-amps
2. Temperature controller using PT 100 / thermocouple /thermistor temperature sensors
3. Object counter (two digit)
4. Schmitt trigger
5. Study of LVDT

GROUP-II: ACOUSTICS AND LASERS (any FOUR)

1. Frequency response of loudspeaker (twitter, woofer, mid-range)
2. Study of interference by Quinck's method
3. Use of Ultrasonic interferometer to measure velocity of sound in liquids
4. Transmission loss using expansion chamber muffler.
5. Study of diffraction using a transmission/reflection grating (metal ruler)
6. Study of the characteristics of a laser beam.
7. Determination of the diameter of a thin wire using a laser beam.
8. ' μ ' By total internal reflection of light

GROUP-III: PRACTICAL FROM OPTIONAL COURSE (Any-2)

Additional Activities (Any ONE)

- Demonstrations: Any 2 demonstrations equivalent to 2 experiments
- Study tour with report equivalent to 2 experiments
- Mini project equivalent to 2 experiments
- Computer aided demonstrations (simulations or animations)
(Any 2 demonstrations equivalent to 2 experiments)

*Note: Students have to perform **ten** experiments or **one** additional activities in addition to **eight** experiments mentioned above. Total laboratory work with additional activities should be equivalent to **ten** experiments.*

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-369: Physics Project-II

Lectures: 36

(Credits-02)

Guidelines:

It is expected that,

1. The student does work equivalent to about 10 laboratory experiments throughout the semesters in the third year.
2. One bears in mind that the project work is a practical course and it is intended to develop a set of skills pertaining to the laboratory work apart from the cognition of students. Therefore, the guides should not permit projects that involve no contribution on part of student.
3. The project must have a clear and strong link with the principles of basic physics and/or their applications.
4. The theme chosen should be such that it promotes better understanding of physics concepts and brings out the creativity in the students.
5. The evaluation of the project work must give due credit to the amount of the project work actually done by a student, skills shown by the student, understanding of the physics concepts involved and the presentation of the final report at the time of viva voce.
6. The viva voce should be conducted at the time of evaluation of project work at least for twenty minutes per student. Extra care must be taken in the evaluation of projects done in a pair or group. Delegation of the work done by individuals must be sought from the students in such cases.
7. Any ready-made material used in the report (such as downloaded pages from the web) must be clearly referred to and acknowledged.
8. It is also recommended that a teacher will look after 4 projects at one time.
9. Any non-adherence to this norm should attract a penalty by way of deduction in the marks awarded to a student. It is recommended that the College will provide consumables/contingencies for every project, to the tune of Rs. 750 /- each. (*If the students paid extra fee other than laboratory fee then college will provide financial assistance for the Project work.)

The Project work shall consist of the following Criteria.

- 1) Working model (Experimental or Concept based simulation/Demonstration Related to Physics).
- 2) Understanding of the project.
- 3) Experimental Details.
- 4) Data collection and Data Analysis.
- 5) Innovation.
- 6) Outcomes/Result.
- 7) Conclusion.

Note: At the time of project practical examination, the candidate must submit the certified project report by the project in-charge and HOD. A candidate will be allowed to appear for the Project practical examination only if the candidate submits a project completion report duly certified by the project in-charge and Head of the department.

The Project work shall include:

Models based / Demonstrated Applications / Review articles / Simulation on PC on any concept in Physics / Comparative & differentiative study / Improvement in the existing experiment (Design and fabrication concept) / Extension of any regular experiments / Attempt to make experiment open-ended / Thorough survey of existing active components / devices, ICs, methods, means, technologies, generations, applications etc. / any innovative projects using the concept of Physics / Interdisciplinary areas.

Evaluation weightage:

- Semester End University Examination : 35 Marks
- Internal Examination: 15 Marks

Skill Enhancement Courses

Skill Enhancement Courses (SEC)

a) Selection of Skill enhancement courses

There are two skill enhancement courses (SEC) in 6th semester (PHY-3610 and PHY-3611). For 6th semester, there are four options available. The college has to select any one from the given four options. It is advised that college should not offer elective and skill enhancement course of same theme.

b) Teaching Learning process for Skill Enhancement Courses

Skill base courses are intended to explore the applications of physics knowledge. Learning in skill enhancement courses is largely experience based. The skill enhancement courses may be categorized as knowledge skill or technical skill. For knowledge skill courses one can use the conventional method for teaching along with problem solving, assignments seminars etc. For acquiring the technical skill, the students will get adequate 'hands-on' experience. The teachers may use demonstrations and activity-based learning techniques. On field visits, study tour and mini projects will enrich the learning experience of the students.

c) Assessment methods for skill enhancement courses

Continuous evaluation will be the best method for assessment of skill enhancement courses.

One can use tools like assignments, mini projects or activities, problems, etc and grade the students according to their performance. The internal assessment should have 50 % weightage.

The University examination may be conducted for the remaining 50%.

The University examination question paper should have adequate proportion of objective and subjective question.

d) List of Skill Enhancement Courses:

Semester-VI th	Semester-VI th
PHY-3610	PHY-3611
PHY-3610(W): Scientific Data Analysis using Python	PHY-3611(AA): Microcontrollers
PHY-3610(X): Solar PV System: Installation, Repairing and Maintenance	PHY-3611(AB): Instrumentation for Agriculture
PHY-3610(Y): Applications of Internet of things (IOT)	PHY-3611(AC): Radiation Physics
PHY-3610(Z): Calibration Techniques	PHY-3611(AD): Photography

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3610 SEC (W): Scientific Data Analysis using Python

Lectures: 36

(Credits-02)

Pre-requisite	: Basic knowledge of computer programming (Python/c)
Mode of internal Assessment	: A small project analysing scientific data for visualization
Data sets may include	: Pollution Data, Rain data, Astronomical data, any scientific data Related to Physics or science in general
Sources of Data sets	: MERI, Nashik, AIUCAA Pune, NASA or similar 1. Website for competition: https://www.kaggle.com/ 2. Google dataset: https://datasetsearch.research.google.com/ 3. Data for visualization and dataset resources: https://dev.to/aspittel/my-favorite-data-visualization-and-dataset-resources-35kp Other potentially useful searches: 1. https://bigdata-madesimple.com/70-amazing-and-free-data-sources-for-data-visualization/ 2. https://eduinpro.com/blog/data-sets-for-data-visualization-projects-datascience/

Learn how to analyses data using Python. This course will take you from the basics of Python to exploring many different types of data. You will learn how to prepare data for analysis, perform simple statistical analyses, create meaningful data visualizations, predict future trends from data, and more

Student will learn how to:

- Import data sets, access different elements of data frames.
- Understand the functions available in existing Python modules.
- Understand the utility of functions available in NumPy and Pandas library.
- Clean and prepare data for analysis
- Manipulate pandas Data Frame
- Understand awareness with different types of basic charts and functions in matplotlib library
- Get exposure to visualization techniques from seaborn library
- Build data pipelines

Data Analysis with Python is delivered through lecture, hands-on labs, and assignments. It includes following parts:

- Data Analysis libraries: will learn to use Pandas Data Frames, Numpy multi-dimensional arrays, and SciPy libraries to work with a various datasets. We will introduce you to pandas, an open-source library, and we will use it to load, manipulate, analyze, and visualize cool datasets. Then we will introduce you to another open-source library, scikit-learn, and we will use some of its machine learning algorithms to build smart models and make cool predictions.

Outcome of the course

- Know basic notions and definitions in data analysis.
- Know standard methods of data analysis and information retrieval.
- Be able to formulate the problem of knowledge extraction as combinations of data filtration, analysis and exploration methods.
- Be able to translate a real-world problem into mathematical terms.

Syllabus:

Unit No.	Topics	Lectures
I	Data Structures, modules and Importing Datasets Lists: Creating list, accessing list elements, functions for lists, programming with lists Tuples: Creating Tuples, accessing list elements, functions for Tuples, programming with Tuples Dictionary: Creating Dictionary, accessing list elements, functions for Dictionary, programming with Dictionary. In Built modules : Math module, random Module, Array module, string Module etc	6
II	Core libraries in Python NumPy Library for Arrays Pandas Library for Data Processing Basics of data frames, create, adding/ deleting of rows, columns to data frames Import of data, functions of data frames Data Normalization Sets, data extraction using relational, logical operators. Group by functionality, missing values	6
III	Summarizing the Data Frame and visualization Matplotlib Library for visualization: Pie chart, violin plot, scatter plot, histogram, bar chart, area plot. Seaborn Library for Visualization: Box plot, point plot, line plot, count plot, bar plot, strip plot, scatter plot and Regression Plot	6

Activity: Hands on data Analysis and Visualization with Pandas**[18L]**

Note: For Internal assessment students will either do 8 activities related to data analysis and visualization on particular dataset or will carry out small project on analysis or visualization using science (preferably physics) related dataset.

Reference Books:

- Python Programming: Using Problem Solving Approach- Reema Thareja.
- Let us Python - Aditya Kanetkar
- Learning with Python - Allen Downey
- Data Analytics - Bharti Motwani

T.Y.B.Sc. (Physics) (Sem-VI)

PHY-3610 SEC (X): Solar PV System: Installation, Repairing and Maintenance

Lectures: 36

(Credits-02)

Objectives:

1. In this skill oriented course, student will study basics of solar photovoltaic (PV) cells, modules, and system components.
2. Design and sizing of off-grid PV system for homes, apartments as well as commercial offices.
3. Understanding energy conversion from sunlight to electricity, and working with solar conversion equipment.
4. This Course will hands on experience needed to become self-employed.

Outcomes:

1. Learn basics of light conversion in electricity.
2. Hands on training will motivate to use Solar PV system.
3. Become entrepreneur / self-employed.
4. Analyzed of MSEB electricity bill and design and sizing of off-grid PV system
5. Participants will learn about solar PV module and batteries used in solar PV plant.

Syllabus:

Unit-1: Introduction

(6L)

The Sun, Earth, and Renewable Energy, Photovoltaic Effect, Working of Solar cell, Types of Solar cell, PV Modules and Arrays, Module Parameters, Sunshine and Shadow, tracking mechanism, Aligning the Array.

Unit-2: Solar Radiations and Measurement

(6L)

Introduction, Solar Constant, Solar Radiation at the Earth Surface, Need of Solar Radiation Measurement, Instruments For The Measurement of Solar Radiation, Pyrheliometer, Pyranometer, Sunshine Recorder, Sun Meter or Lux Meter

Unit-3: Basics Solar PV Systems

(6L)

Basics types of PV Systems On grid and off grid, DC to AC Conversion, Building-integrated Photovoltaics, Engineering and Architecture, Balancing of PV system. System Components, Batteries, Charge Controllers, Inverters, Hybrid Systems, System Sizing, Applications of off grid PV System.

Activity:

(18L)

1. Estimate the value of the Solar Constant.
2. Study of intensity variation on the performance of PV module.
3. Study of series and parallel combination of the PV modules.
4. Measurement of Solar radiation measurement using Sunmeter and Pyranometer.
5. Analysis of MSEB electricity bill.
6. Energy Farm/PV Plant visit report.

Reference books:

1. Solar Energy, S.P. Sukhatme (second edition), Tata Mc.Graw Hill Ltd, New Delhi.
2. Solar Energy Utilisation, G. D. RAI (5th edition), Khanna Publishers, Delhi.
3. Electricity from Sunlight, An Introduction to Photovoltaics, Paul A. Lynn, John Wiley & Sons, Ltd.
4. Solar Electricity, 2nd edition, T. Markvart, John Wiley & Sons, Ltd.
5. Solar Photovoltaic Basics, White Sean, Taylor & Francis Ltd.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3610 SEC (Y): Applications of Internet of Things (IOT)

Lectures: 36

(Credits-02)

Objectives:

- To introduce the terminology, technology and its applications
- To introduce the concept of M2M (machine to machine) with necessary protocols
- To introduce the C# Language which is used in many IoT devices
- To introduce the Raspberry PI platform, that is widely used in IoT applications
- To introduce the implementation of web based services on IoT devices

Learning Outcomes :

- a) IOT concepts
- b) IOT Standards
- c) Components of IOT System.
- d) Relevance of IOT for the future.
- e) IOT Applications.
- f) IOT for smart cities (Case study Smart city Barcelona)
- g) IOT in Indian Scenario
- h) Challenges in IOT implementation.

This subject does not have the intention of being a comprehensive course about the technologies involved in IOT. The focus will be more on the possibilities offered by the different technologies, and on the creative thinking techniques to find innovative applications of combinations of such technologies in real-life scenarios. Some presentations will also be scheduled in which people from industry will make presentations about selected topics related to the IoT. The Internet of Things (IoT) is a course about the new paradigm of objects interacting with people, with information systems, and with other objects. The course will focus on creative thinking and on hands-on project development. The duration of the course is 30 hours. Will be a mix of 75 minutes session and 2 hours session. Lab will be for 5 hours.

Future Scope:

It is a system of interrelated computing devices, digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. Internet of Things

What Internet of Things can do?

3. Medical Check-up Health Devices Operational Efficiency Medical Report Health Sector
4. Advanced Kitchen Automatic Parking Remote Home Control Security System Smart Home
5. Wi-Fi Connectivity Traffic Control Security System Advanced Parking System Smart City
6. Advanced Power Supply Manufacturing Bill Payment Planning Industrial Automation
7. Let's Take an Example of Internet of Things
 - Renewal Energy Source. ● Automatic wearing suit. ● Next Gen way to fly. ● Speech Recognition. ● Perfect example of AI. ● Advanced GPS.

Syllabus:

Unit-1: Introduction to Internet of Things

[4L]

Definition and Characteristics of IoT, Physical Design of IoT – IoT Protocols, IoT communication models, IoT Communication APIs IoT enabled Technologies – Wireless Sensor Networks, Cloud Computing, Big data analytics, Communication protocols,

Unit-2: IOT Concepts and introduction

[5L]

- i) Technologies that led to evolution of IOT
- ii) IOT and SCADA
- iii) IOT and M2M
- iv) IOT and Big Data
- v) Requirement of international standard (case study)
- vi) IOT standards in practice.
- vii) Operating platforms /systems

Unit-3: IOT Applications.

[4L]

- i) Lighting as a service (case study)
- ii) Intelligent Traffic systems (case study)
- iii) Smart Parking (case study)
- iv) Smart water management (case study)
- vi) IOT in Indian Scenario

Unit-4: Introduction to C#

[5L]

Language features, commands , functions of C#, Data types, data structures, Control of flow, functions, modules, packaging, file handling, data/time operations, classes, Exception handling.

Activity: Case Studies (Any two)

[18 L]

- i) Lighting as a service (case study)
- ii) Intelligent Traffic systems (case study)
- iii) Smart Parking (case study)
- iv) Smart water management (case study)
- v) IoT for smart cities (Case study Smart city Barcelona)

Reference books:

1. Internet of Things – A Hands-on Approach, Arshdeep Bahga and Vijay Madisetti, Universities Press, 2015, ISBN: 9788173719547
2. Getting Started with Raspberry Pi, Matt Richardson & Shawn Wallace, O'Reilly (SPD), 2014, ISBN: 9789350239759
3. The Internet of Things: How Smart TVs, Smart Cars, Smart Homes, and Smart Cities Are Changing the World Paperback – 26 March 2015 by Michael Miller.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3610 SEC (Z): Calibration Techniques

Lectures: 36

(Credits-02)

Objective:

- To make students familiar with the constructions and working principle of different types of Instruments
- To make students aware about the measuring instruments and Calibration of Instrument

Course Outcomes: At the end of the course, a student will be able to:

- Calibrate hydraulic, pneumatic and mechanical measuring and control equipment: setting, adjustment, validation or verification of mechanical, pneumatic, hydraulic, measuring and control instruments using reference standards in accordance with predetermined procedures.
- Calibrate electrical and electronic measuring and control equipment: setting, adjustment, validation or verification of electrical, electronic measuring and control instruments using reference standards in accordance with predetermined procedures.
- Carryout maintenance activities on instrumentation and control panel.

Syllabus:

Unit-1: Principles of Calibration

[4 L]

1. Introduction and Importance of Calibration
2. Traceability in Calibration
3. Calibration Uncertainty
4. Various Calibration Methods
5. Factors Affect Calibration
6. Instrument Classification and Instrument Identification

Unit-2: Pressure Calibration

[6L]

1. Introduction to pressure calibration
2. Pressure unit conversion standards
3. Types of Pressure Gauges
4. Calibration of Pressure Gauges
 - a. Accuracy
 - b. Pressure Media
 - c. Contamination
 - d. Height Difference
 - e. Leak test of Piping
 - f. Adiabatic Effect
 - g. Torque Force
 - h. Calibration Position
 - i. Generating Pressure
 - j. Pressurizing the Gauge
 - k. Reading the Pressure Value
 - l. Number of Calibration Points
 - m. Hysteresis (deviation of calibration points)
 - n. Number of Calibration cycles
5. Instruments required for calibration:
 - a. Pressure comparator
 - b. Master Gauge
6. Pressure Calibration with Example

Unit-3: Calibration of Electronic Instruments

[4L]

1. Identification of Components
2. Equipment required for calibration
3. Procedure of Calibration
 - a. Read operational Specifications
 - b. Sequence of events
 - c. Identification of common Faults
4. Electronic Calibration with Examples (Oscilloscopes, Multimeters, Function Generators, Signal Generators)

Unit-4: Temperature Calibration

[4L]

1. Temperature units and Conversions
2. Temperature Sensors
3. Calibration of temperature sensors
 - a. Handling temperature sensor
 - b. Preparations
 - c. Temperature sources
 - d. Reference Temperature Sensor
 - e. Immersion Depth
 - f. Stabilization
 - g. Temperature sensor handle
 - h. Calibrated temperature range
 - i. Calibration Points
 - j. Adjusting/trimming a temperature sensor
4. Examples:

Activity: Any-6

[18L]

Calibration of a dial thermometer

- 1) RTD calibration check
- 2) Temperature controller loop
- 3) Calibration of pressure Transmitters
- 4) Calibration of pressure switch
- 5) Level calibration Instrument
- 6) Liquid head measurement
- 7) Calibrating a differential pressure level transmitter
- 8) Calibration of top pan balance
- 9) Calibration of digital balance
- 10) Calibration of PH/Conductivity meter
- 11) Calibration of Volt meter
- 12) Calibration of Current meter
- 13) Calibration of Oscilloscopes
- 14) Calibration of Function Generators

Reference Books :

- 1) **Calibration:** A Technician's Guide - Mike Cable
- 2) Measurement and Control Basics -Thomas A. Hughes
- 3) Measurement and Control of Liquid Level - Chun H. Cho
- 4) A Practical Book On Calibration Of Analytical Instruments - Dr S Jain ,
- 5) Calibration Handbook of Measuring Instruments - Alessandro Brunelli

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3611 SEC (AA): Microcontroller

Lectures: 36

(Credits-02)

Objective:

- To make students familiar with the constructions and working principle of microprocessor
- To make students aware about microprocessor

Outcome: After successful completion of this course students are supposed to develop their own applications/ mini/ tiny projects using microcontroller.

Syllabus:

Unit-1. ARCHITECTURE OF 8051:

[05]

Microprocessor and Microcontrollers a short comparison, Overview of the 8051 family, Block diagram of Microcontroller, Functions of each block, Pin details of 8051, A and B CPU registers, Flags and Program status word (PSW), Program Counter (PC) and Data Pointer register (DPTR), Internal RAM, Stack and Stack Pointer, Special function registers, Memory Organization of 8051, Internal ROM, I/O Ports, Oscillator and Clock

Unit-2. 8051 ASSEMBLY LANGUAGE PROGRAMMING:

[05]

Introduction to 8051 Assembly programming, Assembling and running an 8051 program, 8051 data types and directives, Jump, loop, and call instructions, 8051 I/O programming, Addressing modes, arithmetic and logical instructions and programs, Signed number concepts and arithmetic operations, Logic and compare instructions, Rotate instructions, BCD, ASCII, and other application programs.

Unit-3. Timers/ Counters and Interrupt programming:

[04]

Timers of 8051, TMOD and TCON registers, Programming timers 0 and 1 in 8051, counter programming, 8051 interrupts, Interrupt priority in the 8051, and Application programs using interrupts.

Unit-4. INTERFACING TECHNIQUES

[04]

Key/ keyboard (push button) interfacing, interfacing a LCD display, interfacing an ADC and LM35 temperature sensor.

Activity: any-3

[18L]

1. Use of Kiel/ Pinnacle/AVR (Atmel processor family) Studio/IDE (Integrated development environment) or any other suitable IDE.
2. Use of IDE/Software the students are supposed to run basic programs of their own. (Arithmetic, logical, Data manipulation, Data transfer/I-O Port related etc.)
3. Single key / Keyboard Interfacing.
4. ADC/DAC Interfacing.
5. Mini Project (Water level controller, Electronic Thermometer etc.)

Reference Books:

1. 8051 Microcontroller by Kenneth J. Ayala.
2. 8051 Microcontroller and Embedded Systems using Assembly and C - Mazidi, Mazidi and D MacKinlay, 2006 Pearson Education Low Price Edition.
3. Microprocessor and Microcontroller by R.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3611 SEC (AB): Instrumentation for Agriculture

Lectures: 36

(Credits-02)

Objectives:

After completion of this course students can

1. Get knowledge of sensors used in agriculture field
2. Learn continuous and batch process
3. Learn greenhouse automation schemes
4. Learn Instrumentation in Irrigation

Course Outcomes:

After completion of this course student will

1. Able to test soil and water parameters.
2. Able to develop their own juice extract plant.
3. Able to developed their own green house

Syllabus:

Unit-1: Introduction

[02L]

Necessity of instrumentation and control for agriculture, sensor requirement, remote sensing, bio sensors in agriculture.

Unit-2: Soil Properties & Sensing

[04L]

Properties of soil: fundamentals definitions and relationship, index properties of soil, permeability & seepage analysis, shear strength, Mohr's circle of stress, active & passive earth pressures, stability & slopes,

Sensors: introduction to sonic anemometers, hygrometers, fine wire thermocouples, open & close path gas analyzers

Unit-3: Instrumentation in Continuous & Batch process

[04L]

Flow diagram of sugar plant, sensors & instrumentation setup, Flow diagram of fermenter & control (batch process), flow diagram of dairy industry & instrumentation setup for it, Juice extraction control process & instrumentation setup.

Unit-4: Instrumentation in Irrigation

[04L]

Water distribution and management control, Auto drip and sprinkler irrigation system, upstream & downstream control concept, SCADA for DAM parameters & control.

Unit-5: Greenhouse Parameters & Instrumentation

[04L]

Greenhouse effect, Concept and construction of greenhouse, merits & demerits, ventilation, cooling & heating, wind speed, temperature & humidity, soil moisture, rain gauge, carbon dioxide enrichment measurement & control, Leaf area length *evapotranspiration*, temperature, wetness & respiration measurement & data logging, electromagnetic radiations photosynthesis.

Activity : any-6

[18L]

- 1) Measurement of water holding capacity of soil.
- 2) Measurement of soil texture.
- 3) Measurement of moisture contain in soil.
- 4) Micronutrients analysis of soil.
- 5) Measurement of physical properties of soil. (Color, odder, texture etc.)
- 6) Measurement of Chemical properties of soil (pH, chloride, Oxygen, Sulphur etc. contain in soil)
- 7) Measurement of Biological properties of soil (Fungi, Bacteria)
- 8) Air quality measurement.

- 9) Analysis of Residues in fruits.
- 10) Visit to green house.
- 11) Visit to Sugar industry/Juice extract plant/ dairy industry

Reference books:

1. Industrial instrumentation, “Patranabis”, TMH.
2. Instrumentation handbook-process control, “B.G. Liptak”, Chilton.
3. Process control and instrumentation technology, “C.D. Johnson”, PHI
4. Wills B.A., “ Mineral Processing Technology”, 4th Ed., Pergamon Press
5. Principle of Farm Machinery, R.A Kepner, Roy Bainer;: CBS Publication
6. Agricultural Engineering; Radhey Lal: Saroj Publication
7. Environmental Engineering, Peary. II. S. and others

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3611 SEC (AC): Radiation Physics

Lectures: 36

(Credits-02)

Course Objectives:

1. Students should understand the mechanism of interaction of various types of radiations with matter.
2. Students should get acquainted with principles of Measurement radiation levels, design principles and actual implementation of variety of radiation detectors.
3. Students should learn about standards regarding safety levels laid down by National and International agencies, methods adapted to maintain safety standards in various places and methods of shielding.
4. Students should study the applications of radiations in various fields.

Course outcomes:

1. Students can use the knowledge in the applications of Radiation Physics in the fields like radio carbon dating, medical diagnostic tools.
2. Students acquire skill in operating different types of radiation detectors to detect and measure radiation levels in different places.
3. Students can work as advisers in maintenance of radiation safety standards and following of strict protocols at various places like Hospitals, Industry, and Laboratories etc.
4. Students become able to employ their skills to develop applications of radio activity in the fields like agriculture, industry, hospitals etc.

Syllabus:

Unit No.	Title and Contents	Lectures
I	Interaction of Radiation with Matter Interaction of different types of radiation with matter-Ionizing & Nonionizing radiations, excitation, ionization, radioactive losses-Energy loss by collision, range energy relation, Bethe-Bloch formula collision stopping power, radiation stopping power, Straggling.	3
II	Radiation Detectors Characteristic curve of Gas-filled detectors. Ionization chamber, Proportional counter, Gas filled detectors (G. M. counter), Characteristics of organic and inorganic scintillation detectors, Scintillator detector, Semiconductor detector.	3
III	Radiation units and Measurement of radiation exposure Units for radiation exposure- Roentgen, Becquerel, Gray, Sievert, RAD, REM, KERMA. Radiation exposure, Absorbed Dose, Equivalent Dose, Effective Dose, Ambient and directional equivalent dose, Relative biological effective dose, Quality factor, Personal dosimeters, Film badge dosimeters, Thermo luminescent dosimeter.	3
IV	Radiation Sources and Radiation Shielding Natural & Artificial radioactive sources, Alpha, Beta, Gamma Sources, Basic concept of radiation shielding, linear and mass absorption coefficient, stopping power, materials for shielding of gamma and neutron, shielding interaction cross section.	3

V	Radiation Protection: Time, Distance, Shielding, Radiation Protection and Safety rules as per the regulatory guidelines of the Government of India, Safety codes for handling radioactive sources. Monitoring of radiation levels around an open radioactive source, ICRP, NCRP, AERB recommended limit.	3
VI	Radiation Applications: Radioactive pharmaceuticals and labelled compounds. Radioactive nuclei used in diagnostic applications. Applications of gamma-rays in sterilization of medical instruments, medication items and preservation of food.	3

Activity: any-6

[18L]

1. Study the different types of radio isotopes and their applications in medical field.
2. Study use of isotopes in radiocarbon dating.
3. Study of working of G. M. Counter.
4. Study of G. M. Counter characteristics – Dead Time and End point energy.
5. Study of commercially available portable, handy radiation detectors.
6. Survey of various places to measure radiation levels
7. Visit to hospitals and other such locations for measuring radiation exposure.
8. Visit to industrial areas to measure radiation exposure levels
9. Study of various shielding materials and their stopping power.
10. Study of dependence of radiation stopping power of materials on physical properties of materials
11. Study of protocols followed by various units to follow safety measures
12. Visit to food industry using preservation techniques using nuclear radiations.
13. Visit to pharmacy industry producing radioactive compounds.
14. Visit to diagnostic centres which employ radiation sources

Reference books:

1. Nuclear and Radiation Physics in Medicine. Tony Key. World Scientific. 2014
2. Introduction to Radiological Physics and Radiation dosimetry. Frank H. Attix. Wiley. 1986
3. Medical Physics by Glasser O, Vol 1, 2, 3 Year Book Publisher Inc Chicago.
4. Radiation Protection and Health Science. Marilyn E. Noz. World Scientific. 2007.
5. Introduction to Radiation Protection. Grupen C. Springer. 2008.
6. Radiation Physics for Medical Physicists. Podgorsak Ervin B. Springer. 2005.
7. Techniques for Nuclear and Particle Physics experiments. Leo. W. R. Springer. 2005.

T.Y.B.Sc. (Physics) (Sem-VI)
PHY-3611 SEC (AD): Photography

Lectures: 36

(Credits-02)

Objectives:

- To create general awareness and interest in photography process.
- To make students familiar with the Photographic equipment and handling techniques.
- To help students to learn basic photographic and image processing skills.

Course Outcomes: After successful completion of this course, student will be able to

- Understand the basic principle, structure and handling techniques in digital photography.
- Students will be able to develop and apply photographic skills using digital photography tools including digital editing, saving, sizing, and posting of the images
- Student gets proficient at the technical aspect of photographing with a digital camera.
- Students can identify and apply appropriate business practices specific to the self-employed professional photographer

Syllabus:

Unit No.	Topics	Lectures
I	Introduction of Photography: Introduction: History & Development of photography, Principles, functions and structure of camera, Indoor and outdoor lighting techniques; Background selection; Flash and its features. Black & White v/s Digital camera (Limitation & advantages) Types of Camera: Pinhole camera, Box camera, SLR camera, Studio camera, Digital camera.	6
II	Camera Control and Exposure: Camera Controls: Need for camera controls. Apertures, Depth of field and depth of focus. Shutters (Ideal, leaf and focal plane shutter). Shutter speed (slow and fast). Auto focus, Manual focus and Image stabilization Camera lenses & Exposure: Normal, Wide angle, Telephoto and Zoom range, Incident and reflected light, Exposure triangle, Exposure and equivalent exposures, Brief idea of exposure meter (TTL and Flash meter).	6
III	Colour Theory & Digital Camera: Colour Theory: Classification and use of colours in photography, Construction of colour enlarger, Colour Head, sources of light and filters used in a colour enlarger Digital Camera: Types of Digital Camera and its features, Memory Chip card, Creative shots, Settings in the Digital Camera - Handling methods; White balance, Maintenance of camera. Digital camera sensors and its types.	6

Sr No	List of Practical's
1	To study the effect of aperture on depth of field
2	To study and recognize the use of slow and fast shutter speed
3	To study the effect of Exposure for different colour temperatures
4	To identify and determine the focal length of the different types of lenses
5	To study the Image Mixing, Image Cutting and Text Building Effect
6	To study Blurr Effect and Transformation Tools
7	To understand the effect of clip mask, photo filter and stamping Tool
8	To study the effect of natural light, tungsten light and fluorescent light on Photograph.
9	Lighting for still life (Earthen ware, Metal ware, Glass ware, Fruits, Crockery, Jewelry, Flowers, Food etc.)
10	Indoor shooting using three point lighting set up
11	Image processing 1: (Light room techniques 1): Brightness, saturation etc
12	Image processing 2: (Light room techniques 2): Exporting, contact sheet, print
13	Nature photography
14	Wild life photography
15	Night photography
16	Event Photography
17	News photography and preparing a photo story
18	Cover page design for a magazine

Reference books:

1. Basic Photography- M.J. Langford, Focal Press.
2. The basic book of Photography – Fifth edition – by Tom Gri
3. Beginner's guide to photographic lighting: Techniques studio or on Location-Dom Marr
4. Photography its principles & practice: A manual of the photography – Carroll.
5. Photography for the 21st century by Katic Millar
6. Advanced Photography (Vol.-I & Vol.-II) - M.J. Langford, Focal Press.
7. Applied Photographic Optics- Sidney F. Ray; Focal Press
8. The Practical Guide to Photographic Lighting, John Tarrant, Focal Press

SAVITRIBAI PHULE UNIVERSITY OF PUNE

T. Y. B. Sc. Botany Revised Syllabus

Theory Courses New Syllabus to be implemented from June 2015				
Paper	Course	Semester III	Course	Semester IV
I	BO. 331	Cryptogamic Botany	BO.341	Plant Physiology and Biochemistry
II	BO. 332	Cell and Molecular Biology	BO.342	Plant Ecology and Biodiversity
III	BO. 333	Genetics and Evolution	BO.343	Plant Pathology
IV	BO. 334	Spermatophyta and Palaeobotany	BO.344	Medicinal and Economic Botany
V	BO. 335	Horticulture and Floriculture	BO.345	Plant Biotechnology
VI	BO. 336	Computational Botany	BO.346	Plant Breeding and Seed Technology

Practical Based on theory Courses

Practical No	Course	Practicals Based on
Practical I	BO.347	BO.331: Cryptogamic Botany BO. 332: Cell and Molecular Biology BO.341: Plant Physiology & Biochemistry BO.345: Plant Biotechnology
Practical II	BO.348	BO.333: Genetics and Evolution BO.334: Spermatophyta and Palaeobotany BO.342: Plant Ecology and Biodiversity BO.346: Plant Breeding and Seed technology
Practical III	BO.349	BO.335: Horticulture and Floriculture BO.336: Computational Botany BO.343: Plant Pathology BO.344: Medicinal and Economic Botany

**Equivalence of the T.Y.B.Sc. Botany Revised Syllabus
Semester III**

Theory Courses New Syllabus to be implemented from June 2015				
Paper	Course	Semester III (New Syllabus)	Course	Semester III (Old Syllabus)
I	BO. 331	Cryptogamic Botany	BO. 331	Algae, Fungi and Bryophytes
II	BO. 332	Cell and Molecular Biology	BO. 332	Molecular Biology
III	BO. 333	Genetics and Evolution	BO. 333	Angiosperms and Evolution
IV	BO. 334	Spermatophyta and Palaeobotany	BO. 334	Genetics and Plant Breeding
V	BO. 335	Horticulture and Floriculture	BO. 335	Biometry and Computer Applications
VI	BO. 336	Computational Botany	BO. 336	Cell Biology and Seed Technology

Semester IV

Theory Courses New Syllabus to be implemented from June 2015				
Paper	Course	Semester IV (New Syllabus)	Course	Semester IV (Old Syllabus)
I	BO.341	Plant Physiology and Biochemistry	BO.341	Plant Physiology and Biochemistry
II	BO.342	Plant Ecology and Biodiversity	BO.342	Plant Pathology
III	BO.343	Plant Pathology	BO.343	Pteridophytes , Gymnosperms and Palaeobotany
IV	BO.344	Medicinal and Economic Botany	BO.344	Plant Biotechnology
V	BO.345	Plant Biotechnology	BO.345	Botanical Techniques
VI	BO.346	Plant Breeding and Seed Technology	BO.346	Pharmacognosy

Proposed Syllabus from 2015-2016 in Botany
T. Y. B. Sc. Semester III
Paper- I: BO : 331 Cryptogamic Botany
(Algae, Fungi, Bryophytes and Pteridophytes)

1. Introduction: Cryptogams- meaning. Types- Lower Cryptogams and Higher Cryptogams, brief review with examples. **02L.**

Algae: **(11L)**

2. Algae: General characters, economic importance and Classification (Chapman and Chapman, 1973) up to classes. **03L.**

3. Study of life cycle of algae with reference to taxonomic position, occurrence, thallus structure, and reproduction of *Nostoc*, *Chara*, *Sargassum* and *Batrachospermum*.

08 L.

Fungi:

(11L)

4. Fungi: General characters, economic importance and Classification. (Alexopoulos, 1979) up to classes. **03L.**

5. Study of life cycle of fungi with reference to taxonomic position, thallus structure, and reproduction of *Rhizopus*, *Saccharomyces*, *Puccinia* and *Cercospora*. **08**

L.

Bryophytes: **(12L)**

6. Bryophytes: General characters, economic importance and Classification. (G.M. Smith, 1955) up to classes. **03L.**

7. Study of life cycle of Bryophytes with reference to taxonomic position, thallus structure (Morphology and anatomy), reproduction and sporophyte structure of *Marchantia*, *Anthoceros* and *Polytrichum*.

09 L.

Pteridophytes: **(12L)**

8. Pteridophytes: General characters and economic importance and Classification. (K.R. Sporne, 1975) up to classes. **03L**

9. Study of life cycle of Pteridophytes with reference to taxonomic position, Morphology, anatomy, reproduction, gametophytes and sporophyte of *Psilotum*, *Selaginella* and *Marsilea*.

09 L.

(Development of sex organs and sporophyte is not expected.)

Reference Books :

1. Vashistha B. R. et al., Botany for degree students-Algae
2. Das, Datta and Gangulee-College Botany Vol I
3. Sharma, O.P. -Algae
4. Vashishta B.R. et al., Botany for degree students- Fungi
5. Sharma, P.D.-The Fungi
6. Sharma, O.P.-Fungi
7. Chopra G.L. and Yadav D.L. A Text book of Bryophytes.

8. **Parihar, N.S.** An introduction to Embryophyta: Bryophyte-I
9. **Puri Prem.** Bryophytes, Atmaram and Sons. Delhi.
10. **Vashishta B.R.** Botany for degree students Bryophytes- Vol-III
11. **Parihar N.S.** 1991. Bryophyta. Central Book Depot, Allahabad.
12. **Puri P.** 1980. Bryophytes. Atma Ram and Sons, Delhi.
13. **Alexopoulos C.J , Mims C.W. and Blacwel M.I** 1996. Introductory Mycology. John Wiley and Sons Inc.
14. **Kumar H.D.** 1988. Introductory Phycology. Affiliated East-West Press Ltd., New Delhi.
15. **Sporne K.R.** 1991. The Morphology of Pteridophytes. B.I Publishing Pvt. Ltd. Bombay.

Practicals - 06

(Finalize the practicals after discussion in workshop).

1. Study of **Algae** with respect to systematic position thallus structure and reproduction of *Nostoc*, *Chara*, *Sargassum* and *Batrachospermum*.
2. Study of **Fungi** respect to systematic position thallus structure and reproduction of *Rhizopus*, *Saccharomyces* and *Puccinia*.
3. Study of **Bryophytes** with respect to systematic position thallus structure and reproduction of *Marchantia*, *Anthoceros* and *Polytrichum*.
4. Study of **Pteridophytes** with respect to systematic position, sporophyte - morphology and anatomy, reproductive structures of *Psilotum*, *Selaginella* and *Marsilea*.
5. Excursion tour.

Paper II: BO.332: CELL AND MOLECULAR BIOLOGY

Chapter 1 Cell Biology: An Introduction

2L

1. Definition and brief history
2. Units of measurement of cell
3. Prokaryotic and Eukaryotic Cell
4. Cell biology and other Biological Sciences

Chapter 2 Cytoplasmic Matrix

2L

1. Physical nature of cytoplasmic matrix
2. Chemical organisation- organic and inorganic compounds of cytoplasmic matrix

Chapter 3 Plant Cell- Cytoplasmic Constituents

15L

Morphology, Ultrastructure, Chemical composition, Functions of Cell wall, Plasma membrane, Endoplasmic Reticulum, Golgi apparatus, Lysosomes, Microbodies, Mitochondria, Plastids, Vacuoles, Ribosomes

Chapter 4 Plant Cell- Nucleus and Chromosomes

5L

Nucleus- Morphology, Ultrastructure, Nucleoplasm, Nucleolus, Functions

Chromosome- Number, Morphology, Structure, Karyotype and ideogram, Chemical composition, Euchromatin and Heterochromatin, Giant chromosomes

Chapter 5 Molecular Biology

1L

Definition, History, Scope and Importance, Central Dogma of Molecular Biology

Chapter 6 Nature of Genetic Material

5L

Characteristics of genetic material, Physical and Biological evidences to prove DNA as genetic material, Chargoff's Law, Franklin and Wilkion's Work, Watson and Cricks Model of DNA, Forms of DNA- A, B and Z, C-Value Paradox, RNA as genetic material-TMV

Chapter 7 DNA Replication

3L

Introduction and types, Messelson and Stahl's Experiment, Molecular mechanism of DNA replication

Chapter 8 DNA Damage and Repair

2L

Introduction, Causes and types, DNA repair system- Photoreactivation, Dark excision repair,

Chapter 9 Gene Organization

3L

Promoter-structure and function in prokaryotes and eukaryotes, Terminators, Units

of Gene, Enhancers, Split genes, jumping genes

Chapter 10 Transcription

3L

Structure and role of m-RNA, r-RNA, t-RNA, Transcription apparatus, Mechanism of Transcription in Prokaryotes,

Chapter 11 Genetic Code and Translation

4L

Genetic Code- Definition, Concept, Work of Nirenburg and Khorana, Properties of Genetic code, Translation- Definition, Mechanism of translation- Initiation, Elongation and Termination

Chapter 12 Gene Action and Regulation

3L

Relation of Gene and Enzymes- One gene one enzyme hypothesis, regulation of metabolism, Inducible and Repressible enzymes, Gene regulation- in prokaryotes (Lac Operon Model) and eukaryotes (Britten and Davidson's Model)

Practicals:

1. Cytological techniques-preparation of Fixatives, preparation of stains (Aceto-carmine and Aceto-orcein).
2. Study of various stages of mitosis and meiosis
3. Study of Chromosomes Morphology (from colchicines pretreated Onion root tip cells)
4. Maceration technique for study of plant tissues
5. Study of polytene chromosome from Chironomus larvae
6. Plant Genomic DNA extraction from Cauliflower
7. Estimation of Plant DNA by DPA Method
8. Extraction and estimation of RNA by Orcinol Method

References:

1. Cell and Molecular Biology , S. C. Rastogi
2. Cytology, T. S. Verma and V. K. Agarwal

3. Cell Biology, C. B. Pawar
4. Cell and Molecular Biology, P. K. Gupta
5. Fundamentals of Molecular Biology, Veer Bala Rastogi
6. Fundamentals of Molecular Biology, G. K. Pal and Ghaskadabi
7. Cell Biology, Molecular Biology, Genetic, Evolution and Ecology, Verma and Agarwal
8. Cell and Molecular Biology, Robertis and DeRobertis
9. Molecular Cell Biology, 4th Edition, Lodish S. Baltimore
10. Molecular Biology of Gene, Watson J. D.
11. Biochemistry and Molecular Biology of Plants, Buchanan B. B.
12. Molecular and Cell Biology, Wolfe S.L.

Paper III: BO: 333: Genetics and Evolution

- 1. Genetics- Introduction** **1L**
 Definition, Concept of heredity and variations, Branches and Applications of Genetics
- 2. Mendelism** **4L**
 Genetical terminology, Selection of experimental material , Monohybrid cross, Law of dominance, Incomplete dominance, Law of segregation/law of purity of gametes, Dihybrid cross, Law of independent assortment, Back cross and Test cross
- 3. Interactions of genes** **6L**
 Non-epistatic genetic interactions- complementary genes (9:7), Duplicate Genes (15:1), Epistatic genetic interactions- Masking genes (12:3:1), Supplementary genes (Recessive epistasis) (9:3:4), Inhibitory genes(13:3), Lethal genes (2:1)-Concept, Inheritance of coat colour in mice, Inheritance of sickle cell anemia
- 4. Multiple alleles** **2L**
 Definition, Concept, Characters of multiple alleles, Examples of multiple alleles – inheritance of blood group in human, self-incompatibility in **Nicotiana** and eye colour in **Drosophila**
- 5. Linkage and Crossing over** **4L**

Linkage- Definition and Types, Crossing over: Definition and Types, Construction of a linkage map by two point test cross and three point test cross

6. Quantitative and Cytoplasmic Inheritance

4L

Concept of quantitative inheritance, Difference between qualitative and quantitative traits, Inheritance of quantitative trait in Maize (Cob length), Cytoplasmic inheritance – Definition and concept, Chloroplast- Variegation in Four O'clock plants, Mitochondria- Petite mutants in yeast

7. Sex linked inheritance

5L

Concept of Sex chromosomes and autosomes, Inheritance of X- linked genes - eye colour in **Drosophila**, Inheritance of colour blindness in humans, Inheritance of Y- linked genes - Holandric genes in humans, Sex influenced genes – baldness in humans Sex-limited genes - feathering in domestic fowl

8. Euploidy and Aneuploidy

5L

Numerical changes in chromosomes- Euploidy and Aneuploidy, Euploidy- Monoploidy, Origin and production, morphology and uses. Polyploidy -Concept and Characteristics of polyploids, Autopolyploidy- Origin and production, effects of autopolyploidy, uses. Allopolyploidy- Concept, synthesized allopolyploidy (wheat and cotton) Evolutionary significance of polyploidy –Aneuploidy, Monosomy and nullisomy- origin and cytology, Trisomy in **Datura** and humans

9. Chromosomal Abberations

5L

Types of structural changes in chromosomes, Deletion: types, cytology and genetic effects, Duplication: types and cytology, position effect and bar eye phenotype in **Drosophila**, Inversion: types and their cytology, Translocation: types, translocation complexes, Variation in chromosome morphology: Isochromosomes, ring chromosomes and Robertsonian translocation

10. Evolution – Introduction and Theories of Evolution

4L

The concept of organic evolution, Theories of Evolution, Pre-Darwinian period- Theory of Inheritance of acquired characters (Lamarck's), Darwinism- Theory of Natural Selection, Post-Darwinian period- Modern synthetic theory

11. Evidences of Evolution **3L**

Direct evidences and conclusions from fossil records, Indirect evidences, Evidences from Genetics, Evidences from bio-geographical relations

12. Population Genetics and Evolution **5L**

Concept of Mendelian population, Gene pool and its models, Hardy-Weinberg law of gene frequencies, Factors affecting allelic frequency, Genetic polymorphism

Practicals based on Genetics

1. Study of structural heterozygotes (multiple translocations) in **Rhoeo** 1P
2. Induction of tetraploidy in onion root cells and preparation of squash for observation of tetraploid cells 1P
3. Preparation of salivary gland chromosomes in **Chironomous** larvae 1P
4. Estimation of frequency of PTC taste sensitivity, earlobe and rolling tongue in known population 1P
5. Genetic problems on gene mapping using three point test cross data 1P

Paper IV: BO.334: SPERMATOPHYTA AND PALAEOBOTANY)

GYMNOSPERMS: (12L)

1. Introduction, general characters, economic importance and classification according to Chamberlain (1934). **(2L)**
2. Study of life cycle of *Pinus* and *Gnetum* with reference to distribution, morphology, anatomy, reproduction, gametophyte, sporophyte, seed structure and alternation of generations. **(10 L)**
(Developmental stages of sex organs are not expected)

ANGIOSPERMS (24L)

1) Origin of angiosperms: **(3 L)**

Origin with reference to time, place and ancestry-

- 1) Pteridosperms theory 2) Bennettitalean theory 3) Gnetalean theory

2. Classification

Review of artificial, natural and phylogenetic systems (general account), **(4 L)**

Hutchinson systems with reference to outline and assumptions, merits and limitations, Advanced Phylogenetic Group system-III (APG-III).

3) Study of following families according to Bentham and Hooker's System: (14 L)

With reference to systematic position, distinguishing characters, economic importance, general floral formula, floral diagram of following families: Magnoliaceae, Capparidaceae, Rhamnaceae, Leguminosae (Fabaceae), Asteraceae, Acanthaceae, Apocynaceae, Lamiaceae, Nyctaginaceae, Orchidaceae and Cannaceae

4) Plant identification **(3 L)**

Latin diagnosis and recent trends, use of flora, Practicing indented and bracketed keys, Preparation of artificial keys, Plant authentication.

PALAEOBOTANY : (12 L)

1. Geological time scale, Form genera concept. (1L)
2. **Fossil**- Definition, process of fossil formation, types of fossils.-Impression, Compression, Petrification, Pith cast and Coal ball. (3L)
3. **Study of following fossil groups.** (08 L)
 - a) **Psilopsida**- Salient features of order Psilophytales, external and internal morphology of *Rhynia*.
 - b) **Lycopsida**- Salient features of order Lepidodendrales, external and internal morphology of *Lepidodendron*,
 - c) **Sphenopsida**- Salient features of Calamitales, external and internal morphology of *Calamites*
 - d) **Pteridosperms**- External and internal morphology of *Lyginopteris oldhamia*.
 - e) **Pentoxylae**- Salient feature, external and internal morphology of stem [*Pentoxylon*], Leaf [*Nipaniophyllum*].

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1. **Sporne K.R.** 1991. The Morphology of Pteridophytes. B.I Publishing Pvt. Ltd. Bombay.
2. **Stewart W.N. and Rathwell G.W.** 1993. Paleobotany and the Evolution of plants. Cambridge University Press.
3. **Bhatnagar S.P and Moitra Alok** 1996. Gymnosperms. New Age International Pvt. Ltd. Publishers, New Delhi, 470 pp.
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5. **Sporne K.R** 1965. The Morphology of Gymnosperms London, pp. 216.
6. **Bierhorst D.W.** 1971. Morphology of Vascular Plants. New York and London.
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13. **Vashishta P.C., A.R. Sinha, Anil Kumar.** 2006. Gymnosperms. S.Chand.
14. **Vashishta P.C.** 2006. Pteridophytes. S. Chand.
15. **Parihar N.S.** 1996. Biology and Morphology of Pteridophytes. Central Book Depot, Allahabad.
16. **Arnold C.R.-**An Introduction to Palaeobotany
17. **E.H.N.Andrews-**Studies in Palaeobotany (Botany for Degree Students Vol.-V)
18. **Shukla A.C. and Mishra S.P.-** Essentials of Palaeobotany.

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22. **Heywood V.H** 1967. Plant Taxonomy, London.
23. **Lawrence, G.H.M** 1951. Taxonomy of Vascular Plants.
24. **Lawrence G. H. M** 1955. An Introduction to Plant Taxonomy
25. **Rendle A.B.** 1925. The Classification of flowering plants. 2 Vols. London.
26. **Santapau H.** 1953. The Flora of Khandala on the Western Ghats of India.
27. **Singh V. and D.K Jain,** 1981 Taxonomy of Angiosperms. Rastogi Publication, Meerut.
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30. **Pande B.P** 1997. Taxonomy of Angiosperms. S.Chand.
31. **Gurucharan Singh 2005-** Plant systematics
32. **Naik V.N. -** Taxonomy of Angiosperms.
33. **Yadav S.R. and Sardesai M.R.-** Flora of Kolhapur District.
34. **Bhagat R.B., Shimpale V.B. and Deshmukh R.B.** Flora of Baramati
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36. **V. V. Sivarajan, N. K. P. Robson** 1991. Introduction to the Principles of Plant Taxonomy IInd Edi.
37. **Theodore Cooke (1903)-** The flora of The Presidency of Bombay Vol. I, II, III
38. **Chopra G.L.-** Angiosperms
39. **Datta S.C.-** A Hand Book of Systematic Botany
40. **Priti Shukla and Shital Mishra-** An introduction to Taxonomy of angiosperms.
41. **Sharma O.P.** Plant Taxonomy Tata McGraw-Hill Education
42. **Singh, N.P. and S.Karthikeyn** (2000) B.S.I. Calcutta. Flora of Maharashtra State, Dicotyledons. Vol. I and II
43. **Sharma B.D., Karthikeyan. S. and N P. Singh** (1996) B.S.I., Calcutta Flora of Maharashtra State, Monocotyledons -
44. *Botanical Journal of the Linnean Society*, 2009, 161, 105–121.
45. <http://www.mobot.org/MOBOT/research/APweb/>

Practical based Gymnosperm Paper IV: BO.334 (1P)

1. Study of *Pinus* with the help of permanent slides and plant material.
 - i) External morphology, ii) T. S. of stem(Temporary double stained preparation), iii) T. S. of needle(Temporary double stained preparation), iv) Morphology of male cone – T. S. & L. S. Permanent slide, mounting of pollen grains.
 - v) Morphology of female cone – T. S. & L. S. Permanent slide, vi) Mounting of pollen grains.
 - vii) V. S. of mature ovule(Permanent slide)
2. Study of *Gnetum* with the help of permanent slides and plant material.
 - i) External morphology, ii) T. S. of stem

- iii) T. S. of leaf (permanent slide), iv) Morphology of male cone
- vi) Morphology of female cone
- vii) V. S. of mature ovule
- 3. Study of at least any eight families as per theory course (3P)
- 4. Identification of plants with the help of regional/local/suitable flora. (1 P)
- 5. Preparation of an artificial key based on multiple characters/ androecium/gynoecium/ vegetative characters (at least two keys) (1P)
- 6. Study of the following with the help of slides and/ or specimens.
 - i) Impression ii) Compression iii) Petrification iv) Coal ball v) *Rhynia*
 - vii) *Lyginopteris* viii) *Pentoxylon* ix) *Nipaniophyllum* x) *Lepidodendron*

Paper –IV BO.335: HORTICULTURE AND FLORICULTURE

Chapter 1 Horticulture- Introduction 4L

Definition, branches, scope and economic importance of horticultural crops, export and import potential of horticultural crops, Horticultural zones of India and Maharashtra, Global and national scenario of horticulture

Chapter 2 Horticultural Plants 4L

Nutritive value of fruits and vegetables, Classification of horticultural crops, Classification of Vegetables, Fruits, Ornamental plants, Spices and Flowers

Chapter 3 Horticulture- Methods of Plant Propagation 6L

- A. Sexual propagation- importance, seed viability and treatments
- B. Artificial Vegetative Propagation – Importance, Methods- cutting. Layering, grafting and budding.
- C. Physiological and Anatomical basis of rooting
- D. Role of growth regulators in horticulture

Chapter 4 Special Practices in Horticulture 6L

Training and Pruning- objectives, types, systems of trainings
 Fruit crops- Special practices like Bahar treatment, Girdling, Notching, Ringing, Bending, Vegetable crops special practices- Earthing up, Staking, Blanching

Chapter 5 Fruits and Vegetables Production Technology 8L

Introduction, soil and climate requirements, commercial varieties, special practices- harvesting and post harvest management, plant protection methods of following

Fruits- Banana, Mango, Vegetables- Tomato, peas, Beans

Chapter 6 Ornamental Horticulture **5L**

Introduction, Origin and History of Gardens, Famous Indian Gardens, Gardening styles- English garden, Italian Garden, Mughal Garden, Japanese garden, Landscape gardening

Chapter 7 Floriculture **8L**

Introduction, Concept, Definition, Scope and Importance of floriculture, Important floriculture crops and methods of cultivation for cultivation of Aster, Gladiolus, Orchids, Tagetus

Chapter 8 Flower Industry **7L**

A- **Dry Flowers** - Introduction, Indian market of dry flowers, Selection of material, Techniques of drying- Air drying, sun drying, press drying, dessicants, oven and microwave drying methods. Preservation methods, bleaching, dyeing and painting, storage , care of dried flowers, etc.

B- **Cut Flowers** – Introduction, Species and cultivars of Orchids, **Anthuriums** and **Heliconias**, Harvesting - Techniques, mode of harvesting, post harvest handling- conditioning , precooling, pulsing and impregnation, grading, bunching, wrapping packing and cold storage of cut flowers, Indian market of Cut flowers

Practicals

1. Phenology of any two of each: fruit, vegetables and flowering crops
 2. Study of garden tools and implements- Sprayer, Duster, Pruning knife, Sprinkler, Micro-irrigation system,
 3. Study of garden containers and filling of pots and pits and plantation any one plants of each fruit, vegetable and flowering crops
 4. Study of cutting, layering, budding and grafting
 5. Study of technique of training and pruning
 6. Methods of harvesting of cut flowers and their preservation methods
 7. Methods of making dry flowers
- **Visit to any one Nursery unit, Commercial Orchards, fruit market, floriculture Industry and submission of report in Practical Examination**

Reference Books-

1. Horticulture: V. L Sheela, MJP Publications

2. Plant Propagation, Principles and Practices: Hartmann and Koster's
3. Principles of Horticulture and Fruit Growing by Y. N Kunte, M.P Kawathalkar and K.S Yawalkar (Agri- Horticultural Publication House, Nagpur)
4. Arora J. S *Introductory Ornamental Horticulture* Kalyani Publications
5. Bose T. K & Yadav L. P *Commercial Flowers* Naya Prokash
6. Singh B. D *Plant Breeding* Kalyani Publications
7. Chadha K. L & Pareek O. P *Advances in Horticulture* Vol. IV Malhotra Publications
8. Sudheer K. P and Indira V *Post Harvest Technology of Horticultural Crops* New Delhi Publications
9. Adams C. R. Principles of Horticulture, 4th Edt. Elsevier Publication, 2004

PAPER V: BO 336 - COMPUTATIONAL BOTANY

13. Introduction to Biostatistics 3L

- a. Definition
- b. Statistical terms : Population, sample, primary and secondary data, qualitative and quantitative data, parameter and statistics, attributes, variables, discrete and continuous variables, statistical error, linear and non-linear functions of statistics, frequency, and its distribution
- c. Scope, applications and uses of biostatistics

14. Sample and sampling 4L

- a. Definition
- b. Sampling unit, sample and population
- c. Types of sampling
 - i. Random sampling – with replicates, without replicates, systematic sampling, stratified sampling
 - ii. Non-random sampling- Purpose, quota sampling
- d. Need of randomness
- e. Achieving randomness
 - i. Lottery methods
 - ii. Use of random number table
- f. Merits and limitations of sampling

15. Collection and representation of data 5L

- a. Classification of data
 - i. Meaning and need of classification
 - ii. Objectives of classification

- iii. Classification according to class interval
- iv. Overlapping and non-overlapping frequency table
- b. Methods of representation of statistical data
 - i. Essential features of tabular presentation
 - ii. Advantages of tabular presentation
 - iii. Graphic representation of data and its advantages
 - iv. Types of graphic representation
 - 1. Histogram
 - 2. Frequency polygon
 - 3. Frequency curve
 - 4. Scatter or dot diagram
 - v. Merits and limitations of graphic representation
 - vi. Diagrammatic representation of data
 - 1. Line diagram
 - 2. Bar diagram
 - 3. Pie diagram

16. Measures of central tendency of grouped and ungrouped data **4L**

- a. Simple arithmetic mean, its merits and limitations
- b. Averages of position: Median and mode, their merits and limitations

17. Measures of dispersion **4L**

- a. Meaning of dispersion
 - i. Range: Computation in individual, discrete and continuous series, coefficient of range, merits and limitations
 - ii. Mean deviation and standard deviation: computation for grouped and ungrouped data, merits and limitation
 - iii. Variance: Definition, coefficient of variance

18. Correlation and regression **4L**

- a. Definition and types of correlation
- b. Coefficient of correlation and its properties
- c. Methods of studying correlation: Scatter diagram and Karl Pearson's coefficient of correlation
- d. Coefficient of determination (r^2)
- e. Regression analysis
 - i. Definition and types of regression
 - ii. Linear regression

19. Probability and types of theoretical probability distribution **4L**

- a. Concept of probability
- b. Binomial distribution
- c. Poisson distribution
- d. Normal distribution
 - i. Normal distribution curve
 - ii. Relationship between normal curve area and standard deviation
 - iii. Properties of normal distribution curve

20. Tests of significance of mean 4L

- a. Introduction
- b. Statistic and its standard error
- c. Meaning of statistical hypothesis, level of significance, null hypothesis and alternative hypothesis
- d. Student's 't' test: unpaired and paired test
- e. χ^2 test as a test of goodness of fit and its significance

21. Computation of seed testing and plant growth indices 10L

- a. Seed germination and early seedling growth.
 - i. Germination percentage
 - ii. Mean germination time (MGT)
 - iii. Germination index (GI)
 - iv. Germination speed (GS)
 - v. Vigor index (VI)
- b. Seed germination and early seedling growth under stress
 - i. Promptness index (PI)
 - ii. Germination stress tolerance index (GSI),
 - iii. Plant height stress tolerance index (PHSI)
 - iv. Root length stress tolerance index (RLSI)
 - v. Dry matter stress tolerance index (DMSI)
- c. Plant growth indices
 - i. Absolute Growth Rate (AGR)
 - ii. Crop Growth Rate (CGR)
 - iii. Relative Growth Rate (RGR)
 - iv. Leaf Area Index (LAI)

10. Analysis of data on vegetation studies 6L

- a. Data obtained from quadrates and transects methods
 - i. Frequency
 - ii. Percent frequency
 - iii. Relative frequency

- iv. Density
 - v. Relative density
 - vi. Abundance
 - vii. Dominance
- b. Computation of crop/vegetation biomass using satellite data
- i. Simple Ratio (SR) or Ratio Vegetation Index (RVI)
 - ii. Difference Vegetation Index (DVI),
 - iii. Normalised Difference Vegetation index (NDVI) or greenness index

NOTE – For Biostatistics, emphasis be given on methodology and numerical problem solving rather than derivations and proofs.

Practicals

1. Computation of mean, mode, median, variance and standard deviation from the given data 1P
2. Representation of data by various graphical methods 1P
3. Statistical problem solving based on Student's 't' test and χ^2 test 2P
4. Statistical problem solving based on data for correlation and regression 2P
5. Germination of various seed lots and analysis of data with various seed germination indices 1P
6. Analysis of vegetation data obtained from list count quadrat method for frequency, density, abundance, relative dominance and importance value index. 1P
7. Analysis of satellite data collected on biomass for RVI, DVI, NDVI, TNDVI, and PVI. 1P

OR

Projects (Equivalent to 6 practicals)

1. Study effect of agrochemicals/ mutagens/ plant extracts/ fertilizers/etc/ on seed germination and early seedling growth, analyze data statistically. **OR**
2. Study varietal variation to abiotic stress based on seed germination and early seedling growth analyze data statistically. **OR**
3. Study vegetation by list count quadrat / line/belt transect method and analyze data statistically. **OR**
4. Collect satellite data on vegetation/biomass and compute RVI, DVI, NDVI, TNDVI, and PVI.

References:

1. Introduction to biostatistics, Pranab Kumar Banerjee.
2. Fundamentals of biostatistics, Khan and Khanum
3. Methods in Biostatistics for medical students and research workers, B K Mahajan

4. ABC of Research Methodology and Applied Biostatistics, M N Parikh and Nithya Gogtay
5. Biostatistics in brief, K Viswesara Rao
6. Introduction to Biometry, S G Purohit, V D Ranade and A V Dusane
7. Biostatistics-Basic Concepts and Methodology for the Health Sciences, Wayne W Daniel
8. Basic statistics, B L Agarwal
9. Biostatistics – Principle and Practice, B Antonisamy, Soloman Chrostopher and P Prasanna Samuel
10. Introduction to biostatistics and research methods, PSS Sundar Rao and J Richards
11. Drought stress in peanut, Lambert Publication , Laware And Shinde

SEMESTER IV

Paper I: BO. 341: PLANT PHYSIOLOGY AND BIOCHEMISTRY

Plant Physiology

- 1) **Photosynthesis:** Structure of a chloroplast, photosynthetic pigments and their role, Photosystems, Light reaction, electron transport chain, Cyclic and Non-cyclic photophosphorylation, Path of carbon in photosynthesis - Calvin cycle, HSK pathway: Salient features of C4 plants, metabolic pathway, CAM pathway, Photo-respiration, Significance of photosynthesis. **(10)**
- 2) **Respiration:** Structure of a mitochondrion, Respiratory substrates, Types of respiration, Mechanism of aerobic respiration – Glycolysis, TCA cycle. Electron transport system, Chemi-osmotic hypothesis of ATP synthesis, Balance sheet of ATP generation in respiration. Significance of respiration. **(7)**
- 3) **Translocation of organic solutes:** Definition, Path of translocation, Evidences for phloem transport, Mechanism of translocation – Pressure flow theory, Diffusion, Source to sink relationship, Phloem loading and unloading. **(4)**
- 4) **Stress Physiology :** Concept of abiotic , biotic and xenobiotic stresses. Types of stresses – Salinity, drought. Effect of stresses on the plant growth. **(3)**

Biochemistry

- 1) **Carbohydrates:** Definition and classification Properties and functions of carbohydrates. Synthesis and breakdown of starch. (4)
- 2) **Amino acids and proteins:** Definition, synthesis and properties of amino acids. Role of amino acids. Classification of proteins on the basis of structure, properties and functions of proteins. (5)
- 3) **Lipids:** Definition , classification, properties and functions of lipids. Synthesis of lipids, β -oxidation. (4)
- 4) **Enzymology:** Definition and nature of enzymes, active site, Classification (IUB) and properties of enzymes, Co-enzymes. Mechanism of enzyme action- Lock and key hypothesis, Induced fit theory. Factors affecting enzyme activity – pH, temperature, substrate concentration, enzyme concentration. Enzyme inhibitors – Competitive, uncompetitive, non-competitive. (6)
- 5) **Secondary Metabolites:** Definition, Types, Metabolic pool and biosynthesis of secondary metabolites through – malonic, mevalonic and shikimic acid pathways. Role of secondary metabolites. (5)

References: -

S. N. Pandey and B. K. Sinha (2014). Plant Physiology, Vikas Publishing House Pvt. Ltd., India.

Buchanan B.B, Gruissem W. and Jones R.L (2000). Biochemistry and Molecular Biology of Plants. American Society of Plant Physiologists Maryland, USA.

Salisbury F.B and Ross C.W (1992). Plant physiology (Fourth Edition) Wadsworth Publishing Company, California,USA.

William G. Hopkins (1995) Introduction to Plant Physiology, Published by – John Wiley and Sons, Inc.

Lincoln Taiz and Eduardo Zeiger (2003). Plant Physiology (3rd edition), Published by – Panima Publishing Corporation

R. G. S. Bidwell (revised edn.)-Plant Physiology

Verma S.K. and Verma Mohit (2007). A.T.B of Plant Physiology, Biochemistry

and Biotechnology, S.Chand Publications.

Leninger A.C (1987). Principles of Biochemistry, CBS Publishers and Distributors (Indian Reprint)

Dennis D.T., Turpin, D.H. Lefebvre D.D. and Layzell D.B. (eds) 1997. Plant Metabolism (Second Edition) Longman, Essex, England.

Galstone A.W. 1989. Life processes in Plants. Scientific American Library, Springer Verlag, New York, USA..

Moore T.C. 1989. Biochemistry and Physiology of Plant Hormones Springer – Verlag, New York, USA.

Singhal G.S., Renger G., Sopory, S.K. Irrgang K.D and Govindjee 1999. Concept in Photobiology; Photosynthesis and Photomorphogenesis. Narosa Publishing House, New Delhi

Taiz L. and Zeiger E. 1998. Plant Physiology (Second Edition). Sinauer Associates, Inc. Publishes, Massachusetts, USA.

Verma S.K. and Mohit Verma 2007. A.T.B of Plant Physiology, Biochemistry and Biotechnology, S.Chand Publications.

Practicals based on Paper I: BO. 341: Plant Physiology and Biochemistry:-

1. Estimation of chlorophyll-a and chlorophyll-b by spectrometric or colorimetric method.
2. Separation of photosynthetic pigments by TLC/Paper chromatography.
3. To determine diurnal fluctuation in TAN values of CAM plants.
4. Estimation of soluble proteins by Lowery *et. al.* method.
5. Separation of amino acids by paper chromatography.
6. Demonstration of
 - a. Ringing experiment for path of solute translocation.
 - b. Hill reaction

- c. Qualitative tests for alkaloids, tannins, glycosides, starch, lipids and proteins.
- d. Enzyme activity: catalase

Paper II: BO.342: PLANT ECOLOGY AND BIODIVERSITY

Plant Ecology (24L)

1. Ecology (8L)

Introduction, Interrelationship between the living world and the environment, components and dynamism of Ecosystem, homeostasis.

Impact of human activities on environment – Causes, Prevention and control of – Air, water and Soil Pollution

Brief account of environmental toxicology – Eutrophication, bioaccumulation and biomagnifications

2. Environmental Crisis (3L)

Desertification, Ozone depletion and Global warming

3. Environmental Impact Assessment (3L)

Process, objectives of EIA, Hierarchy in EIA, Historical Review of EIA, Concepts related to EIA, Basic data collection for EIA

4. Environmental Audit (3L)

Meaning, need, Audit Protocol, Processing, Certification, personnel environmental Audit.

5. Ecology and Economics (3L)

Man and Biosphere concept.

Relation between ecology and economics

6. Remote Sensing (4L)

Definition, basic principles,

Process of data acquisition and interpretation,

Global positioning System

Application of Remote Sensing in ecology.

Biodiversity (24L)

Introduction to Biodiversity (02 L)

Introduction, Concept, Aims and objectives,
Scope and values of Biodiversity.

Characterization of Biodiversity: (05 L)

Introduction, need for characterization, various disciplines of Biodiversity- Genetics, Species and Ecosystem. Concept of endemism and phylogeography.

Biodiversity Loss: (03 L)

Loss of Species and Genetic Diversity: Introduction, Factors causing loss of species and genetic diversity, Founder Effects, Genetic Drift, Inbreeding Depression, IUCN Categories (RET plants)

Inventorying and Monitoring of Biodiversity: 03 L)

Introduction, Necessity, planning and approaches to inventorying and monitoring, capacity building.

Conservation of Biodiversity: (11L)

Current Practices in Conservation,

In-situ Conservation: International efforts and Indian initiatives; protected areas in India, Concept of Biosphere Reserves and National Parks.

Ex-situ Conservation: Germplasm Collections, Botanical Gardens, Seed Banks, Gene Banks, Pollen Banks, DNA Banks, Wetlands, mangroves and coral reefs. Enlist national agencies playing role in conservation (BSI, NBPGR, ICAR, CSIR, DBT),

Social Approach to Biodiversity Conservation: Sacred Groves, Sthalavrikshas, Chipko Movement, Role of Universities and other Educational Institutions in Biodiversity Conservation

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Practicals-Plant Ecology

1. Study of polluted water body with ref. to BOD.
2. Study of physicochemical properties of water body by using Sacchi disc, pH meter and electric conductivity meter.
3. Acquisition of ecological data of particular locality by using GPS/ altimeter/geographic maps etc
4. Study of suitable ecosystem by line/belt transect method/ nested quadrat method.
5. Visit to near by locality to study biodiversity and submission of report

Practicals-Biodiversity

1. Study and application of diversity indices to suitable ecosystem/ area.
2. To measure the latitude, longitude and altitude by using GPS

3. Visit to near by conservation institutes/sacred groove and report writing.

PAPER III BO.343:: PLANT PATHOLOGY

1 Fundamentals of plant pathology

5 L

Introduction, Important terminology- Incitants, Host, Parasite, Pathogen, Inoculum, Penetration, Infection, Incubation, Disease, Disease development, Symptoms, Sign, Endophyte, Predisposition, Suscept, Resistance, Epidemic, Etiology. Economic importance of plant diseases, History of plant pathology, Introduction to Indian Agricultural Research Institute (IARI), International Crop Research Institute for Semi Arid Tropics (ICRISAT), Contribution of Anton DeBary and Prof. B.B. Mundkur.

2 Disease Development

6 L

Concept of disease cycle, Inoculation, Prepenetration, Penetration, Infection, Dissemination. Epidemics- Forms, Decline,, Exponential model. Disease forecasting, Measurement of plant disease and yield loss.

3 Defence Mechanisms

3 L

Concept and Definition, Types- Preexisting- Structural and chemical, Induced- Structural and Biochemical

4 Methods of Studying Plant Diseases

5 L

Macroscopic study, Microscopic study, Koch"s postulates. Culture technique, Media Types and Preparation, Pure culture methods- streak plate, Pour plate, spread plate, Serial dilution.

5 Fungal Plant Diseases

5 L

Introduction to fungi as plant pathogens. Study of Diseases- Club root of Crucifers, Downy mildew of Grapes, Head smut of Jowar, Leaf spot of Turmeric, Tikka disease of Groundnut with reference to causal organism, symptoms and signs, disease cycle and control measures.

6 Bacterial Plant Diseases

3 L

Introduction to bacteria as plant pathogens, Study of Diseases- Citrus Canker, Black arm of Cotton with reference to causal organism, symptoms and signs, control measures.

7 Mycoplasma Plant Diseases

3

L

Introduction to Mycoplasma as plant pathogens, Study of Diseases- Grassy shoot disease of sugarcane, Little leaf of brinjal with reference to symptoms and signs, control measures.

8 Nematodal Plant Diseases

2

L

Introduction to Nematodes as plant pathogens. Study of Diseases- Root knot disease of vegetables, Ear cockle of Wheat with reference to causal organism, symptoms and signs, control measures.

9 Viral Plant Diseases

3

L

Introduction to Viruses as plant pathogens. Study of Diseases- Tobacco Mosaic Disease, Bunchy top of Banana with reference to causal organism, symptoms and signs, control measures.

10 Non Parasitic Diseases

4

L

The impact and abiotic causes- Temperature, Soil moisture and relative humidity, Poor oxygen, Poor light, Air pollutants, mineral deficiencies. Herbicide injury, Study of Tip burn of Paddy, Mango necrosis, Black Heart of Potato, Khaira disease of rice.

11 Principles of Plant Disease Control

5

L

General account, Quarantine, Eradication, cultural control practices, Biological control, Curative measures, Chemical control, Use of Effective Microorganism Solution (EMS), Microbial Pesticides, IPM

12 Molecular Diagnostics and Transgenic in Crop Protection

4 L

Introduction, Classical approaches, Use of antibodies, Pathogen derived resistance against bacterial and fungal diseases, Expression of vaccines in plants.

Practicals

1. Preparation of any one culture media for isolation of plant pathogens.
2. Study of Koch's Postulates
3. Culture technique - Streak plate methods, Pour plate methods, Spread plate and Serial dilution method for preparation of pure culture.

4. Study of any two of each fungal, bacterial and mycoplasma diseases.
5. Study of any two viral and non-parasitic diseases of plants.
6. Study of any two of each fungicides and microbial pesticides
 - Visit to any Agricultural Research Institute and Plant Pathology Laboratory and submission of report

References:

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2. Plant Pathology, R. S. Mehrotra
3. Principles of Plant Pathology, R. S. Singh
4. Plant Pathology, P. D. Sharma
5. Plant Disease, R. S. Singh
6. Plant Pathology, Mandal and Dasgupta
7. Plant Pathology, G. N. Agrios
8. Agricultural Microbiology, Rangaswamy and Bhagyaraj
9. Fundamentals of Plant Pathology by Ravi Chandra
10. Methods of Microbial and Plant Biotechnology, L. N. Nair
11. Molecular Plant Pathology, 2003. Dickinson, Bios Scientific Publication, London, New York

Paper IV: BO.344: MEDICINAL AND ECONOMIC BOTANY

Medicinal Botany (36L)

1. Introduction to Pharmacognosy

(3L)

1.1. Origin, history, definition and scope of Pharmacognosy,

1.2. Methods of classification and their significance in the study of drugs of natural origin (alphabetical, biological, chemical, taxonomical, chemotaxonomical and pharmacological)

2. Ayurvedic Pharmacy

(8L)

2.1 Introduction

2.2 Tridosha concept, Humoral, Indigenous Systems of medicine (Ayurveda, Siddha, Unani, Tibi, Chinese etc.)

2.3 Ayurvedic principles- Ras, Guna, Vipaka, Virya, Prabhava,

2.4 Ayurvedic formulations –Asava, Arishta, Kvatha, Churna, Ksharas, Leha, Vatika, Taila, Bhasma,

3. Analytical Medicinal botany (6L)

3.1 Drug adulteration

3.2 Methods of extraction (percolation, maceration, Soxhlet extraction etc.) of different classes of phytochemicals from crude drugs.

3.3 Methods of drug evaluation- Morphological, Microscopic, Chemical and Physical methods.

4. Cultivation, collection and processing of herbal drugs from Mentha and Eucalyptus. (3L)

4.1 Cultivation- Methods, Factors affecting cultivation

4.2 Collection and Processing- Collection, harvesting, drying, garbling, packing, storage of crude drugs.

5. Study of medicinally important drugs (6L)

Study of drugs w.r.t. occurrence, distribution cultivation, microscopic characters, constituents and uses of the following.

Root Rhizome drugs :- *Glycyrrhiza*,

Stem drugs: - *Ephedra*,

Leaf drugs: - *Adhatod*,

Flower drugs: - Clove,

Fruit drugs: - Amla,

Unorganized drugs :- Shilajit and *Acacia* gum,

Contraceptive drugs: - *Dioscorea*.

6. Applied Medicinal Botany (8L)

6.1 Study of drugs with respect to Biological source, Geographical distribution, common varieties, macro and microscopic characters, chemical constituents and therapeutic uses, adulterants of the following plants/drugs *Strychnos nux vomica*-Seeds, *Tinospora cordifolia*-Stem

6.2 Concept of active principle, and major metabolic Pathway (Carbohydrates and Proteins) leading to the Production of therapeutically active Chemical Constituents

6.3 Concept, definition and introduction to Biopharmaceutics, Pharmacodynamics and clinical Pharmacokinetics with applications

7. Ethnobotany : Definition, principles, scope and ethnic societies in India. (2L)

Economic Botany (12L)

1. Introduction to economic botany and its scope (2L)

2. Important Botanical resources- meaning and Mention of only botanical resources any five for non-wood forest products (NWFPs) such as (4L)

2.1 Paper making and 2.2 Gums

3. Origin, evolution, source & uses of Rice, *Curcma longa*, Safflower, Sugarcane, *Butea monosperma*/*Samanea saman*/ *Sclleichera oleosa* and Rose. (6L)

References:-

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- 11.**Vernma V (2009).** Textbook of Economic botany
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- 13.**Himadri Panda(2002)** The Complete Technology Book On Natural Products (Forest Based)
14. **Pharmacognosy and Phytochemistry -- Vinod Rangari.**

Practicals based Paper VI: BO.346: Medicinal and Economic Botany

1. Study of any six drug plants from theory syllabus (Macroscopic and Microscopic). (2P)
2. Demonstration of Plant extraction methods -Cold and Soxhlet extraction and TLC of any one drug studied in theory. (1P)
3. Study and preparation of ayurvedic formulations - Asav, Arishtha, Churna (1P)
4. Qualitative analysis of Alkaloid, Glycoside and Tannin (1P)
5. Study of stomatal index and vein islet number using suitable plant material using micrometer and camera Lucida. (1P)
6. Survey of local flora with respect their medicinal and economic importance and submission of 10 dry specimens.

Paper V: BO. 345 PLANT BIOTECHNOLOGY

1. Introduction to Biotechnology

5L

Introduction and History of plant Biotechnology

Pioneering work and significant achievements in Indian plant Biotechnology

Global Impact and Current excitements of plant Biotechnology - Plant Health care and plant protection.

2. Plant Tissue Culture

15L

Brief History, Importance of plant tissue culture

Types of culture, basic technique of plant tissue culture, Concept, technique and applications of callus culture, cell suspension culture, protoplast culture, somatic hybridization and cybrids, Haploid production, Micropropagation, embryo culture-and embryo rescue

3. Germplasm and Cryopreservation

4L

In situ and **Ex situ** conservation, techniques of cryopreservation, cold storage, low pressure and low oxygen storage, applications

4. Transgenic Plants as Bioreactors

6L

Metabolic engineering of starch, cyclodextrins, fructans, Bioplastics, Genetically engineered plants as protein factories, Production of therapeutic proteins from plants.

5. Biotechnology of Biological Nitrogen Fixation

6L

Non symbiotic Nitrogen Fixation-Diazotrophs and their ecology, special features,

Mechanism of N₂ Fixation

Nitrogenase and Hydrogenase

Symbiotic N₂ Fixation- establishment of symbiosis,
Factors affecting and mechanism of symbiotic N₂ Fixation
Genetics of Diazotrophs- Nod genes, Nif gene
Biofertilizers- algal, fungal, phosphate solubilising and organic fertilizers

6. Biotechnology and Society **4L**

Biotechnology- Benefits, GM foods and its safety, patenting of biotechnological inventions, Biotechnology and developing countries, Recombinant foods and religious beliefs, recombinant therapeutic product for human health care, Intellectual property rights

7. Bioinformatics **4L**

Introduction, Database and its classification, NCBI, Data retrieval tools, INTREZ, OMIN, BLAST, FASTA, Applications of Bioinformatics

8. Genomics and Proteomics **4L**

Genomics- methods, types and applications, Proteomics- Concept, types and importance

Practicals

1. Preparation of MS Medium
 2. Callus Induction using maize embryo
 3. Study of application of biofertilizers- Algal, Fungal, Bacterial, Phosphate Solubilizers and Organic Fertilizers
 4. Estimation of Nitrate Reductase enzyme from Legume nodules
 5. Study of Transgenic plants- Bt Cotton, Bt Brinjal, Bt Tomato, Golden Rice
- Visit to NCBI and Report preparation

Reference Books:

1. R. C. Dube (2008)- A Text Book of Biotechnology, S. Chand

2. P.K. Gupta-Elements of Biotechnology
3. Satyanarayana-Biotechnology
4. Kalyan Kumar De-Plant tissue culture
5. Pal J.K. and Ghaskadabi S.S. (2008) Fundamentals of Molecular Biology.
6. Verma and Agrawal- Molecular Biology
7. Devi P.2008-Principle and Methods of plant Molecular Biology, Biochemistry and Genetics Agrobios, Jodhpur, India.
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- 11.Ramawat K.G. 2003 Plant Biotechnology, S. Chand & Co. Ltd . Ramnagar New Delhi. 110055
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- 13.Rajdan- Plant tissue culture.

Paper VI: BO346: PLANT BREEDING AND SEED TECHNOLOGY

PLANT BREEDING (24 L)

1. Introduction, scope and importance (2 L)

2. Conventional techniques, methods and practices of breeding (10 L)

(a) Plant introduction and acclimatization

- i. Concept, objectives
- ii. Types of plant introduction
- iii. Advantage, limitations/ Disadvantages and achievements.

(b) Selection methods

- i. Concept,
- ii. Types of selections –mass selection, pure line selection and clonal selection.
- iii. Advantage and disadvantages/limitations, achievements.

(c) Hybridization

- i. Definition and Concept,
- ii. Difficulties in crop hybridization and precaution to be taken during hybridization
- iii. General procedure of hybridization
- iv. Parent selection in a breeding program
- v. Criteria for selecting parents

Breeding Methodology

- i. Pedigree method
- ii. Bulk method
- iii. Single-seed descent method
- iv. Backcross method, Achievements

(d) Heterosis and hybrid vigour

- i. Concept
- ii. Causes of heterosis- dominance hypothesis
- iii. Applications

3. Alternative breeding techniques

(08 L)

(a) Mutation breeding

Introduction and concept

Types of Mutation

induced mutagenesis

mutagens used -Chemical and physical mutagens

methods of working

Gamma gardens, concept and design

Applications

(b) Importance of Polyploidy and aneuploidy in crop improvement

Properties of polyploids,

Methods of obtaining polyploids

Methods used in obtaining haploids

Production of triploids in plant breeding

Applications and achievements

4. Breeding for stress tolerance

(4L)

Mechanisms and genetic bases of resistance/tolerance to biotic and abiotic stresses in plants,

Breeding for resistance/tolerance.

Molecular Approaches
Characteristics evaluated for drought tolerance
Characteristics evaluated for insect/pest tolerance
Achievements

SEED TECHNOLOGY (24L)

1. Introduction: (2 L)

Definition of seed,
Stages of Seed Production,
Classes of Seed (nucleus seed, breeders seed, foundation seed, certified seed and truthful seed),
Role of seed technology.

2. Seed certification: (2 L)

General procedure of seed certification,
field inspection,
observation during inspection,
field count,
Duties of seed inspector.

3. Seed processing:

Concept (2 L)
Principle and techniques of processing of seeds

4. Seed sampling, storage and packaging (6 L)

Seed sampling,
Types of seed samples,
Sampling equipments.
Factor affecting seed storage and need of seed storage,
Methods of protection and control,
Air conditioning and dehumidification,
Sanitation and fumigation of seed stores.
Seed sorting and bagging, bag weighing, bag closing, type of bag closer,
Labelling and maintaining lot identify, lot numbers, seed pellets,
Handling and stacking,
Maintenance of seed processing record.

5. Physical purity analysis (3L)

Definition of purity components
Procedure
ODV test
Reporting and results.

6. Seed Testing

A. Moisture Testing

(3L)

By air oven method
Moisture meters.

B. Germination testing

(3L)

Definition and objectives,
General principles and requirements,
Procedure and methods (Paper, Sand and Soil)
Seedling evaluation.

7. Seed Marketing:

(3L)

Marketing- Basic concepts, supply & demand, price equilibrium, seed transportation, storage, cost & returns, cost processing, packing and marketing, Organization for seed marketing, seed markets in India, structure & working.

Practicals based on Plant Breeding and Seed technology

1. Demonstration of Hybridization Techniques.
2. Effect of chemical mutagens on seed germination and seedling growth.
3. Demonstration of chlorophyll mutation in M2 generation.
(Photographs)
4. Polyploidy induction in *Allium cepa* by colchicine.
5. Seed moisture testing by hot air oven method.
6. Demonstration of seed sampling equipments with the help of photographs.
7. Visit to seed processing unit / Seed marketing organization.

References:-

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2. **Giese Arthur** 1979 (Fifth Edition). Cell Physiology, Toppan company Ltd., Tokyo, Japan.
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17. Ratan Lal --- Seed Technology
18. Fundan singh Plant Breeding

SAVITRIBAI PHULE PUNE UNIVERSITY
T.Y.B.Sc. Electronic Science
Revised Syllabus

To be implemented from June 2015

SAVITRIBAI PHULE PUNE UNIVERSITY
T.Y.B.Sc. Electronic Science
Revised Syllabus

To be implemented from June 2015

1) Title of the course: Third Year B.Sc. Electronic Science

2) Introduction:

Semester Pattern is followed at S.Y.B.Sc. Electronic Science. Third year B.Sc. syllabus is designed to provide an insight into applications of various circuit blocks, design analog and digital systems, methods to analyze working of systems and some of consumer products. Training on system design and simulations, learning programming languages like "C" and tools like "MATLAB" is included. A course in Project work is maintained in new syllabus and a guideline for it is framed.

In the theory courses adequate knowledge of Analog systems design, digital system design, communication systems, basics of nanotechnology, nanoelectronics will be acquired by the students.

Student taking admission at T.Y.B.Sc. Electronic Science have to complete 12 theory courses six each semester, two practical courses (Annual) and one project course (Practical III, Annual). In the practical course of 100 marks there are compulsory experiments along with the one activity to be done for practical course I and II. The details are mentioned in the syllabus.

3) Aim and Objectives:

The aim of the course is to generate trained manpower with adequate theoretical and practical knowledge of the various facets of electronic circuits and systems. Due care is taken to inculcate conceptual understanding in basic phenomena, materials, devices, circuits and products and development of appropriate practical skills suitable for industrial needs. Following are the

objectives -

- i. To design the syllabus with specific focus on key Learning Areas.
- ii. To equip student with necessary fundamental concepts and knowledge base.
- iii. To develop specific practical skills.
- iv. To impart training on circuit design, analysis, building and testing.
- v. To prepare students for demonstrating the acquired knowledge.
- vi. To encourage student to develop skills for accepting challenges of upcoming technological advancements.

4) Eligibility: Second Year B.Sc. Pass / ATKT, with all subjects cleared at F.Y.B.Sc.

5) Examination -

A) Pattern of Examination :

i) Semester III

Theory Papers - Six Theory papers of 50 marks per semester
(Internal examination 10 + Semester Examination 40, Total 50)

ii) Semester IV

Theory Papers - Six Theory papers of 50 marks per semester
(Internal examination 10 + Semester Examination 40, Total 50)

Practical - Three Practical courses, out of which Course III is Project work.

iii) Pattern of the question Paper:

The pattern adopted for theory and practical examination is as below.

Theory:

The topic wise weightage is decided as per lecture allotted to cover the syllabus for the topics. The Internal option is also taken into consideration in the process. Equal weightage is given for each topic. No topic can be given as optional.

Internal Examination 10 Marks

It is a continuous evaluation process and is executed by the teacher conducting the course.

Four types of questions -

Objective, Fill in the blanks, True or False and One Sentence Answer.

There are two or three different sets of the question papers used for internal examination in the same class for same paper.

External Examination 40 Marks

Pattern is as follows-

Q.1 Answer all of the following : 12 marks

Compulsory no internal option, contains one mark , two mark objective and numerical questions.

Q.2 Answer any TWO. : 08 marks

Three questions are given, each having 4 marks, any two are to be solved.

Q.3 Answer any TWO. : 08 marks

Three questions are given, each having 4 marks, any two are to be solved.

Q.4 Answer any TWO. : 12 marks

Three questions are given, each having 6 marks, any two are to be solved.

There is complete option question for Q.4 having three compulsory numerical Problems having weightage of 4 marks each.

Practical :

Internal Marks 20 :

Continuous assessment

External Examination 80 Marks.

Have to perform 2 experiments of 40 marks of the duration 3 hours each.

(Practical Examination is scheduled in two sessions.)

B) Standard of passing:

Candidate must score 40% marks at the semester examination in each course. **i.e. 16 marks at semester theory paper and 32 marks at the practical course.** There is no separate passing for internal course, however the total marks of internal and external should be 40% of the total marks to be awarded.

C) ATKT Rules: As per University rules.

D) Award of Class:

Overall class at Third Year B.Sc. Electronic Science will as per University rules as follows -

- Above 70% First class with distinction
- Between 60% to 70% First Class
- Between 50% to 60% Second Class
- From 40% to 50 % Pass class.

However the marks in the Electronic Science papers at Second Year B.Sc. course will be taken into account, for awarding the ultimate class of the course at T.Y.B.Sc.

E) External Students:

Not applicable for this course. External Students are not allowed.

F) Setting of Questions paper/ Pattern of Question paper:

Setting of the question paper is as per University Schedule and it is centralized system adopted by University of Pune. Pattern of question paper will be as per decided by Board of Electronic Science, University of Pune.

G) Verification of Revaluation: As per University Statutes and rules for verification and revaluation of marks in stipulated time after declaration of the semester examination result.

6) Structure of the course : Total six Theory in each semester and Three Practical courses.

i) a) **Compulsory Paper :** Five theory papers in Semester III and Semester IV

b) **Optional Paper :** One (Paper VI)

Course Structure

Paper	Semester-III		Semester-IV	
Paper I	EL-331	Advanced Digital System Design	EL-341	Advanced Communication Systems
Paper-II	EL-332	Microcontrollers	EL-342	Microcontroller and its Applications
Paper III	EL-333	Analog Circuit Design and Applications of Linear IC's	EL-343	Power Electronics
Paper IV	EL-334	Principles of Semiconductors Devices	EL-344	Foundations of Nanoelectronics
Paper V	EL-335	'C' Programming	EL-345	Mathematical Methods and Circuit Analysis using MATLAB
Paper VI	EL-336	A) Fiber Optic Communication	EL-346	A) Industrial Automation
		B) Electronic Product Design and Entrepreneurship		B) Consumer Electronics
Paper –VII	EL-347	Practical Course I		
Paper –VIII	EL-348	Practical Course II		
Paper –IX	EL-349	Practical Course (Project)		

Note : Vocational courses will be substituted in place of PAPER V AND VI

c) **Question paper : Theory -**

- For Internal Examination 10 Marks
- For Semester Examination 40 Marks

Practical-

- For Internal Examination 20 Marks
- For Semester Examination 80 Marks

- ii) Medium of instructions: ENGLISH
7) Equivalence subject/Paper and Transitory Provision:

T.Y.B.Sc. Electronic Science Semester III

Old Syllabus			New Syllabus	
Paper I	EL331	Advanced Digital System Design	EL331	Advanced Digital System Design
Paper II	EL332	Microcontroller	EL332	Microcontrollers
Paper III	EL333	Analog Circuit Design and Application of Linear IC's	EL333	Analog Circuit Design and Applications of Linear IC's
Paper IV	EL334	Foundation of Nanoelectronics	EL344	Foundation of Nanoelectronics
Paper V	EL335	'C' Programming	EL335	'C' Programming
Paper VI	EL336	Optional Courses	EL336	Optional Courses
	A)	Fiber Optic and Fiber Optic communication	A)	Fiber Optic Communication
	B)	Sensor & Actuators	B)	Industrial Automation
Paper VII	EL-347	Practical Course- I	EL-347	Practical Course- I
Paper VIII	EL-348	Practical Course- II	EL-348	Practical Course- II
Paper IX	EL-349	Practical Course- III (Project Course)	EL-349	Practical Course- III (Project Course)

T.Y.B.Sc. Electronic Science Semester IV

Old Syllabus			New Syllabus	
Paper I	EL341	Advanced Communication Systems	EL341	Advanced Communication Systems
Paper II	EL342	Embedded System	EL342	Microcontroller and its Applications
Paper III	EL343	Power Electronics	EL343	Power Electronics
Paper IV	EL344	Electronic Material and Devices	EL334	Principles of Semiconductors Devices
Paper V	EL345	Mathematical methods and Analysis using MATLAB	EL345	Mathematical methods and Analysis using MATLAB
Paper VI	EL346	Optional Courses	EL346	Optional Courses
	A)	Instrumentation	A)	Industrial Automation
	B)	Consumer Electronics	B)	Consumer Electronics
Paper VII	EL-347	Practical Course- I	EL-347	Practical Course- I
Paper VIII	EL-348	Practical Course- II	EL-348	Practical Course- II
Paper IX	EL-349	Practical Course- III (Project Course)	EL-349	Practical Course- III (Project Course)

8) University Terms:

- More than 75% attendance is necessary for the course as per University rules.
- 12 Weeks will be available for completion of theory course.
- Practical course I , II and III (Project work) will be throughout the year.

9) Subject wise Detail Syllabus and Recommended books as follows:

Paper I: Semester III

EL 331: Advanced Digital System Design

Unit 1: Digital System

[14]

Digital system design process- Basic design loop, design flow for logic circuits, Mealy & Moore sequential machine models, state machine notation, state equivalence, state reduction, Equivalence classes, Implication charts, state reduction of incompletely specified state tables, Merger graphs, only importance of state assignment techniques, state assignment permutations formula, ASM symbols

Unit 2: Verilog Hardware Description Language

[20]

Importance of HDL's, features of Verilog HDL, Overview of Digital Design with Verilog HDL, Hierarchical modeling concepts, Basic concepts of Verilog- Operators, comments, Number specifications, strings, Identifiers & keywords, Data types, system tasks & Compiler Directives, Modules & ports.

Gate level Modeling- Gate types, Gate delays

Data flow modeling- Continuous Assignments, Delays expression, operators & operands

Behavioral Modeling- Structured Procedures, Procedural Assignments, Timing Controls, Conditional statements, Multiway Branching, Loops

Examples of Verilog Design- Multiplexer, Demultiplexer, Encoder, Decoder, Half Adder, Full Adder, Subtractor, Flip Flop, Counter, and Shift register.

Unit 3: Programmable Logic Design

[08]

Introduction, fixed function IC's, ASICs, PLD, ROM as PLD, SPLD- PLA, PAL, GAL, CPLD, FPGA

Unit 4: Case Study

[06]

Traffic light controller, Stepper motor sequence generator, Vending machine, Tablet filling system

Recommended Books:

1. Digital logic: Applications & design by John M. Yarbrough, cengage Learning India(Thompson)
2. Verilog HDL A guide to digital design & synthesis By Samir Palnitkar, Pearson Second Edition
3. Fundamental of digital logic with Verilog By Stephen Brown, Zvonko Vranesic, Tata McGraw Hill
4. Digital fundamentals By Floyd, Thoms, Jain R.P., Pearson

Paper II: Semester III
EL-332: Microcontrollers

Learning objectives

1. To learn architecture of 8-bit microcontroller.
2. To use instruction set and addressing modes of microcontroller.
3. To develop assembly language programming skills.
4. To interface memory and I/O devices.

Unit 1: Microcontroller architecture

[16]

Introduction to microcontrollers, 8051 Core microcontroller block diagram, program counter, Data pointer, A and B registers, Flags and PSW, internal RAM and ROM, stack and stack pointer, SFRs, Pin configuration, I/O ports, clock and reset circuitry, External memory, Timers and counters, Serial I/O, interrupts.

Unit 2: Instruction set

[16]

Addressing modes, Different groups of instructions- Data transfer instructions, Logical operations, Arithmetic operations, Jump and call instructions. Programs based on arithmetic, logical, code conversion, block data transfer.

Timers and counters, delay generation using timer, waveform generation using timer

Unit 3: Development tools and integrated development Environment

[4]

Algorithms, Flow charts, Program Designing, Editors, Assemblers, Compilers, Linkers, Cross compiler, Simulator, Debugger and Emulator, Keil IDE and Proteus.

Unit 4: Interfacing memory and I/O devices

[12]

LED/s, relay, DC motor, Stepper motor, seven segment display, LCD, DAC, switch/s, Thumb wheel Switch, keys, matrix keyboard.

External memory interfacing – RAM, ROM, EPROM

Recommended Books-

1. The 8051 Microcontroller Architecture, Programming and application [Second Edition] Kenneth J. Ayala, Penram International (1999)
2. The 8051 Microcontroller and Embedded Systems using Assembly and C M.A.Mazidi, J.G.Mazidi, R.D.Mckinlay. Pearson Education Second Edition 2009
3. The 8051 Microcontroller and Embedded Systems using Assembly and C, Kenneth J. Ayala, Dhananjay V. Gadre. Cengage Learning
4. Microcontrollers [Theory and Applications] Deshmukh Ajay V. TMH

Paper III: Semester III

EL-333 Analog Circuit Design and Applications of Linear ICs

Learning objectives:

1. To study the practical design aspects while using Opamps
2. To study the basic application circuits of Opamps
3. To Learn the specifications and selection criterion for linear ICs
4. To obtain information about different special purpose ICs and their applications
5. To refer and understand data manuals.

Unit 1: Practical Considerations for Op-amp Circuit Design [10]

Practical consideration with Op-amps: selecting Op-amps for dc, low frequency and high frequency applications, earth loops, interference noise/ shielding and guarding, supply bypassing, offset compensation / balancing techniques, stability of op-amp circuits and technique for frequency compensation.

Unit 2: Basic Application Circuits using Opamp [12]

Design of basic and practical integrator and differentiator circuits

Active filters: 2nd and higher order, Design of LP, HP and BP filters

Log and antilog amplifiers: transdiode configuration and diode connected transistor configuration for log amplifier, Practical log and antilog amplifiers, Precision half wave rectifier, precise full wave rectifiers with equal resistor and one with high input impedance, peak detectors, sample and hold circuits.

Introduction to operational transconductance amplifier (OTA) - LM13600 or equivalent.

Unit 3: Basic Application Circuits using Linear ICs [14]

Voltage comparators using op-amp as well as comparator IC (LM311), design of inverting and non-inverting Schmitt trigger, ON-OFF controller using comparator

Astable and mono stable multivibrators using op-amp.

Timer IC555: Block diagram, astable and mono stable multivibrators

Function generators: LM 566, ICL8038

Four quadrant multiplier and its applications - AD534 or equivalent

Balanced modulator - IC1496/ 1596

Unit 4: Voltage Regulators and Phase Lock Loops [12]

Voltage references: band gap reference, LM385

Linear Regulators: Fixed three terminal regulators ICs-78XX, 79XX; Adjustable Three terminal regulators ICs LM317, LM337, LM723- Block diagram, working, Design for Low and high voltage regulators, design for high and low output current, PWM controller IC3524

Phase lock loop (PLL): Monolithic IC LM565, operating principle, block diagram, PLL characteristics, applications of PLL such as frequency multiplier and FSK

Recommended Books:

1. George Clayton and Steve Winder, "Operational Amplifiers," 5th Edition Newnes An Imprint of Elsevier
2. Sergio Franco, "Design With operational Amplifiers and analog integrated circuits," TMH
3. Ramakant A. Gayakwad, "Op-Amps and Linear Integrated Circuits," 4th Edition PHI
4. R.F. Coughlin, F.F. Driscoll, "Operational Amplifiers and Linear Integrated Circuits," Prentice Hall.
5. James M Fiore, "Operational Amplifiers and Linear Integrated Circuits," Jaico Publishing house.

Paper IV: Semester III

EL-334: Principles of Semiconductor Devices

Learning Objectives:

1. To introduce crystal structure with reference to semiconductors
2. To study the theory of metal-semiconductor and p-n junctions
3. To understand the characteristics of semiconductor devices
4. To introduce theoretical background of BJT and FETs

Unit 1: Fundamentals of Semiconductors

[14]

Crystal structure: Basic Lattice Types, Basic Crystal Structures, Miller Indices, bulk semiconductor growth and epitaxial growth techniques

Photoelectric effect, Bohr model, hydrogen atom

Electronic levels in semiconductors bonding forces and energy bands in semiconductors, metal semiconductors and insulators, direct and indirect semiconductors, charge carriers, Fermi level and temperature dependence, carrier drift in electric and magnetic field

Excess carriers in semiconductors: optical absorption, photo and electro-luminescence, carrier lifetime and photoconductivity, diffusion of carriers

Unit 2: Junctions

[12]

Equilibrium conditions: contact potential, space charge at junction.

Forward and reverse bias junctions: steady state conditions.

Reverse bias breakdown: Zener and avalanche breakdown mechanism

Metal Semiconductor Junction: Schottky barriers, Current Flow across a Schottky Barrier, rectifying contacts, Ohmic Contacts

Unit 3: Bipolar Junction Transistors

[10]

BJT structure and operation, BJT Characteristics, Minority carrier distributions and terminal currents, current transfer ratio. Coupled diode model (Ebers-Moll Model).

Switching: cutoff, saturation, switching cycle.

Effects: Drift in the Base region, Avalanche Breakdown, base resistance and emitter Crowding Effect, Injection and Thermal Effects

Unit 4: Field Effect Transistors (FETs)

[12]

Junction FETs (JFETs) and Metal Semiconductor FETs (MESFETs): The Ohmic Region, Pinch-off and saturation, GaAs MESFET, Current-Voltage Characteristics.

MOSFET: Basic operation of Metal Insulator Semiconductor FETs, Metal-Oxide-Semiconductor Capacitor, Capacitance-voltage relation of MOS structure

Output and transfer Characteristics of MOSFET, Mobility model, control of threshold voltage, Substrate Bias Effects, Sub-threshold Characteristics, Electrical equivalent circuit of MOSFET

Text / Reference Books:

1. Solid State Electronics Devices, Ben G. Streetman and Sanjay Kumar Banerjee, PHI, 6th Edition.
2. Semiconductor Physics and Devices Basic Principles, Donald A. Neamen, TMH, 3rd Edition.
3. Semiconductor Device Physics and Design, Umesh K. Mishra and Jasprit Singh, Springer.
4. Semiconductor Device fundamentals, Robert F. Pierret, Pearson Education.

Paper V: Semester III
EL -335: 'C' Programming

Learning Objectives:

1. To understand fundamentals of C language.
2. To develop algorithm/flowcharts for problem solving and writing programs.
3. To learn to use functions, arrays, pointers and file handling in C language.
4. To study different types of algorithm.

Unit 1: C- Fundamentals

[16]

Introduction, character set, constants and variables, Key words, Symbolic constant, statements, entering and executing C program, input and output simple and formatted functions, operators and expressions, control structures and loops and programming examples.

Unit 2: Functions, Arrays and Pointers

[14]

Defining a function, Accessing a function, function prototype, passing argument, recursion e.g. Defining and processing of an array, passing array to a function, Pointers declarations, passing pointers to a function, operations of Pointers, pointers as function parameters and programming examples.

Unit 3: String and File handling

[08]

Operations on string, string length, string size, string copy, string concatenation, string compare, Opening and closing of data file, read and write data file, processing data file and append data file.

Unit 4: Algorithms

[10]

Algorithm definition, properties of algorithm, sorting algorithm, Bubble sort algorithm, selection sort algorithm, Insertion sort algorithm, quick sort algorithm, linear search algorithm and Binary search algorithm.

Recommended Books:

1. J. Jayasri The 'C Language Trainer with C Graphics and C++ WILEY
2. Byron. S. Gottfried Schaum's Outline of Programming with C TMH
3. E Balaguruswamy Programming in –C BPB
4. Stephens Cochan Programming in C Prentice hall of India Ltd
5. V. Rajaraman Computer Programming in C Prentice hall of India Ltd.
6. Madhusudan Mothe C for Beginner shroff / the x team reprints

Paper VI: Semester III

EL-336: A) Fiber Optic Communication

Learning Objectives:

1. To understand the principles of fiber optic communication system.
2. To learn measure different parameter of optical fibers.
3. To understand essential optical components of Fiber Optic Communication.
4. To study the applications of fiber optic communication systems.

Unit 1: Introduction

[12]

Basic structure of optical fiber, ray transmission theory, propagation of light in optical fiber, acceptance angle, numerical aperture, skew rays, Dispersion in optical fiber.

Types and specification of single mode, multimode, step index, graded index, glass and plastic fibers and advanced optical fiber.

Unit 2: Optical sources and detectors

[12]

LED and LASER diode, Principles of operation, concepts of line-width, phase noise, switching and modulation characteristics-typical LED and LD structures

PN detector, PIN detector, avalanche photodiode-principles of operation, concepts of responsivity, sensitivity and quantum efficiency.

Unit 3: Fiber optic Losses and Measurement.

[12]

Attenuation in optical fibers, material or impurity losses, scattering losses, absorption losses, bending losses. Fiber optic link structure and link losses, connector and splicing losses. Fiber attenuation measurement, Dispersion measurement, profile measurement, Numerical aperture measurement, Diameter measurement.

Unit 4: Fiber optic communication

[12]

Block Diagram of fiber optic communication, selection of optical fiber types for short haul, long haul and high speed data links, optical power and dispersion budget calculations of fiber optic communication link, Repeaters, optical fiber amplifiers, optical fiber transmitter and optical fiber receiver design considerations.

Recommended Books:

1. G. Kaiser Optical fiber communication McGraw Hill
2. Subir kumar Sarkar Optical fibers and fiber optic communication systems S.Chand and Company
3. R. P. Khare Fiber optics and optoelectronics oxford University Press
4. John M. Senior Optical fiber communications Principles and Practice, (2nd edition) PHI
5. Ajoy Ghatak and K. Thyagarajan Introduction to fiber optics Cambridge University Press
6. D. C. Agarwal Fiber optic communication wheeler Publication

Paper VI: Semester III

EL-336: B) Electronic Product Design and Entrepreneurship

Learning Objective:

1. To provide a basic understanding of electronic product design..
2. To get fundamental knowledge of □ Entrepreneurship.
3. To design small scale projects for Enterprises. □
4. After successfully completing the course students will be able to search / develop self employments.

Unit 1: Product Design and Development [12]

Introduction, Product development basics, Product development stages, Identification of customer requirements, Designing the product, Techno commercial feasibility of a product, Pilot production batch, Product assessment, Failure rates of electronic components, Touch screen, Multi- touch technology.

Unit 2: Entrepreneurship Development [12]

Introduction to entrepreneurship, Identification of opportunities for entrepreneurship, Concept of different occupations: - business, employment and profession. Functions of an entrepreneur. Business idea and plan, Types of businesses / ownerships – Sole Proprietorship, Partnership, Private limited company, Public limited company, Joint stock Company, Co-operative society.

Unit 3: Sources of Finance [12]

Preparation of project report for business, Sources of finance – government and nongovernment agencies, Working capital, Cash flow, Fund flow, Preparation of basics of financial statements, costing and pricing, Policies and incentives for small business development, Government policies and incentives,

Unit 4: Marketing Management [12]

Small business management and entrepreneurship, Woman entrepreneurship, Features of small business firms, Process of management in small business, Concept of data and information, Information as a commodity, Study of marketing strategy and marketing mix, Decision-making models, Types of decisions, Decision Support Systems, Introduction to e-commerce, types – B2B, B2C, C2B, C2C etc. Case study on Small scale industries in India.

Recommended Books:

1. R. G. Kaduskar, V. B. Baru. Electronic Product Design. Second edition Wiley India
2. Alpana Trehan. Entrepreneurship. Wiley India
3. G. N. Pandey. A complete guide to successful Entrepreneurship, Vikas Publishing house Pvt. Ltd. 576, Masjd Road Jangpura, New Delhi 110014.

4. Waman S. Jawadekar, "Management Information Systems", Mc-Graw-Hill Education (India) Pvt. Ltd.
5. G. S. Batra , "Development of Entrepreneurship ", Deep and Deep Publications, New Delhi
6. Ashwathappa, "Human Resource Management", Mc-Graw-Hill Education (India) Pvt. Ltd.
7. M.Y. Khan and P. K. Jain, "Financial Management", Mc-Graw-Hill Education (India) Pvt. Ltd.
8. Ravi M. Kishore, "Project Management", Mc-Graw-Hill Education (India) Pvt. Ltd.

Paper I: Semester IV
EL-341: Advanced Communication Systems

Unit 1: Antenna & Propagation **[14]**

Antenna: Basic consideration, Evolution of Dipole antenna, Parameters of Antenna, Effect of ground on Antennas. Resonant Antenna- Radiation patterns & length considerations, Non-Resonant antenna, Directional high frequency antennas, UHF & Microwave antenna, Wide-band & special purpose antennas

Propagation of Waves: Ground (Surface waves), sky wave propagation, space waves, Tropospheric scatter propagation.

Unit 2: Modulation & Demodulation **[12]**

Balanced Modulator- Using diodes & FETs

SSBSC- Filter Method, Phase shift method (third method)

Synchronous Demodulation, Product Demodulator,

Phase modulation & demodulation using PLL, Indirect method of FM generation.

Unit 3: Transmitter & Receiver **[12]**

AM transmitters: Block diagram,

FM Transmitters: Using Frequency multiplication & mixing, Frequency stabilized reactance FM transmitter, FM achieved through phase modulation

TV transmitter (monochrome/colour) Mobile receiver block diagram (800MHz), Doppler RADAR, Speed Gun, Low noise amplifier block diagram

Unit 4: Digital Communication **[10]**

Pulse modulation, Pulse code modulation, Differential Pulse Code Modulation, Delta modulation, Adaptive delta modulation, Companding, TDM, FDM, Vocoders

Block diagram- Digital Communication System

Recommended Books:

1. Electronic Communication By Dennis Roddy & John Coolean, Pearson Education
2. Principles of Communication Systems By Taub Schilling, McGraw Hill.
3. Antenna Theory: Design & Analysis By Balanis, Wiley Eastern
4. Electronic Communication systems By Kennedy & Davis, Tata McGraw Hill

Paper II: Semester IV

EL-342: Microcontroller and its Applications

Learning objective:-

- 1) Use 'C' language for programming the microcontrollers
- 2) Learn to use Timers, Interrupts and Serial Communication in Microcontroller.
- 3) Apply the knowledge in real world applications

Unit 1: Microcontroller programming [12]

C Data types for 8051, C Programs for Time Delays & I/O Operation, I/O Bit Manipulation, Arithmetic and Logical Operations, ASCII and BCD Data Conversion.

Unit 2: UART, INTERRUPT, TIMER Programming [14]

Timer programming - Timers and counters, delay generation using timer, waveform generation using timer. Serial Port Programming in C, Serial Data Transfer to Microcontroller from PC and from PC to Microcontroller, Interrupt programming

Unit 3: Microcontroller applications using embedded 'C' [12]

Interfacing with 8051 and programming using C – LED/s, SSD, LCD, Stepper Motor, DC motor, DAC, ADC, Keys, Matrix keyboard, Switches, TWS, RTC (DS 12887).

Unit 4: Introduction to PIC microcontroller [10]

Comparison of CISC and RISC architecture, Architecture (WREG register, PIC file register, SFRs, GPR, GP RAM, File register and access bank in the PIC18, PIC status register), Feature of PIC 18F4580, reset and oscillator circuit, Pin configuration (18F4580), Port description, Memory organization, Introduction of PIC programming using MPLAB.

Recommended Books-

1. M.A. Mazidi, J. G. Mazidi, R.D. Mckinlay The 8051 Microcontroller And Embedded Systems, Using Assembly and C Pearson Education , Second Edition (2009)
2. Kenneth J. Ayala, Dhanjay V. Gadre The 8051 Microcontroller And Embedded Systems, Using Assembly and C Cengage Learning
3. M.A. Mazidi, R.D. Mckinlay, Danny Causey PIC Microcontroller and Embedded System using Assembly and C Pearson Education.

Paper III: Semester IV
EL- 343: Power Electronics

Learning objectives:

1. To get introduced to basics of power electronics and familiar with Power Electronic Devices, circuits and applications
2. To learn about power devices and protections of devices
3. To study various types of power circuits
4. To study applications of power electronics

Note: Scope of the syllabus is limited to **single phase circuit** unless otherwise specified.

Unit 1: Introduction to Power Electronics **[8]**

Definition of power electronics, Applications of power electronics, classification of power semiconductor devices, control characteristics of devices, characteristics of power devices as a switch, switching power losses, types of Power circuits, Concept of single phase and three phase using phasors, basics of magnetic circuits

Unit 2: Power Devices, Protection and Driving circuits **[10]**

Power Diode (P-i-N): construction, Reverse recovery characteristics, diode in series and parallel, freewheeling diode

Power BJT, power MOSFET, IGBT: Steady state and Switching Characteristic, Driving circuits

Thyristors: Types of Thyristors, SCR characteristics, Two transistor static and transient model, turn-on methods, turn-off characteristics, dv/dt and di/dt protection, gate protection circuits, gate driving circuits using BJT, UJT and PUT

Thermal management of heat sinks for power devices and its design from Safe operating Area (SOA).

Unit 3: Power Circuits **[18]**

Rectifiers: Performance parameters, Half wave, Full wave centre tapped and bridge rectifier with resistive and inductive loads, DC Filters: concept of C, L and LC filters

Controlled rectifiers: Principle, Semi, Full and Dual Converters

AC voltage controllers: on-off control, Phase angle control, Bi-directional control with Resistive load, transformer tap changer, Cycloconverter

Choppers: Step-up, Step-down, concepts of choppers operating in various quadrants

Regulators: Buck and Boost regulators

Inverters: Performance parameters, principle, Half Bridge and full Bridge inverter, Voltage control methods, Inverter filters, introduction to current source inverter

DC Switches, Solid state relays, AC Switches and Microelectronic relays

Unit 4: Applications **[12]**

Power Supplies: Switch mode power supply (DC) using flyback, forward, half bridge and full bridge converters, Uninterrupted power supply (UPS) .

Electrical motor drives: DC motor drives using Choppers, Introduction to Induction (AC) and synchronous motor drives using three phase inverters.

High frequency florescent lighting, Induction heating and electric welding.

Recommended Books:-

1. M.H. Rashid Power electronics: Circuits, Devices and Applications , third Edition (2004)
Pearson Education
2. Ned Mohan , undeland, Robbins Power Electronics , Third Edition (2006) John Wiley & Sons
3. O.P. Arora Power electronics Laboratory : theory , Practice & Organization Narosa Publishing
house (2007)
4. P.C. Sen Power Electronics Tata Mc Graw Hill, (1998)

Paper IV: Semester IV

EL -344: Foundation of Nanoelectronics

Learning Objectives:

1. To learn essential principles of Electromagnetics
2. To know the principles of quantum mechanical aspects
3. To study the basics of nanoelectronics.

Unit 1: Essential Electromagnetics

[14]

Lorentz force-Motion of charged particle in E-M fields, cyclotron frequency, Hall effect, Maxwell's equations, Relation with laws of Electrodynamics, Equation of continuity, Poynting vector theorem, Wave equation for E and H, properties of EM waves in conducting and nonconducting media, Skin depth.

Unit 2: Quantum mechanical aspects

[12]

Particles and Waves: Classical particles, Light as wave and particle, Wave particle duality and Uncertainty principle, Wave mechanics: The Schrödinger wave equation, wave mechanics of particles, Infinite potential well, Qualitative treatment of square wave potential with special reference to tunneling phenomenon, atoms and atomic orbital.

Unit 3: Statistical aspects

[10]

Classical statistics, Gaussian distribution, Poisson distribution, Fermi-Dirac, Bose Einstein, Maxwell Boltzmann statistics, Time and length scales of the electrons in solids, statistics of electrons in solids and nanostructures, Density of states of electrons, electron transport, Conductivity of metals.

4. Nanoelectronics

[12]

Importance of nanoelectronics, Top down approach, Bottom up approach, Lithography, Nanostructure devices like resonant-tunneling diode, electrons in quantum wells, electrons in quantum wire, electrons in quantum dots, Quantum dot applications, Flash Memory.

Recommended Books:

1. George W. Hanson "Fundamentals of nanoelectronics", LPE, Pearson Education
V. Mitin, Viatcheslav A. Kochelap, Michael A. Stroscio Vladimir
2. "Introduction to Nanoelectronics Science, nanotechnology, Engineering and Applications"
Cambridge University Press 2008
3. Ben G. Streetman, Sanjaykumar Banerjee "Solid State Electronic Devices", 6th Edition
4. Kraus and Fleisch "Electromagnetics with applications" McGraw Hill, 5th edition
5. Electromagnetics by B.B. Laud, Wiley Edition
6. Donald A. Neaman, "Semiconductor Physics and devices" 3rd edition TMH

Paper V: Semester IV

EL- 345: Mathematical Methods and Circuit Analysis using MATLAB

Learning Objectives:

1. To learn features of MATLAB as a programming tool.
2. To promote new teaching model that will help to develop programming skills and technique to solve mathematical problems.
3. To understand Laplace Transform and Fourier series and its applications.
4. To use MATLAB as a simulation tool.

Teaching Methods

1. This course should be taught in classroom and computer laboratory simultaneously.
2. No separate practical are to be conducted for this course.
3. Exercises /programs (or equivalent) from this course are to be demonstrated using computer.
4. Equipped computer laboratory with sufficient number of computers is to be made available for teaching of this course along with projector facility.

Unit-1: Introduction to MATLAB

[20]

Working in command window, Built in function, Array-1D, 2D & mathematical operations with array, Script files, 2D & 3D plots.

Functions: -inline, functional evaluation feval.

Programming: -Conditional statement, Switch-case statement, loops, nested loops, break & continue statement, polynomial operations.

Unit-2. Fourier Series

[10]

Definition, Evaluation of Fourier Coefficient, Fourier series for square wave, triangular, sawtooth wave, half wave & full wave rectifiers.

MATLAB exercise: To evaluate Fourier coefficients for given waveform function.

Unit-3. Laplace Transform and its applications

[12]

Definition, Laplace transform of simple functions, properties of L.T. (Linearity, shifting, change of scale), Inverse L.T., Partial fraction technique to find inverse L.T.function

Applications. Series RC circuit, RL circuit, RLC circuit for dc input.

MATLAB Exercises: 1.To find Laplace Transform and Inverse LT of any given function.

2.Transient analysis of RC / RL/RLC (series) circuit

Unit-4. Mathematical Applications

[6]

Curve fitting(Straight line, Exponential) and its application to

1. Diode characteristics
2. Ohm's Law
3. RC Filter

MATLAB Exercises: Real root of algebraic equation

Recommended Books:

1. Amos Gilat MATLAB : An introduction with applications Wiley India
2. G K Mittal Network Analysis Khanna Publishers , New Delhi
3. Van Valkenberg Network Analysis, 3rd Edition Dorling Kindersley (India) Pvt Ltd
4. Umesh Sinha Network Analysis and Synthesis Satya Prakashan, Delhi.
5. RudraPratap Getting Started with MATLAB , 7th Edition Oxford University Press, N Delhi
6. Stephen J. Chapman MATLAB Programming For Engineers. Thomas Learning

Paper VI: Semester IV
EL-346: A) Industrial Automation

Unit-1: Generalized configuration and performance characteristics of instrumentation system (14)

Functional Elements of an instrument, active and passive transducers, Working principle and specification of thermal sensors like thermister, thermocouple, optical sensors photodetector, and optical encoder, Mechanical sensors LVDT, magnetic sensor hall effect etc. Analog and Digital Modes of Operation, Null and Deflection Methods, Input Output configuration of Instruments and measuring systems. Working principle of electromechanical relay, heater, LED/LCD display.

Generalized measurements, zero-order System, First-order System, Second-order System,

Dead-Time Element, Specifications and Testing of Dynamic Response.

Unit 2 :Manipulating, Computing and Compensating devices (10)

Bridge circuits, Operational Amplifiers, Instrumentation Amplifiers, Transconductance and Transimpedance Amplifiers, Noise Problems, Shielding and Grounding,

Generalized Data Acquisition system- Elements of a data acquisition system, Single channel Data Acquisition system, Multichannel Data Acquisition system, Sample and Hold circuits, ADC, DAC, Multiplexers.

Unit 3: Fundamentals of Process automation (12)

Process control system: Continuous control, discrete state control, composite discrete/continuous control, Ladder Diagram: Ladder diagram elements with examples.

Process Characteristics: Process equation, Process load, Process lag, self regulation

Control system parameters: Error, Variable range, control parameter range, control lag, dead time, cycling,

Unit 4: Controller modes (12)

Discontinuous controller modes: Two position mode, Multiposition mode, floating control mode

Continuous controller modes: Proportional control, Integral control, Derivative control and composite modes Proportional-Integral , Proportional derivative, Proportional-integral –derivative(PID).

Recommended Books:

1. C.D. Johnson, Process control Instrumentation Technology John Willy and Sons, Inc., 3rd Edition
2. C S Rangan,G R Sarma,V S Mani:Instrumentation Devices & Systems , 2nd Edition TMH
3. Ernest O Doebelin, Dhanesh N Manik:MEASUREMENT SYSTEMS Application and Design , 5th Edition Tata McGrawHill
4. Joseph J. Carr:Elements of Electronic Instrumentation and Measurement , 3rd Edition Pearson Education
5. H S Kalsi:Electronic Instrumentation, Second edition, Tata McGraw Hill Pub.

Paper-VI: Semester IV
EL-346: B) Consumer Electronics

Unit-1: Audio Systems **(08)**

Introduction to: Microphone, Loudspeaker and Music System: Principle, construction, working and characteristics

Microphone: Different types of microphone: Electret & carbon microphones

Special Microphones: Lavalier microphone, Tie-clip microphone, Radio microphone and Noise cancelling microphone.

Loudspeakers: Characteristics of Loudspeaker, Horn type, Multiway speaker system (Woofers & Tweeters).

P.A. System: Block diagram of P.A. system, requirements of P A system, typical P.A. Installation planning (P.A. system for a public meeting in Public Park and P.A. System for an auditorium having large capacity)

Unit 2: TV and Video Systems **(12)**

Television: standards, B/W/Colour, CRT/HDTV

Video Systems: VCR/VCD/DVD players, MP4 players, Set top Box, CATV and Dish TV, LCD, Plasma and LED TV, Projectors, Home theaters

Unit 3: Telephone Systems **(08)**

Basic land line equipment, Telephone set, working, telephone exchange, Initiating call, calling a no., pulse dialing and tone dialing, signal to /from exchange, dial tone, dial back and engage signals, making connection, answering call, conversion, ending call, Modems, telex, PBX, PABX, transmitter and receiver. Cordless Phones: Principle of operation, Block diagram of the base unit, Block diagram of the Handset, Features and specifications.

Cellular Phones - Operating principle, the cell approach, Block diagram, Functions performed by cell phones, features/ specifications.

GPRS and Bluetooth, GPS Navigation system

Unit 4: Office Equipments and Modern Home Appliances **(20)**

Office Equipments: Scanners-Barcode/Flatbed, Printers, Xerox machine, Multifunction Unit (Print, scan, fax, copy)

Home Appliances: Microwave Oven – Principle of operation, Block Diagram, features and specifications

Washing Machine/ Dish washers - Principle of operation, fuzzy logic, Washing machine with fuzzy logic, Block Diagram, features and specifications.

Remote Control: Operating Principle, Block Diagram, Operation and features.

Electronic Weighing Systems - Operating principle, Block diagram, features.

Digital Camera, Handicam, Home security System

Reference Books:

1. Audio and Video systems by R.G. Gupta Tata McGraw Hill (2004)
2. Modern CD player servicing Manual by Manahar Lotiya
3. Modern Telephone and cordless servicing by Manahar Lotiya
4. Consumer Electronics by J. S. Chitode Technical Publications, Jan-2007
5. Television- By Gulati, New Age International.
6. Mobile cellular telecommunications analog and digital system- By Lee.
8. Mobile cellular communication- By William C. Y. Lee, 2nd edn 1985, McGraw Hill Publication.
9. Consumer Electronics by R.P. Bali, Pearson Education (2008)

T.Y.B.Sc. (Electronic Science)**Practical Courses****Aim and Objectives:**

1. The practical activities are self learning process, there are three practical courses.
2. There are TWO activities i.e. one for Practical course-I and other for Practical course-II. One activity is equivalent to 4 experiments.
3. There will be no change in the workload in taking 16 experiments and one activity instead of 20 experiments.
4. There will be 16 experiments and one activity in each course. Student select the activity throughout the year he/ she will work on it and at the end submit full activity report individually.
5. Student will prepare **a report on each activity**. It will be evaluated both at internal and university practical examination.
6. The progress of the student activity will access time to time/ weekly/ monthly by the teacher during regular practical timing.
7. This activity will generate good quality of work and prepare good report (study material with practical experience) which will be useful to the teachers, departments, other students etc.

In the practical course examination of 100 marks, 20% weightage will be given to activity done by the student at internal and external examination. The number of experiments according to groups is specified in the following Table.

	Group	Title	No. of Expt.
EL-347: Practical Course-I			
Section I	1	Analog Circuit Design and Applications of Linear ICs	4
	2	Power Electronics	3
	3	Advanced Communication Systems	3
Total Experiments			10
Section II	4	Principles of Semiconductor Devices	3
	5	Fiber optic Communication	3
		Electronic Product Design and Entrepreneurship	
		Industrial Automation	
		Consumer Electronics	
Activity (Equivalent to 4 Experiments)			4
Total Experiments			10
EL-348: Practical Course-II			
Section I	1	Assembly and C Programming for Microcontrollers	6
	2	Digital System Design using Verilog HDL	4
Total Experiments			10
Section II	3	C Programming	6
Activity (Equivalent to 4 Experiments)			4
Total Experiments			10

T.Y. B.Sc. (Electronic Science)
Paper VII EL-347 Practical Course- I
(2015 Pattern)

There are 20 Experiments in Paper VII EL-347 Practical Course- I
One activity as directed in practical course which will be equivalent to 4 experiments

Internal Practical Examination (Out of 20)

- 16 Marks to Experiments, 04 Marks to Activity

University Annual Practical Examination (Out of 80)

- Two experiments of each of 3 hours duration (40 Marks)
- Section I: 32 Marks for Experiment, 8 marks for oral
- Section II: 24 Marks for Experiment, 16 marks for oral of experiment and activity

Objectives:

1. To refer the various datasheets of the electronic devices and integrated circuits
2. To learn how to select the devices, sensors, actuators and ICs for a particular application
3. To develop the basic skills required to handle the various instruments
4. To learn the designing aspects of circuits/ systems

Section I

Total 10 Experiments to be conducted in the Laboratory

Group 1: Total 4 Experiments

Analog Circuit Design and Applications of Linear ICs

1. Wave shaping circuits (Integrator / differentiator circuit)
2. Op-amp based clipper and clampers
3. Log amplifier using opamp
4. To study gain bandwidth product of inverting/ non-inverting amplifier.
5. Regulated power supply using IC 723 (Low and High Voltage, 1A Current)
6. Function generator using 8038/2206 or any equivalent IC
7. Active second order Butterworth Low Pass/ High Pass/ Band Pass/ Band Reject Filter (any two)
8. Astable and monostable multivibrator using IC555.
9. Study of PLL Characteristics IC565/ CD4046/ XR2211 or any equivalent IC

Group 2: Total 3 Experiments

Power Electronics

1. SCR/MOSFET/IGBT static characteristics
2. Controlled rectifier
3. Light Dimmer / fan regulator circuit

4. Electronic Ballast
5. PWM based PMDC motor control
6. Buck/Boost Regulator
7. Study of SMPS
8. Emergency light
9. Mains Over voltage/under voltage Protector
10. AC and DC static switches

Group 3: Total 3 Experiments

Communication Systems

1. Amplitude modulation using OTA CA3080 and demodulator
2. FM modulator using VCO
3. FSK modulator and demodulator using XR 2206 and XR2211
4. QASK/ BPSK using op-amp and analog multiplexer (IC CD 4051/52/53)
5. SSB generation using IC 1496/1596 or equivalent and demodulation

Section II

Total 6 Experiments to be conducted in the Laboratory

Group 4: Total 3 Experiments

Principles of Semiconductor Devices

1. Hall effect
2. Four probe method
3. Measurement of Efficiency and fill factor of solar cell.
4. Energy band gap measurement
5. Reverse recovery time measurement of diodes (any two).
6. Angular displacement measurement using Hall Effect sensor.
7. Transfer characteristic of phototransistor/ Photodiode

Group 5: Total 3 Experiments

Fiber Optics and fiber optic Communication

1. Study of propagation loss in optical fibers
2. Study of bending loss in fibers
3. Setting up of fiber optic voice link
4. Measurement of Numerical Aperture
5. Fiber terminations and polishing
6. Fiber in sensor application
7. Design of fiber optic Transmitter
8. Design of fiber optic Receiver
9. Visit to telecom facility for observing splicing, alignment, fusing, OTDR operation, connectorization, types of connectors, couplers and cables

Electronic Product Design and Entrepreneurship

- 1: Interview a successful entrepreneur.
- 2: Visit a small business- project report.
- 3: Identify business opportunities.
- 4: Market Survey

Industrial Automation

1. Measurement of displacement using potentiometer.
2. LVDT Characteristics- Sensitivity measurement
3. Level measurement using capacitive transducers.
4. Pressure measurement using piezoelectric transducers.
5. Study of Hall Effect transducer
6. Design of Wheatstone's bridge for resistive transducer.
7. Simulation PI, PD and PID controller modes
8. PLC simulation using ladder diagram
9. ON-OFF controller using microcontroller/op amp

Consumer Electronics

1. Study of PA systems
2. Installation of Audio /Video systems
3. Market Survey of Products
4. Identification of block and tracing the system.

[C] Activity:

Circuit design using PSpice (Equivalent to 4 Experiments) **OR** Industrial Visit

T.Y. B.Sc. (Electronic Science)
Paper VII EL-348 Practical Course- II

There are 20 Experiments in Paper VII EL-348 Practical Course- I
One activity as directed in practical course which will be equivalent to 4 experiments

Internal Practical Examination (Out of 20)

- 16 Marks to Experiments, 04 Marks to Activity

University Annual Practical Examination (Out of 80)

- Two experiments of each of 3 hours duration (40 Marks)
- Section I: 32 Marks for Experiment, 8 marks for oral for
- Section II: 24 Marks for Experiment, 16 marks for oral of experiment and activity

Objectives:

1. To learn the basic C-Programming
2. To learn Verilog HDL to design basic combinational and sequential circuits
3. To get familiar with structural, data flow and behavioral modeling
4. To learn assembly level language of 8051 microcontroller
5. To use cross compiler to develop C-programs for microcontroller
6. To study the various interfacing circuits to 8051 microcontroller

Section I

Total 10 Experiments to be conducted in the Laboratory

Group 1: Total 6 Experiments

Assembly and C Programming for Microcontrollers

8051 Practical (Practical 1 and 2 in Assembly are compulsory and Practicals 3 to 13 may use in both assembly or C or both)

1. Basic exercises on arithmetic, logical and data transfer operation ,largest, smallest of numbers
2. Programs on code conversion: dec-hex, hex-dec, ASCII – HEX, HEX – ASCII, BCD – seven segment
3. Serial Communication sending string on Hyper terminal , receiving data from Keyboard.
4. LCD interface. a) To display message on both lines b) To display 2-digit BCD counter on second line
5. Interfacing of Keypad / Matrix KBD to 8051
6. Interfacing of DIP switches/TWS to 8051
7. Interfacing SSDs – Non-multiplexed / Multiplexed type
8. Interfacing Stepper Motor – Continuous clockwise , anticlockwise , rotation for fixed angle
9. Interfacing LED Bank / dot matrix display
10. Interfacing ADC (Implement digital voltmeter)
11. Interfacing DAC- Waveform generator (Ramp , Triangular , square) , with different amplitude
12. Event counter, Frequency Counter using Timer/Counter of 8051.

13. Traffic Light Controller(Generate delay using for loop , using Timer/Counter)
14. Design of target board.
15. Program for Flashing of LED on any port of PIC microcontroller.

Group 2: Total 4 Experiments

Digital System Design using Verilog HDL

1. Design 4 to 1 line MUX/ 1 to 4 DEMUX
Use a) gate level b) data flow c) Structural d) Behavioral style of modeling
2. Design 2-4, 3-8 decoder using a. gate level b. Structural d. Behavioral - modeling) and BCD to Seven Segment Decoder (using Behavioral modeling)
3. Arithmetic circuits: Half adder, Full adder (using gate level , Data flow modeling) and Parallel adder using structural modeling
4. Four bit ALU design using behavioral modeling
5. Design a) 2-bit magnitude comparator using gate level modeling b) 4-bit magnitude comparator using structural modeling
6. Design of flip-flops using : RS, D and T using behavioral modeling and Design of Counter using T flip-flops (Use Structural modeling): Asynchronous counter and Asynchronous up/down counter
7. Design the following
 - a. Up-down bit binary counter (minimum 4-bit) using behavioral modeling
 - b. Shift register using D flip flops(Structural)
 - c. Shift register using behavioral modeling
8. Designing of Traffic light Controller
9. Code converter – binary to gray, gray to binary using data flow modeling
10. Encoder- 8 to 3 encoder, priority encoder using behavioral modeling
11. Stepper motor sequence generator

Section II

Total 6 Experiments to be conducted in the Laboratory

Group 3: Total 6 Experiments

‘C’ Programming

1. Program to compute the following :
 - a) Parallel equivalent resistance of n resistors.
 - b) Reactance of Inductor , Capacitor in Ω at given frequency
 - c) To determine impedance of the series LR circuit.
 - d) Resonant frequency of series L(mH),C(μ F)
 - e) Program to compute Vdc and Vrms values of half wave/Full wave controlled rectifiers for different values of firing angle(study of controlled characteristics)
 - f) Program to compute Vdc and Vrms values of ac voltage controller for different values of firing angle(study of controlled characteristics)
 - g) Program to compute parameters of opamp in inverting and non-inverting amplifiers for given open loop parameters values.
2. Program to compute the following :

- a) Generate truth table for boolean function.
- b) Determine binary equivalent of an 8-bit integer
- c) Convert i) binary to gray ii) binary to decimal iii) hex to decimal
3. Program to compute the following :
 - a) Determine the drain current in a FET with an entered threshold voltage, beta and Supply voltage.
 - b) Program to determine current flowing in a diode accepting diode voltage, reverse saturation current and junction temperature in Kelvin
4. Transient response of an RC circuit.
5. Develop a program for the following
 - a) Determine classification of radio wave.
 - b) Solve the given quadratic equation.
 - c) Calculate frequency of i) Astable multivibrator using 555 ii) Wein bridge Oscillator iii) Phase shift oscillator
6. Program the following
 - a) Determine determinant of matrix
 - b) Solve solution of network equation using matrix.
7. Sorting of a) array of numbers b) list of names of students (Bubble Sort).
8. Calculate $\sin x$ and $\cos x$ by Taylor's series.
9. Recursive functions - Factorial of a number, Fibonacci Series.
10. Prime numbers generation.
11. Program on structure – read 10 records, process on data and display the result.

Reference Books:

1. C for Electronics and Computer Engineering Technology.-Peter J. Holsberg
2. C for Electronic Engineering: With Applied Software Engineering -by William Buchanan

Activity: Circuit design using PSpice OR MATLAB Programming (Equivalent to 4 experiments)

T.Y. B.Sc. (Electronic Science)
Paper IX: EL-349 Practical Course- III
Project Work

Guideline to conduct Practical Course III

Practical Course III is a project work of 100 Marks.

- Internal project Examination (Out of 20)
- University Annual project Examination (Out of 80)

The project work should be followed with following guidelines.

- a) The name and subject of the project type must be well defined.
- b) Planning of the work must be specified.
- c) Theoretical, reference work must be provided.
- d) Pilot experimentations / Preparations must be specified.
- e) Typical design aspects, theoretical aspects, aim and objectives of the work must be specified in detail.
- f) The actual work done must be reported along with experimentation procedures.
- g) There must be observations, interpretations, conclusions, results of the project work.
- h) Algorithm, program strategy, module wise description of parts etc be provided in case of projects related with development of computer software.
- i) Applications, usefulness, student's contribution in it must be clearly specified.
- j) Further extension work may be suggested for better outcome of the project.
- k) It is recommended to present the projects in competitions / project exhibitions organized by various authorities.