



Pravara Medical Trust's

Arts, Commerce and Science College,

Ayurved College Campus, Akhegaon Road, Shevgaon

Tal. - Shevgaon, Dist.- A.Nagar- 414502

Affiliated to Savitribai Phule Pune University, Pune



Self-Study Report: 2024-25 (First Cycle)



Criteria – I Curricular Aspects

Key Indicator 1.3 Curriculum Enrichment

Metrics: 1.3.1 (Q₁M)

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum

Submitted to
**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
BENGALURU**

Table Content 1.3.1

Sr. No	Department Name	Crosscutting Issues
1.	B.C.A.	Professional Ethics
		Human Values
		Environment
2.	Science	Professional Ethics
		Human Values
		Environment
		Gender
3.	Arts	Professional Ethics
		Human Values
		Environment
4.	Commerce	Professional Ethics
		Human Values
		Environment
		Gender

Crosscutting Issues

Pravara Medical Trust's
Arts Commerce Science College, Shevgaon
Department of B.C.A (Science)
List of Cross Cutting Issues

Sr .No	Cross Cutting Issue	Class	Subject	Title of the Course	Unit/Topic	Outcomes
1	Professional Ethics	FYBCA	BCA114: Business Communication	Business Communication		
2	Professional Ethics	FYBCA	Certificate course	Computer Literacy Program	Windows 2000 Professional and Internet	Explored windows with the professional point of view
					Truble Shooting (Pc and Edu Sat)	Computer Maintenance and Troubleshooting
2	Human Values	TYBCA	BCA355:-SEC-II Cloud Computing	Cyber Low	Email Security, Web Security, Data base Security	Lecture/ Practical
3	Environment	TYBCA	EVS	Environmentl Sciences	Unit-I: Fundamentals of Environmentl Sciences	Natural resources and their assessment. Remote Sensing and GIS: Principles of remote sensing and GIS. Digital image processing and ground truthing. Application of remote sensing and GIS in land cover/land use planning and management (urban sprawling, vegetation study, forestry, natural resource), waste management and climate change.
4	Environment	SYBCA	EVS	Environmentl Sciences		
5						

**Pravara Medical Trust's
Arts, Commerce and Science College Shevgaon
Department of Commerce**

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme.	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
F.Y.Bcom	111	Comp.English-I	Black Money and the black Economy	ocaptain MY Captain wait whitman	Meeting and greeting people and Dialogue writing	stay calm	Asst. Prof. Kate A.A.
	112	Financial Accounting-I	Computerized Accounting	Business Entity concepts	Accounting concepts.	Environment Accounting	Asst. Prof. Gabe P.S.
	113	Business Economics	1. Pricing under Imperfect Market - 1. meaning 2. Monopoly.	Consumer surplus Concept.	Topic -02 - Demand analysis consumer Behaviour.	Household consumers, Firm, plant & industry.	Asst. Prof. Kokrekar.



HEAD
Dept. of Commerce
Pravara Medical Trust's
Arts, Commerce and Science College
Shevgaon, Dist. Ahmednagar

F.Y.B.Com 111 Compulsory English

Prescribed Text: *Success Avenue* (Board of Editors- Orient Blackswan)

Prose	Unit1	The Beggar- Anton Chekhov
	Unit2	Black Money and the Black Economy- C. Rammanohar Reddy
	Unit3	The Nightingale and the Rose- Oscar Wilde
	Unit4	Muhammad Yunus: An Economics for Peace- Farida Khan
	Unit5	Indra Nooyi: A Corporate Giant- Indra Krishnamurty Nooyi
	Unit6	Appro JRD- Sudha Murthy
	Unit7	Fur- Saki
	Unit8	After Twenty Years- O' Henry
Poetry	Unit9	Up-Hill- Christina Rossetti
	Unit10	Stay Calm- Grenville Kleiser
	Unit11	O Captain! My Captain- Walt Whitman
	Unit12	The Prayer for My Daughter- W. B. Yeats
Communication and Life Skills	Unit13	Meeting and Greeting People and Dialogue Writing
	Unit14	Group Discussions, Interview and Interviewing Skills
	Unit15	Presentation Skills
	Unit16	Letter Writing, Report Writing and Blog Writing
	Unit17	Resume Writing and E-Mails
	Unit18	Non-Verbal Communication



F.Y.B.Com 112 Financial Accounting

Unit No.	Unit Title	Contents
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> <ol style="list-style-type: none">1. Inflation Accounting2. Creative Accounting3. Environmental Accounting4. Human Resource Accounting5. 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.
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
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
5	Software used in Accounting	<ol style="list-style-type: none"> 1. Types of Accounting Software 2. Use of Accounting Software 3. Installation of Accounting Software 4. Advantages and disadvantages of Accounting Software <p>Voucher entry and Report Generation including GST transactions</p>
6	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



F.Y.B.Com 113 Business Economics

Unit No.	Unit Title	Contents
1	Introduction and Basic Concepts	1. Meaning, Nature, Scope and Importance of Business Economics 2. Concept of Micro and Macro Economics 3. Tools for Economic Analysis- Functional Relationship, Schedules, Graphs and Equations 4. Basic Concepts: Household, Consumer, Firm, Plant and Industry 5. Goals of Firms- Economic and Non-Economic
2	Consumer Behaviour	1. Utility: Concept and Types 2. Cardinal Approach: Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility 3. Consumer Surplus: Concept and Measurement 4. Ordinal Approach: Indifference curve Analysis- Concept, Characteristics, Consumer Equilibrium
3.	Demand and Supply Analysis	1. Concept of Demand 2. Determinants of Demand 3. Law of Demand 4. Elasticity of Demand 4.1. Price Elasticity of Demand - Meaning, Types, Measurement, Uses and Significance 4.2. Income Elasticity of Demand-Meaning and Types 4.3. Cross Elasticity of Demand-Meaning and Types 5. Supply : Concept, Determinants and Law of Supply 6. Equilibrium of Demand and Supply for Price Determination



4.	Production Analysis	<ol style="list-style-type: none"> 1. Concept of Production Function 2. Total, Average and Marginal Production 3. Law of Variable Proportions 4. Law of Returns to Scale 5. Economies and Diseconomies of Scale- Internal and External
5.	Cost and Revenue	<ol style="list-style-type: none"> 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 2. Relation between Total Cost, Average Cost and Marginal Cost 3. Cost Curves in Short run and Long run 4. Concept of Total Revenue, Average Revenue and Marginal Revenue
6.	Pricing Under Perfect Market Conditions	<ol style="list-style-type: none"> 1. Pure Competition: Meaning and Features 2. Features of Perfect Competition 3. Price Determination in Perfect Competition 4. Equilibrium of Firm and Industry in Short Run and Long Run
7.	Pricing Under Imperfect Market Conditions	<ol style="list-style-type: none"> 1. Meaning of Imperfect Competition 2. Monopoly: Features and Equilibrium, Price Discrimination 3. Monopolistic Competition- Features and Equilibrium. 4. Oligopoly: Concept and Features 5. Duopoly: Concept and Features 6. Comparison of Perfect and Imperfect Competition
8.	Factor Pricing	<ol style="list-style-type: none"> 1. Marginal Productivity Theory of Distribution 2. Rent- Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent 3 Wages- <ol style="list-style-type: none"> 3.1. Meaning and Types of Wages- <ol style="list-style-type: none"> a) Minimum Wages b) Money Wages c) Real Wages d) Subsistence Wages e) Fair Wages



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Department of Commerce

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List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
S.Y.Bcom	231	Business Communication-I	Methods of Channels of Communication	Cultural Barriers	Manners & Etiquettes	Barriers of Communication (Noise, Volume)	Asst. Prof. Palake O.R.
	232	Corporate Accounting -I	Amalgamation, absorption, computerization	Payroll Accounting	Company Liquidation, Intertax, Reconstruction	Accounting Standards S. 6, 10, 14, 21, Computerized A/c	Asst. Prof. Gaby P's [Signature]
	233	Business Economics-I (Macro)	04- Value of money, Cash Balance, approach	Public Dr. Dalton Approach, National Income	04- consumption, saving and investment, J. Kynes, Psychological	Public Expenditure, Trade Cycle, Macro Economic Objective	Asst. Prof. K.V. K.V.
	234	Business Management-I	Characteristics of professional management, Need, process	Recruitment sources & methods of Recruitment	E Marketing and Recruit marketing	Marketing management, Socio cultural	Asst. Prof. P. S. K. V. [Signature]



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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 YouTube Videos ,Relevant slide show, online Video Short Film Show	Individual assignment report	Understanding of basic knowledge of Business Communication



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



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



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 works 2. Developing thought process as a manger 3. Understanding functions of Management 4. 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 events 2. Developing of decision making skills to evaluate various alternatives and situations 3. 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



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Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
S.Y.Bcom	2113	Business Communication	Methods and channels of communication soft skills & Job	soft skills grooming manners	Etiquettes, internal & other courses	Omigis - of Co - noise.	Asst. Prof. Pulek S.R.
	2143	Principle and Functions of Business Management	Marketing management social culture	Recruitment sources and methods of recruitment	Imp of motivation	Disaster management.	Asst. Prof. Piscul M.V.



4/11/11
HEAD
Dept. of Commerce
Pravara Medical Trust's
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Shevgaon, Dist. Ahmednagar

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	

/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>



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's 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 Tralei McGraw 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




Pravara Medical Trust's
Arts, Commerce and Science College Shevgaon

Department of Commerce Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, and Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
T.Y.Bcom	3113	Business Regulatory Framework	Partner ship.	Consumer Protection Act 1986, sales of goods Act.	Liability of Partnership	South American preferential Trading Arrangement (SAPTA) & NAFTA.	Asst. Prof. Chakrawa S.D.
	3143	International Economics	Factor Mobility & Foreign Trade Policy foreign	Regional & international Economic Co-operation Regional	Preferential Trading Arrangement. North Atlantic Free Trade Agreement	European Union (E.U) South Asian Association for Regional Co-operation	Asst. Prof. Rasal O.J.
	3123	Advanced Accounting	Preparation of Banking Final accounts.	A-5-15 Employee Benefits.	Classification of Investment	—	Asst. Prof. Pulats S.R.




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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	<p>The Consumer Protection Act, 1986</p> <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	<p>Intellectual Property Rights : (IPRs)</p> <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	<p>Negotiable Instruments Act, 1881:</p> <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	<p>Arbitration & Conciliation:</p> <ul style="list-style-type: none"> • Concept of Arbitration & Conciliation. • Definition & Essentials of Arbitration Agreement. 	06



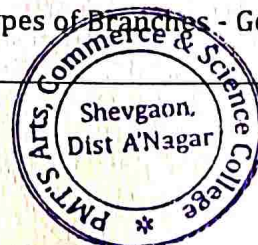
T.Y. B.Com.
Compulsory Paper
Subject Name :- Advanced Accounting.
Course Code :- 302

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



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.Jhingan 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



3153	Audit & Taxation	Duties and Responsibilities of company Auditor, IT Authorities.	Education cess -	Income from Salary	Agricultural Income.	Asst. Prof. P.S. <u>Pur</u>
3413	Business Administration III	Functions of Finance Manager, Production Manager.	employee recruitment	Various Types of Interview	-	Asst. Prof. Gable's. <u>P.P.C.</u>



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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



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.

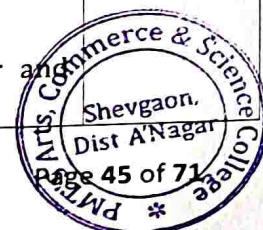
Term I

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



S.Y.Bcom

2153	Elements of Company Law	Duties and Responsibilities of directors, promoters, company secretary in formation	key managerial Personnel. Appointment Rules.	Forfeiture surrender and transfer of shares	concept of E-fitting	Asst prof. Baldwals D.
21333	Business Economics	Topic 4 Value of money 1 cash balance approach	Legal Aspects Licensing registration.	Systematic Invest merit.	Topics - Public Finance - 01. Principle of maximum social advantage. Dr Dalton's Approach	Asst. Prof. Katre K.V.
2113	Business communication	Good business letter	Social media Network	Soft skills.	Cultural Barriers, Linguistic Barriers, Psychological Barriers.	Asst. prof. P. U. R.
2123	Corporate Accounting	Amalgamation absorption, Computerized accounting	Bonus Payment	Company Liquidation and internal Reconstruction	Accounting standards 5, 5, 6, 10, 14, 21, Computerized Accounts.	Asst. prof. Gable P.S. P.S.
2213	Business Administration I	Liabilities Duties and Responsibilities of Partners.	Joint Stock	Measures of Productivity 750-9000, 750/4000, Quality circles	Business Environment Affecting Factors, Environmental Forces	Asst. prof. P. U. R.



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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.

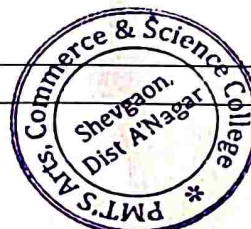
1. To make aware the students about the conceptual aspect of corporate accounting
2. To enable the students to develop skills for Computerized Accounting
3. To enable the students to develop skills about accounting standards

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



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	<p><u>Basic Concepts of macro Economics</u></p> <p>1.1 Meaning of Macro Economics</p> <p>1.2 Nature and Scope of Macro Economics</p> <p>1.3 Significance and limitations of Macro Economics</p> <p>1.4 Difference between Micro and Macro Economics</p>	08
UNIT- 2	<p><u>National Income</u></p> <p>2.1 Meaning & Importance of National Income</p> <p>2.2 Concept -</p> <p style="margin-left: 20px;">a) Gross National Product (GNP)</p> <p style="margin-left: 20px;">b) Net National Product (NNP)</p> <p style="margin-left: 20px;">c) Income at Factor cost or National Income at Factor Prices</p> <p style="margin-left: 20px;">d) <u>Per Capita Income</u></p> <p style="margin-left: 20px;">e) <u>Personal Income (PI)</u></p> <p style="margin-left: 20px;">f) Disposable Income(DI)</p> <p>2.3 Measurement of National Income – <u>Circular Flow of Income-Two sector model</u></p> <p>2.4 Difficulties in Measurement of National Income</p>	14
UNIT- 3	<p><u>Money</u></p> <p>3.1 Meaning and functions of Money</p> <p>3.2 <u>Demand for Money</u> – Classical and Keynesian Approach</p> <p>3.3 <u>Supply of Money</u></p> <p style="margin-left: 20px;">a) <u>Role of Central Bank</u> – Credit Control- Quantitative and Qualitative</p> <p style="margin-left: 20px;">b) <u>Reserve Bank of India's New Money Measures</u></p> <p>3.4 <u>Role of Commercial Banks</u> – Process of Multiple Credit Creation and its limitations</p>	12
UNIT- 4	<p><u>Value of Money</u></p> <p>4.1 Meaning & Concept of Value of Money</p> <p>4.2 Quantity Theory of Money</p> <p>4.3 Cash Balance approach – Cambridge Equation - Pigou, Marshall, Keynes</p> <p>4.4 Milton Friedman's Approach</p> <p>4.5 Difference between Quantity Theory and Cash Balance Approach</p>	14

	Theory	Term - II	
UNIT- 5	<u>Inflation and Deflation</u> 5.1 <u>Inflation and Deflation</u> - Meaning, Causes and effects 5.2 Demand Pull and cost Push inflation 5.3 Inflationary Gap 5.4 Philips Curve - Supply side Economics 5.5 Stagflation		10
UNIT- 6	<u>Trade Cycle -</u> 6.1 Meaning, Definition and features of Trade Cycle 6.2 <u>Phases of Trade Cycle</u> 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 , Pigoue , 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 <u>Principle of Maximum Social advantage-Dr. Dalton's Approach</u> 8.3 <u>Public Revenue and Expenditure</u> 8.4 Types of Taxation 8.5 Principles of Taxation 8.6 <u>Effects of Taxation</u> 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, Crosby 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 -: 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>2.1.1. Promotion: Meaning of the term 'Promoter' / Promoter Group - Legal Position of Promoters, Pre-incorporation contracts.</p> <p>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>2.1.3. Floatation/ Raising of capital.</p> <p>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</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



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 promotrion 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

235	Elements of Company Law-I	E-Governance E-filing Various types of company	Key man or Person Rules women direct	Memorandum of Association of Corporation of Companies	Corporate social Responsibilities Public company, Private company	Asst prof Baldw B.P.
236(b)	Banking & Finance-I	Role of Private Banks.	-	Public sector Banks.	Regional Rural Banks.	Asst. Prof. Palates R.
236(e)	Cost & Works Accounting-	Quotation and Estimates.	Role of Cost Accountant	Purchase Procedure	Material Control	Asst. Prof. Gable P.S.
	Environmental Awareness	Food web Primary production	Population Community	Habitat Types	Ecological biological productivity of Ecosystem	Asst. prof. Harid H.S.



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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 enables 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-Quantitative 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



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



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 –<ol style="list-style-type: none">a) Biological / Ecological Spectrum.b) Ecological Hierarchy by Baret et al.• Ecological Classification based on –<ol 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-<ol style="list-style-type: none">a) Food Chain – Grazing & Detritus.b) Food Web & Ecosystem Stabilityc) Ecological Energetics –<ol style="list-style-type: none">i) Energy Input.ii) Energy Flow – Single Channel & Y shaped models.d) Productivity of Ecosystem –<ol 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 –<ol 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.<ol style="list-style-type: none">a) Nutrient Inputs.b) Biotic Accumulation of Nutrient.c) Nutrient Outputs.	08



	2.5	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		Assignments	
3		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	12	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments, Projects	Understanding of role and performance of Private Banking in India Analyze the past and present challenges before Private Banks in India
4		Public Sector Banking: Definition and Features of Public Sector Banks 4.1 Classification of Public Sector Banks 4.2 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 –	16	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments, Projects	Understanding abo ut Public sector Banking in India Analyze the challenges before Public Sector Banks



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



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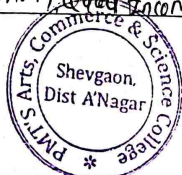
Arts, Commerce and Science College Shevgaon


Department of Commerce

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
T.Y.Bcom	351	Business Regulatory Framework-I	Negotiable Instruments Act 1881 E-contract	Intellectual Property with Partnership Act 1932 2013	Law of contract-Law of Partnership Agreement.	consumer Protection Act 1986 Goods Act.	Asst. Prof. Badday S.D.
	352	Advanced Accounting-I	Accounting Standards, Management Accounting, Various Provisions.	Claim for Loss of Stock Policy, Final Accounts of Banking Co.	Corporate Governance, Accounting Standards, Related Points	Claim for Loss of Stock Policy, Final Accounts of Banking Co.	Asst. Prof. Dablefs. J.S.
	353	Indian & Global Economics Development-I	IFT Policy, Foreign Exchange, Rate, Foreign Exchange, money.	Theory of Factors Endowment, Heckscher-Ohlin, paradox.	Terms of Trade, Free Trade Policy, Protection etc.	Intra-Industrial Trade, GATT, GPTA, NAFTA, BRICS, AINIC.	Asst. Prof. Kokmekr.
	354	Auditing & Taxation-I	Tax Audit, Electronic, Data Process, Income Tax, Authority.	Company Auditor, Qualifications, Duties, Rights, International.	Income from Business Profession, Charities, Accounting & Audit Report.	Income Tax - 1961 - Provisions, Audit process.	Asst. Prof. Dablefs. J.S.




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355(b)	Banking & Finance-II	Merchant Banking IPO, FPO	-	IRDA Insurance Regulatory Development	Credit Instrument in Indian Capital market	Asst. Prof. Kalen. B.
355(e)	Cost & Works Accounting-II	Statement for Hospital and Hotel organisation	-	money, cost of plus contract	Joint products and by products.	Asst. Prof. Gubte P.S. <i>P.S.</i>
356(b)	Banking & Finance-III	Bill of Exchange & cheque	Parties in Negotiable instruments	Voluntary Amalgamation	-	Asst. Prof. Pawar S.R.
356(e)	Cost & Works Accounting-III	Budget and Budgetary Control	Labour standards	management information system	Raw products and finished products.	Asst. Prof. Gubte P.S. <i>P.S.</i>




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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

Credit - 3

Course code: - 351

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) 	Understand the concept of Contract and its contents. Equip the students with knowledge of nature and performance and breach of Contracts.
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 	Understand the nature of partnership ,Rights and duties of Partner Handling the registration and dissolution of the partnership. Aqunt Knowledge about LLP



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.

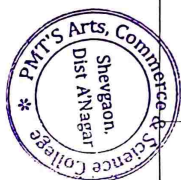


2. To impart students' knowledge of various Advanced Accounting Concepts.

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.



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

Total Credits: 3

Subject: Indian & Global Economic Development

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	Purpose: To make the students aware of concept of Development. To help the students compare Indian Economy with other developed and competitive economies. Skills: Analyze & think critically, develop writing skills.
	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	Purpose: To give the knowledge about varied aspects of agricultural sector in India. Skills: Analyze & think critically, developing critical and analytical writing skills.
	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	



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	Company Audit Qualification, Disqualifications, Appointment, Removal, Rights, Duties and liabilities of Company Auditor Tax Audit 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	Auditing in an EDP Environment General EDP Control –	i) Enhance the knowledge of Computerized Systems ii) Forensic Audit used for new techniques applicable for



- 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.



	Money Market 2.5 Deficiencies of Indian Money Market. 2.6 Recent development in Indian Money Market			
03	Indian Capital Market: 3.1 Meaning and definition of Indian Capital Market 3.2 Functions of Indian Capital Market 3.3 Participants in Indian Capital Market 3.4 Credit Instruments used in Indian Capital Market 3.5 Deficiencies of Indian Capital Market. 3.6 Recent development in Indian Capital Market	12	Lecture, PPT, Group Discussion, Library Work, Book Assignment, Use of internet	Understanding the meaning, definition functions, credit instruments, deficiencies and recent development in Capital Market in India
04	Foreign Exchange Market: 4.1. Meaning and definition of foreign exchange market 4.2. Functions of Foreign Exchange Market 4.3 Participants in Foreign Exchange Market 4.4. Determination of Exchange Rate 4.5 Recent development in Foreign Exchange Market	12	Lecture, PPT, Group and Panel Discussion, Library Work, Assignments	Understanding the meaning, definition functions, participants and recent development in Foreign Exchange Market.
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



SPPU, Pune

Revised Syllabi (2019 pattern) 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>



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>



114(A)	Bus. Mathematics & Statistics	Problems in construction of Index number	Concept of Population and sample	Average price under the systematic Investment	Management Science and Industry	Asst. Prof. Doble V.B.
114(B)	Computer Concepts & Application	Elementary working with MS-Word	Interaction between user & computer	Electronic Fund transfer	E-Commerce	Asst. Prof. Raut S.S.
115	Banking & Finance	Evolution of Banking in Europe and Asia	Acting as a trustee and Executor	Collecting Pension payments, Acting as a Dealer.	Issuance of Credit Card and Debit Card	Asst. Prof. Pulekar K.
116	Marketing & Salesmanship	Transportation, Grading, Branding	Public Relation & Sales promotion	Utility of Salesmanship.	Consumer goods & Industrial goods.	Asst. Prof. Piskul M.W.




HEAD
 Dept. of Commerce
 Pravara Medical Trust's
 Arts, Commerce and Science College
 Shevgaon, Dist. Ahmednagar

F.Y. B.Com.
Computer Concepts and Applications
104(B) (Computer Fundamentals)

Term - I	
Unit No	Topic
1.	Introduction to Computer Fundamentals 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 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 [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 MSPowerPoint
4.	Introduction to HTML. Introduction to HTML. Working of HTML Creating and loading HTML page, tags



	<p>Structure of on HTML, Document, Stand Alone Tags Formatting text, Adding Images Creating hyper Links, Tables Sending E-mails through Web Page</p> <p>Sample web pages</p>
5.	<p>Use of Computer in Commerce</p> <p>Data Processing, Files and Records, File Organization (Sequential, Direct/Random, Index) 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 Introduction to E-Commerce, Evolution of E-Commerce, Role of E-Commerce, E-Commerce Framework, E-Commerce Categories</p>

Term - II	
Unit No	Topic
1.	<p>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)</p>
2.	<p>Electronic Data Interchange Introduction to EDI EDI Architecture Financial EDI Overview of the technology involved in EDI</p>



F.Y.B.Com. 116C Marketing and Salesmanship

Unit No.	Unit Title	Contents
1	Introduction to Market and Marketing	1. Meaning and Definition of Market 2. Classification of Markets 3. Marketing Concept: Traditional and Modern 4. Importance of Marketing 5. Functions of Marketing: Buying, Selling, Assembling, Storage, Transportation, Standardization, Grading, Branding, Advertising, Packaging, Risk Bearing, Insurance, Marketing Finance, Market Research and Marketing Information. 6. Selling vs. Marketing
2	Market Segmentation and Marketing Mix	2.1 Market Segmentation: - 1. Introduction 2. Meaning and Definition 3. Importance 4. Limitations 5. Bases for Segmentation 2.2 Marketing Mix 1. Introduction 2. Meaning & Definition 3. Elements of Marketing Mix- Product, Price, Place and Promotion 4. Importance of Marketing Mix



3	Product Mix and Price Mix	<p>3.1 Product Mix</p> <ol style="list-style-type: none"> 1. Meaning and Definition 2. Product Line and Product Mix 3. Product Classification 4. Product Life Cycle 5. Factors Considered for Product Management <p>3.2 Price Mix</p> <ol style="list-style-type: none"> 1. Meaning and Definition 2. Pricing Objectives 3. Factors Affecting Pricing Decision 4. Pricing Methods
4	Place Mix and Promotion Mix	<p>4.1 Place Mix</p> <ol style="list-style-type: none"> 1. Meaning and Definition of Place Mix 2. Importance 3. Types of Distribution Channels – consumer goods and Industrial Goods 4. Factors Influencing selection of Channels <p>4.2 Promotion Mix</p> <ol style="list-style-type: none"> 1. Meaning of Promotion Mix 2. Elements of Promotion Mix- Personal Selling, Public Relation and Sales Promotion 3. Factors Affecting Market Promotion Mix 4. Promotion Techniques or Methods
5	Salesmanship	<ol style="list-style-type: none"> 1. Meaning and Definition of Salesmanship 2. Features of Salesmanship 3. Scope of Salesmanship 4. Modern Concept of Salesmanship 5. Utility of Salesmanship





F.Y.B.Com 114A Business Mathematics and Statistics

Unit No.	Unit Title	Contents
1	Interest and Annuity	<p>Interest: Concept of Present value and Future value, Simple interest, Compound interest, Nominal and Effective rate of interest, Examples and Problems</p> <p>Annuity: Ordinary Annuity, Sinking Fund, Annuity due, Present Value and Future Value of Annuity, Equated Monthly Instalments (EMI) by Interest of Reducing Balance and Flat Interest methods, Examples and Problems.</p>
2	Shares and Mutual Funds	<p>Shares: Concept of share, face value, market value, dividend, brokerage, equity shares, preferential shares, bonus shares. Examples and Problems</p> <p>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</p>
3	Population and Sample	<p>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).</p>
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>



5	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.
6	Linear Programming Problems (LPP) (for two variables only)	Definition and terms in a LPP, formulation of LPP, Solution by Graphical method, Examples and Problems
7	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.
8	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.

305B Banking and Finance-II

Unit No.	Topic
01	1. Indian Financial System: 1.1 Meaning & 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
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 Money Market 2.5 Deficiencies of Indian Money Market. 2.6 Recent development in Indian Money Market
03	Indian Capital Market: 3.1 Meaning and definition of Indian Capital Market 3.2 Functions of Indian Capital Market 3.3 Participants in Indian Capital Market 3.4 Credit Instruments used in Indian Capital Market 3.5 Deficiencies of Indian Capital Market. 3.6 Recent development in Indian Capital Market
04	Foreign Exchange Market: 4.1. Meaning and definition of foreign exchange market 4.2. Functions of Foreign Exchange Market 4.3 Participants in Foreign Exchange Market 4.4. Determination of Exchange Rate 4.5 Recent development in Foreign Exchange Market
5	Basic Concepts of Stock Market: Basic Concepts of Stock Market: 5 Primary & Secondary Market . Merchant Banking, IPO,FPO .Selective Stock Exchanges .Concept of Stock market 5.1 BSE - Bombay Stock Exchange 5.2 NSE- National Stock Exchange 5.3 Broker &Sub.broker, Demat Account, broker account, IPO Price band, Stock Listing, IPO Stock allotment 5.5 Small Cap, Mid Cap & Large Cap Companies 5.6 .Selective Market Index, Sensex, Nifty.



		Bank Nifty, Nifty future & Option 5.7 Bear & Bull Market
6	Stock Trading:	Stock Trading: 6.1. Cash Market, Future & Option Market 6.2 Types of Stock Trading A. Day Trading) Intra.day Trading (/ B. Delivery Trading C. Future & Option Trading / 6.3 Types of Orders A. Buy B. Sell C. Stop loss . 6.4 Premium amount, Lot size 6.5. Lower & Upper Circuit. 6.6 Trade Settlement, Stock Oxen 6.7 Carrier opportunities in Stock Market
7	Non -Banking Financial Institutions (NBFIs):	Non -Banking Financial Institutions (NBFIs): 7.1 Meaning and definitions Of NBFIs 7.2 Distinction between Bank and NBFIs 7.3 Functions and workings of. i) Lease Financing ii) Mutual Fund iii) Housing Finance Companies iv) Life Insurance Company) LIC (/ v) General Insurance Company) GIC(/ 7.4 carrier opportunities in Insurance Sector
8	Regulatory Bodies	Regulatory Bodies 8.1 SEBI -Security Exchange Board of India 8.2 IRDA - Insurance Regulatory & Development Authority.



Pravara Medical Trust's
Arts, Commerce and Science College Shevgaon
Department of Zoology

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
F.Y.B.Sc.	Zo-111	Animal Diversity I			Evolutionary taxonomy	Harmful Protozoa	<u>Ramdas</u> Torade P.B.
	Zo-112	Animal Ecology			characteristic of population	Community	Nikam G.C. <u>Gujar</u>
	Zo-121	Animal Diversity II					<u>Ramdas</u> Torade P.B.
	Zo-122	Cell Biology	Techniques in cell Biology				Nikam G.C. <u>Gujar</u>



Animal Diversity I & II**Objectives:**

1. To understand the Animal diversity around us.
2. To understand the underlying principles of classification of animals.
3. To understand the terminology needed in classification.
4. To understand the differences and similarities in the various aspects of classification.
5. To classify invertebrates and to be able to understand the possible group of the invertebrate observed in nature. to understand our role as a caretaker and promoter of life.

Learning outcomes for the course:

1. The student will be able to understand classify and identify the diversity of animals.
2. The student understands the importance of classification of animals and classifies them effectively using the six levels of classification.
3. The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.

Course Title: Animal Diversity –I**Course Code-ZO-111****Semester I****(2 credits-30 lectures)****No. Title & Contents****Number
of lectures****1. Principles of Classification:****(05)****Taxonomy & Systematics****1.1 Taxonomy: Basic terminology and Introduction**

- Alpha, Beta and Gamma levels of taxonomy, Micro-taxonomy
- Macro taxonomy: Phenetics (numerical taxonomy, Cladistics (Phylogenetic systematics), **Evolutionary taxonomy** (evolutionary systematics)
- Classical taxonomy and experimental or neo taxonomy (biochemical taxonomy and Cytotaxonomy)
- Significance of Taxonomy

1.2 Systematics: definition introduction

- 1.3 Linnaean system of classification (Six level classification: Phylum, class, order, family, genus, species)
- 1.4 Concept of Species: Biological & Evolutionary
- 1.5 Introduction to Binomial Nomenclature.
- 1.6 Introduction to Five kingdom system.
2. **General Features of kingdom Animalia** (02)
- 2.1 General characters of Kingdom Animalia, Grades of organization
- 2.2 Symmetry.
3. **Kingdom Protista (Phylum: Protozoa)** (07)
- 3.1 Introduction to Phylum Protozoa
- 3.2 Salient features of Phylum Protozoa
- 3.3 Classification of Phylum Protozoa up to classes with two examples of each class (names only).
 Class Rhizopoda (e.g :*Entamoeba histolytica*, *Arcella*),
 Class Mastigophora (e.g: *Euglena viridis*, *Trypanosoma gambiense*),
 Class Ciliata (e.g *Paramecium caudatum*, *Opalina ranarum*),
 Class Sporozoa (e.g *Plasmodium vivax*, *Toxoplasma gondii*)
- 3.4 Locomotion in Protozoa: Amoeboid, Ciliary and Flagellar with suitable examples
- 3.5 Type Study: *Paramecium caudatum*: Classification, Habit and Habitat, External morphology, Feeding and digestion, Excretion, Reproduction (binary fission and conjugation)
- 3.6. Economic importance of Protozoa (three harmful and one useful protozoan)
- 3.6.1-Harmful Protozoa:**
- Plasmodium vivax* (malarial parasite),
Entamoeba histolytica (Amoebic dysentery),
Trypanosoma gambiense (Gambian sleeping sickness).
- 3.6.2- Useful Protozoa:
- Trichonympha*



ZO 112: Animal Ecology

(2 Credits-30 Lectures)

No. Topic & Content

Number
of lectures

1. Introduction to Ecology

(02)

1.1 Concepts of Ecology, Environment, Population, Community, Ecosystem, Biosphere, Autecology and synecology.

2. Ecosystem

(08)

2.1 Types of ecosystems: Aquatic (Freshwater, estuarine, Marine and terrestrial (Forest, Grassland and Desert)

2.2 Structure and Composition of Ecosystem (Abiotic components and biotic components.

2.3 Food chain: Detritus and grazing food chains, Food web, Energy flow through the ecosystem, Ecological pyramids: Number, Biomass, and Energy.

2.4 concept of Eutrophication in lakes and rivers.

(08)

3 Population

3.1 Characteristic of population: Density, Natality, Mortality, Fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion.

3.2 Exponential and logistic growth,

3.3 Population regulation – density-dependent and independent factors.

Population interactions, Gause's Principle with laboratory and field interactions,

3.4 Quadrant, line and belt transect methods.

(07)

4. Community

4.1 Community characteristics: species richness, dominance, diversity, abundance, vertical stratification, Eco tone and edge effect; Ecological succession with one example.

5. Animal Interactions

(05)

5.1 Introduction to Animal interactions

5.2 Types of Animal interactions with at least to suitable examples each

5.2.1-Competition: Interspecific and intraspecific



2 **Techniques in Cell Biology:**

(04)

3.1 Introduction

3.2 Microscopy: Basic Principle, Simple, Compound and applications of Electron Microscope.

3.3 Stains and dyes:

Types of Stain: Acidic, basic and neutral.

Dye (Preparation and chemistry of dyes not expected)

3.4 Micrometry.

3 **Plasma Membrane:**

(06)

4.1 Introduction

4.2 Structure of plasma membrane: Fluid mosaic model.

4.3 Transport across membranes: Active and Passive transport, Facilitated transport, exocytosis, endocytosis, phagocytosis – vesicles and their importance in transport.

4.4 Other functions of Cell membrane in brief Protection, cell recognition, shape, storage, cell signalling.

4.5 Cell Junctions: Tight junctions, gap junctions, Desmosomes.

4 **Nucleus: Structure and function**

(04)

5.1 Introduction to Nucleus

5.2 Structure of Nucleus: Nuclear envelope, Nuclear pore complex, Nucleoplasm, Nucleolus

5.3 Chromatin: Eu-chromatin and Hetro-chromatin, nature and differences.

5.4 Functions of nucleus

5. **Endomembrane System**

(04)

6.1 Introduction

6.2 Structure, location and Functions: Endoplasmic Reticulum, Golgi apparatus, Lysosomes and vacuoles.

7. **Mitochondria and Peroxisomes**

(03)

7.1 Introduction

7.2 Mitochondria: ultrastructure and function of mitochondrion.

Pravara Medical Trust's

Arts, Commerce and Science College Shevgaon

Department of Zoology

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
S.Y.B.Sc.	23151	Animal Diversity III					<u>Ramdeo</u> Torade R.B.
	23152	Applied Zoology I				① Sericulture ② Agricultural pest and their control	<u>Shashikant K.S.</u> <u>Shashikant</u>
	24151	Animal Diversity IV					<u>Ramdeo</u> Torade R.B.
	24152	Applied Zoology II				① Apiculture ② Hobbies	<u>Shashikant</u> <u>Shashikant K.S.</u>



Course Title - Applied Zoology I

Course Code - ZO - 232

Semester III

2 Credits - 30 lectures

1) Sericulture:

16

- 1.1 An introduction to Sericulture, Study of different types of silk moths, their distribution, Taxonomic position and varieties of silk produced in India : Mulberry, Tassar, Eri and Muga silk moths. 02
- 1.2 External Morphology and life cycle of *Bombyxmori*. 02
- 1.3 Cultivation of mulberry :
- a) Varieties for cultivation,
 - b) Rain fed and irrigated mulberry cultivation- Fertilizer schedule, Pruning methods and leaf yield. 02
- 1.4 Harvesting of mulberry : a) Leaf plucking, b) Branch cutting, c) Whole shoot cutting. 01
- 1.5 Silk worm rearing :
- a) Varieties for rearing,
 - b) Rearing house,
 - c) Rearing techniques,
 - d) Important diseases and pests. 03
- 1.6 Preparation of cocoons for marketing. 01
- 1.7 Post harvest processing of cocoons :
- a) Stiffling, sorting, storage, deflossing and riddling,
 - b) Cocoon cooking, reeling equipment and rereeling, washing and polishing. 03
- 1.8 Biotechnological and biomedical applications of silk. 02

2) Agricultural Pests and their control:

14

- 2.1 An introduction to Agricultural Pests, types of pests (agricultural, store grain, veterinary). 01
- 2.1 Major insect pests of agricultural importance (Marks of identification, life cycle, nature of damage and control measures). 06
- a) Jowar stem borer,
 - b) Red cotton bug,
 - c) Brinjal fruit borer,
 - d) Mango stem borer,
 - e) Blister beetle,
 - f) Rice weevil,



Course Title - Applied Zoology II

Course Code - ZO-242

Semester IV

2 Credits- 30 lectures

1. Apiculture:

- 1.1 An introduction to Apiculture, Systematic position, Study of habit, habitat and nesting behaviour of *Apis dorsata*, *Apis indica*, *Apis florea* and *Apis mellifera*. 16
- 1.2 Life cycle, Colony organization and Division of labour. 02
- 1.3 Bee behaviour and communication (Round Dance and Wag-Tail Dance). 02
- 1.4 Bee keeping equipments :
- a) Bee box (Langstroth type),
 - b) Honey extractor,
 - c) Smoker,
 - d) Bee-veil,
 - e) Gloves,
 - f) Hive tool,
 - g) Bee Brush,
 - h) Queen excluder. 02
- 1.5 Bee keeping and seasonal management. 02
- 1.6 Bee products (composition and uses) :
- a) Honey,
 - b) Wax,
 - c) Bee Venom,
 - d) Propolis,
 - e) Royal jelly,
 - f) Pollen. 02
- 1.7 Diseases and enemies of Bees :
- a) Bee diseases - Protozoan (Nosema), Bacterial (American foul brood), Viral (Sac brood), Fungal (Chalk brood).
 - b) Bee pests - Wax moth (Greater and Lesser), Wax beetle.
 - c) Bee predators - GreenBee eater, King crow, Wasp, Lizard. 02
- 1.8 Bee pollination and management of bee colonies for pollination. 02

2. Fisheries :

- 2.2 An introduction to fisheries and its types (in brief) : Fresh water fisheries, Marine fisheries, Brackish water fisheries. 14



- 2.3 Habit, habitat and culture methods of following freshwater forms : 03
- a) Rohu (*Labeo rohita*),
 - b) Catla (*Catla catla*),
 - c) Mrigal (*Cirrhinus mrigala*).
- 2.3 Harvesting methods of following marine forms: 03
- a) Harpodon,
 - b) Mackerel,
 - c) Pearl oyster.
- 2.4 Crafts and Gears in Indian Fishery: 02
- a) Crafts – Catamaran, Machwa, Dinghi.
 - b) Gears – Gill net, Dol net, Rampani net, Cast net. 02
- 2.5 Fishery byproducts: 02
- a) Fish meal,
 - b) Fish flour,
 - c) Fish Liver oil,
 - d) Fish manure,
 - e) Fish fin soup.
- 2.6 Fish preservation technique:
- a) Chilling,
 - b) Freezing,
 - c) Salting,
 - d) Drying,
 - e) Canning.



Pravara Medical Trust's
Arts, Commerce and Science College Shevgaon
Department of Zoology

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
T.Y.B.Sc.	351510	Aquarium Management	Aquarium fish rell.				Nikom G.C Ante
	351511	Poultry Management	Poultry farming	male & female reproductive system of chick			Ramdar Tosade R.B.
	35151	Pest Management				Pest management using Biological control	Ramdar Tosade R.B.
	35152	Histology					Nikom G.C Ante
	35153	Biological Chemistry			Clinical signs of enzymes PKU & AKU		Ramdar Tosade R.B.
	35154	Genetics		sex-determi nation Human popula genetics.			Nikom G.C Ante
	35155	Developmental Biology					Ramdar Tosade R.B.



35156	Parasitology				Introduction, scope & Border of parasitology	Bhadane K.S. Dhadane
361510	Environmental Impact Assessment	EIA			Environmental sustainable development	Nikam G.C. Akar Ranadas Torade R.B.
361511	Project					Ranadas Torade R.B.
36151	Medical & Forensic Zoology	Urine Analis. physical chemistry forensic biology			forensic analysis Blood serum & urine DNA & histology	Ranadas Torade R.B.
36152	Animal Physiology				nutrition & digestion Respiration	Nikam G.C. Akar Ranadas Torade R.B.
36153	Molecular Biology					
36154	Entomology				Economic Importance of insect. Research, food, medicines & Cosmetics	Nikam G.C. Akar
36155	Techniques in Biology	microscopy Haematological techniques			Historical Review of Evolutionary Concept.	Bhadane Bhadane K.S.
36156	Evolutionary Biology				Historical Review of Evolutionary Concept	Bhadane Bhadane K.S.



- 2.3. Control districts.
- 2.4. "Crop-free" periods.
- 3. Pest management using Cultural control:** 4 L
- 3.1. Sanitation.
- 3.2. Tillage.
- 3.3. Crop rotation.
- 3.4. Cropping systems.
- 4. Pest management using Biological control:** 4 L
- 4.1. Ecological considerations.
- 4.2. Biological control of insects.
- 4.3. Biological control of plant disease.
- 4.4. Biological control of weeds.
- 5. Biotechnology approaches in pest management:** 4 L
- 5.1. Introduction.
- 5.2. Recent advance in use of fungi and viruses.
- 5.3. Methodology in Biotechnology.
- 5.4. Somaclonal variability.
- 5.5. Concept of Genetic engineering and Transgenic plants.
- 6. Integrated pest management (IPM):** 5 L
- 6.1. Principles and its components.
- 6.2. Advantages and disadvantages.
- 6.3. Biological control -
Predators, Parasitoids, Entomopathogens, Weed killers and their mass
production.
- 7. Insecticides:** 4 L
- 7.1. Classification of insecticides based on mode of entry.
- 7.2. Action and chemical nature.
- 7.3. Insecticides formulations and their uses.
- 7.4. Safe handling of insecticides.
- 8. Insecticide residue:** 3 L
- 8.1. Methods of residue detection – Organochlorine, Organophosphates, Synthetic
Pyrethroids, Systemic.
- 8.2. Problems in fruits, vegetables, medicinal plants.
- 8.3. Maximum permissible residue limits (MRLs).

Reference Books -

1. Handbook of Pest Management in Agriculture by Pimentel.
2. Principles of Insect Pest Management by Dhaliewal and Arora.
3. Agricultural Pest of India & South East Asia by A. Satwal.
4. Pathological Problems of Economics Crop Plants & their Management by Paul Khurana, S. M., 1998.



Learning Outcomes for the course -

1. Learners shall be able to understand basic concepts and significance of biochemistry
2. The students will learn about the pH and Buffers.
3. The students will learn about the chemical structures of carbohydrate, and their biological clinical significance.
4. The students will be able to understand, interpret structure and importance of proteins, carbohydrates and lipids
5. Learners will be able to comprehend variations in enzyme activity and kinetics.

Title & ContentsNumber of
lectures**1. Introduction of Biochemistry:**

Importance of Biochemistry in Life Sciences.

1 L

2. p^H and Buffers:2.1 Concept of p^H.2.2 Concept of p^H scale, biological significance of p^H

2.3 Concept of acid and base, Ionization of acids and bases.

2.4 Derivation of Henderson-Hassel Balch equation & its applications.

2.5 Buffer - Definition, Concept, Functions, Types of buffer and Buffering Capacity.

3 L

3. Carbohydrates:

3.1 Definition, Classification & Biological importance of Carbohydrates.

3.2 Isomerism in carbohydrates - Structural and Stereoisomerism.

3.4 Significance of Gluconeogenesis, Glycogenolysis and Glycogenesis.

3.3 Clinical Significance - Hypoglycemia and Hyperglycemia.

7 L

4. Amino acids and Proteins:

4.1 General Structure of amino acids and Peptide bond.

4.2 Essential and non-essential amino acids.

4.3 Types of proteins, protein structures (primary, secondary, tertiary and quaternary structures with suitable example), Forces responsible for their stability.

4.5 Biological importance of proteins - Biocatalysts, Carrier proteins Contractile proteins, Hormonal role of proteins.

6 L

5. Enzymes:

5.1 Nomenclature, Types and properties of enzymes.

5.2 Regulatory and non-regulatory enzymes.

5.3 Enzyme inhibition.

5.4 Factors influencing enzyme activity (pH, temperature, substrate concentration).

5.5 Introduction of isoenzymes and cofactor.

5.6 Clinical significance of enzymes - PKU and AKU.

10 L

6. Lipids:

3 L



4. Sex-determination:

- 4.1 Introduction.
4.2 Types of sex determination: -XX-XY, ZZ-ZW, XX-XO and Parthenogenesis, Hypodiploidy.
4.3 Gynandromorphism.

3 L

5. Population Genetics:

- 5.1 Basic Concepts in population genetics: Mendelian population, gene pool, gene / allele, Frequency, chance mating (Panmictic mating).
5.2 Hardy Weinberg law and its equilibrium.

4 L

6. Human Population Genetics:

- 6.1 Karyotype.
6.2 Genetic disorders, Structural & numerical alterations of chromosomes (chromosomal aneuploidy - Down, Patau, Edward, Turner and Klinefelter syndromes).

2 L

7. Sex linked inheritance in human:

- 7.1 Colour – blindness.
7.2 Haemophilia.
7.3 Hypertrichosis.

2 L

8. Application of genetics:

- 8.1 Genetic counselling.
8.2 Diagnostics & breeding technology.

Reference Books -

1. Principles of Genetics, 1997, P. D. Snustad, M. L. Simmons J. B. Jenkins, John Wiley & Sons, USA
2. Genetics, 2014, 9th Edn., Verma P. S. and Agarwal V. K., S. Chand and Co., New Delhi.
3. Genetics, 2014, 4th Edn. Gupta P. K., Rastogi Publications, Meerut.
4. Principles of Genetics, Gardner, E. J. *et al.* (2006), John Wiley and Sons Inc.
5. Genetics: A Molecular Approach, 3rd Edn, Russell, P. J., Benjamin Cummings.
6. Principles of Genetics 8th Edition, Gardner, E. J., Simmons, M. J., Snustad, D. P. (2008). John Wiley and Sons Inc.
7. Principles of Genetics. 5th Edn. Snustad, D. P. and Simmons, M. J. (2009). John Wiley and Sons Inc.
8. Concepts of Genetics, 10th Edn. Benjamin Cummings. Klug, W. S., Cummings, M. R. and Spencer, C. A. (2012).
9. An Introduction to Genetic Analysis, 11th Edn. Carroll S. B.; Doebley J., Griffiths, A. J. F. and Wessler, S. R. (2018) W. H. Freeman and Co. Ltd.



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- 7.2 Fertilization and cleavage in Chick.
- 7.3 Formation of primitive endoderm.
- 7.4 Primitive streak development.
- 7.5 Head process and regression of Primitive streak.

References:

1. An Introduction to Embryology (2012), 5th Edition., Balinsky B. L., Fabian B. C. Brooks Cole Pub. Co., USA
2. Developmental Biology (2013), 10th Edn. Gilbert S. F., Sinauer Associates Inc.
3. Developmental Biology: Patterns, Principle and Problems (1982), Saunders J. W., Prentice Hall Coll Div.
4. Principles of Development (2007), 3rd edition, Lewis Wolpert, Oxford University Press Publisher

Course Title: Parasitology

Course code: ZO 356

Credits: 02

ZO 356 - Parasitology

Objectives:

1. To understand the basic terminologies in parasitology.
2. To understand the concepts of animal association with examples.
3. To understand the morphology and life cycle of common parasites (Protists and Platyhelminthes).
4. To understand the phenomenon of Host-parasite relationship.
5. Explain the importance of arthropod vectors with examples.

Learning outcomes:

1. The students will be able to learn about basics and scope of parasitology.
2. The students will be able to learn the types of host and parasite with examples.
3. The students will be able to learn about the morphology, life cycle, pathogenicity and treatment of common parasites (Protists and Platyhelminthes).
4. The students will be able to learn about host -parasite relationships and their effects on the body.
5. The students will be able to learn about the arthropod parasites and their role as vector.

Title & Contents

1. Introduction, Scope and Branches of Parasitology:

1.1. Definition: host, parasite, vector, commensalisms, mutualism and parasitism.

1.2. **Branches of parasitology.**

2. Types of Parasites and Hosts:

2.1 Ectoparasites.

Number of lectures

2 L

3 L



- | | |
|---|---------|
| 4. Study of following parasites with its role as vector - Soft tick, <i>Pediculus humanus</i> , <i>Xenopsylla cheopis</i> and <i>Cimex lectularius</i> through permanent slides or photographs. (C) | Zoology |
| | D |
| 5. Study of effects of parasites on host body. | D |
| 6. Study of the pathogenicity and control measures of - Tick (soft tick and hard tick) and Mite (<i>Sarcoptes scabiei</i>). | D |
| 7. Study of parasites from the gut of cockroach. (C) | E |
| 8. Collection & submission of various parasites. (C) | E |

Course Title: Aquarium Management

Course Code: ZO 3510

Credits: 02

ZO 3510: Aquarium Management

Title & Contents	Number of lectures
1. Introduction to Aquarium Fish Keeping:	4 L
1.1 The potential scope of Aquarium Fish Industry as a Cottage Industry.	
1.2 Exotic and Endemic species of Aquarium Fishes.	
1.3 Nutritional value of fish.	6 L
2. Biology of Aquarium Fishes:	
2.1 Common characters and sexual dimorphism of Aquarium fishes - Guppy, Molly, Sword tail, Gold fish, Angel fish, Blue morph, Anemone fish, Butterfly fish and Fighter fish.	4 L
3. Food and feeding of Aquarium Fishes:	
3.1 Use of live fish feed organisms.	
3.2 Preparation and composition of formulated fish feeds.	
3.3 Overview on types of fish food.	4 L
4. Fish Transportation:	
4.1 Live fish transport: a) Fish handling. b) Fish packing. c) Fish forwarding techniques.	
4.2 Causes of mortality in transport.	3 L
5. Maintenance of Aquarium:	
5.1 General Aquarium Maintenance - budget for setting up an Aquarium.	
5.2 Fish Farm as a Cottage Industry, Rules & regulations of fish rearing.	
5.3 Common diseases of Aquarium fish.	4 L
6. Physico-chemical parameters of water for fish culture:	
6.1 Acidity, Alkalinity, Calcium, Nitrate, Ammonia, Total hardness.	2 L
7. Fish preservation:	
7.1 Fish preservation and processing.	

7.2 Fish preservation techniques.

3 L

8. Fish breeding:

8.1 Types of fish breeding -

- a) Natural fish breeding.
- b) Induced fish breeding.

Course Title: Poultry Management**Course Code: ZO 3511****Credits: 02****ZO – 3511 Poultry Management****Objectives:**

1. To understand the basics of Poultry Farming and its important.
2. To understand breeding management of broilers and layers of chickens.
3. To understand housing management and equipment of Poultry farming.
4. To understand food, feeding and digestion mechanism of chickens.
5. To understand the poultry diseases and their control.
6. To understand the economic importance of poultry products.

Expected Outcome:

1. The students will be able to understand the Poultry farming practices.
2. The students will be able to understand the poultry breeding techniques.
3. The students will be able to understand poultry rearing techniques.
4. The students will be able to understand feeding requirement and food ingredients.
5. The students will be able to understand the poultry disease and their pathogens.
6. The students will be able to understand market value of poultry products.

Title & Contents**Number of lectures****1. Introduction to Poultry Farming:**

2 L

1.1 Definition of Poultry, Importance of Poultry Farming and Poultry Development in India.

1.2 Present and future prospects.

2 Breeding Management:

5 L

2.1 Male and female reproductive system of chicken.

2.2 Breeds and strains of broilers and layers of chicken.

2.3 General aspects of breeding for better egg production and body weight gain.

2.4 Selection and culling.

2.5 Artificial insemination.



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10. Poultry Production (2011) 3rd Edn, Singh, R. A., Kalyani Publishers, New Delhi.
11. Textbook of Poultry Science (2015) 1st Edn, Sreenivasaiah., P. V. Write & Print Publications, New Delhi.
12. Encyclopedia of Broiler Breeder Production: Production, Feeding and Management Techniques (2013) Vol. 1, 2 & 3, Youn Michael, Anmol Publications Pvt. Ltd., New Delhi

Note: Latest editions of the recommended books may be referred.

SEMESTER - VI

Course Title: Medical & Forensic Zoology

Course Code: ZO 361

Credits: 02

ZO 361 - Medical & Forensic Zoology

Objectives:

1. To understand the scope, need and History of Forensic Science.
2. To understand the role of different institutes & allied institutes of Forensic Science.
3. To understand the various branches of Forensic Sciences from Life Sciences.
4. To understand human physiology, post mortal investigations.
5. To understand knowledge of handling different types of evidences and their examinations.

Expected Outcome

1. The students will be able to understand the basics principles of Medical and Forensic Zoology.
2. The students will able to understand scientific methods in crime detection.
3. The students will be able to understand the advancements in the field of Medical and Forensic Zoology.
4. The students will be able to understand modern tools, techniques and skills in forensic investigations.
5. The students will be able to describe the fundamental principles and functions of forensic science and its significance to human society.

Title & Contents

**Number of
lectures**

- | | |
|--|-----|
| 1. Introduction to medical zoology and its importance : | 2 L |
| 2. Medico-legal Autopsy: | 6 L |
| 2.1 Death and its Causes- External examination of deceased body – Internal Examination - Determination of time since death and cause of death. | |
| 2.2 Injuries – Classification - Medico-legal aspects of injuries. | |
| 2.3 Post-mortem changes - collection of post-mortem samples and Preservation. | |
| 3. Urine Analysis: | |
| 3.1 Physical characteristics, abnormal constituents, renal failure, renal calculi, dialysis. | |



4. **Non infectious Diseases:** 2 L
 4.1 Causes, Types, Symptoms, Complications, Diagnosis and Prevention of Diabetes (Type I and II), Hypertension, Hypotension, Obesity, Atherosclerosis, Myocardial Infraction.
5. **Infectious Diseases:** 2 L
 5.1 Causes, Types, Symptoms, Complications, Diagnosis and Prevention of Tuberculosis and Hepatitis.
6. **Introduction to Forensic Zoology:** 3 L
 6.1 Definition, Scope and Application of Forensic Zoology.
 6.2 Forensic Laboratories in India.
 6.3 Basic Principles of Forensic Science with Examples.
7. **Forensic Medicine:** 3 L
 7.1 Introduction to Forensic Medicine: Definitions of Forensic Medicine.
 7.2 Medical Jurisprudence.
 7.3 Medical evidence documentations.
8. **Forensic Analysis:** 9 L
 8.1 Examination of Biological Materials: Examination of Hair, Fibres, Diatoms, plants materials, human tissues.
 8.2 Examination of Body Fluid: Blood, Semen and Saliva.
 8.3 Forensic Importance of Insects: Insects of forensic importance - indicators of time of death stages of insect development & comparative decomposition of human body - colonization - Evidence collection of insects - Territorial & Aquatic Insects.
 8.4 DNA Fingerprint Technique and Examination of Biological Traces: Liquid blood, blood stains, & swabs, semen, Seminal stains, tissues, Bones, Hairs, Teeth, Saliva, Skeletal remains.
 8.5 Toxicological Investigations: Poisons - Definition, Forms of Poison - Physical, Chemical & Mechanical state. Introduction with examples of - Neurotoxic Poisons - Cerebral & Spinal, Cardiovascular Poisons, Asphyxiants, Miscellaneous poisons - Pesticides, Pharmaceutical drugs, Petroleum poisons, Food poisons, Radioactive poisons.

Reference Books

1. Godkar P. B and Godkar D. P, Textbook of Medical Laboratory Technology, II Edition, Bhalani Publications
2. Textbook of Microbiology: R. Ananthanarayan, C. K. Jayaram Panikar, University Press.
3. A textbook of Microbiology: P. Chakraborty
4. Text book of pathology: Robbins & Cotran, Vol. 1 & 2, Tenth Edition, Elsevier Publication
5. Pathologic basis of disease: M. K. Singh & Vinay Kumar, Vol. 1 & 2, 10th edition, Elsevier Publication
6. Text book of General pathology: Bhende & Deodhare Part I & II.
7. Pathologic basis of Disease: Robbins & Cotran, Vol. 1 & 2, 10th edition, Elsevier publication
8. Essentials of medical pharmacology: K. D. Tripathi, 8th edition, Jaypee brothers publishers
9. Review of pharmacology: K. D. Tripathi, Jaypee brothers publishers.



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4. The laboratory module of the course is designed to support the topics discussed in theory lecture, as well as to acquaint students with some of the laboratory techniques and equipment used in the gaining of physiological facts.

Learning Outcomes:

Upon successful completion of this course, the students will be able to describe, identify, and/or explain:

1. The various physiological organ-systems and their importance to the integrative functions of the human body.
2. Understand Concept of energy requirements
3. Various aspects of Digestive physiology.
4. Circulatory system with medical conditions
5. Understand Respiratory mechanism and gases transport.
6. Eliminations of waste materials from the body.
7. Develop understanding in Structure and functions of muscles
8. Understand formation of gametes and function of endocrine glands.

Title & Contents

Number of
lectures

1. Nutrition and digestion:

5 L

- 1.1 Nutritional requirement & balanced diet.
- 1.2 Digestion and absorption of carbohydrates, proteins and lipids.
- 1.3 Vitamins - outline of fat soluble and water-soluble vitamins; Sources, deficiency and diseases.

2. Respiration:

5 L

- 2.1 Mechanism of respiration: Regulation of ventilation in lungs, exchange of gases at respiratory surface.
- 2.2 Respiratory pigments in animals: Haemoglobin, Hemocyanin, Hemerythrin, Chlorocruorin.
- 2.3 Transport of gases : O₂ and CO₂ transport.

3. Circulation:

5 L

- 3.1 Blood: Definition and its constituents, functions of blood.
- 3.2 Heart: Structure of human heart, Pace maker, Cardiac Cycle.
- 3.3 Origin and conduction of heart beat.

4. Excretion:

5 L

- 4.1 Structure of Uriniferous tubule.
- 4.2 Mechanism of urine formation.
- 4.3 Normal and abnormal constituents of urine, Elementary idea of dialysis.

5. Muscles:

3 L

- 5.1 Structure of smooth, skeletal and cardiac muscles.
- 5.2 Mechanism of muscle contraction by Sliding filament theory.

6. Reproduction and Endocrine Glands:

- 6.1 Physiology of male reproduction, hormonal control of spermatogenesis.
- 6.2 Physiology of female reproduction, hormonal control of menstrual cycle.



3. **Insect Anatomy (Grasshopper):** 4 L
 3.1 Digestive System.
 3.2 Circulatory System.
 3.3 Nervous System.
 3.4 Respiratory System.
 3.5 Reproductive System.
4. **Insect Ecology:** 3 L
 4.1 Definition of Insect Ecology.
 4.2 Abiotic Factors (Photoperiod, Temperature and Humidity) and Biotic Factors (Food, Foraging and Nesting).
 4.3 Mimicry in insects with suitable examples.
5. **Insect Metamorphosis:** 2 L
 5.1 Definition.
 5.2 Types and examples of Metamorphosis.
6. **Insects as social groups:** 6 L
 6.1 Definition & significance of Eusociality, Intraspecific and Interspecific relationships among insects.
 6.2 Social organization in Wasps and Termites.
7. **Economic Importance of Insects:** 3 L
 7.1 Insects in Research.
 7.2 Insects in Medicines and Cosmetics.
 7.3 Insects as Vectors.
 7.4 Insects as food.

References

1. Social Insects: Their Origin and Evolution, 2006, W. M. Wheeler, Discovery Publishing House, Delhi.
2. Lives of Social Insects, 1968, P. P. Larson, M. W. Larson, World Pub. Co.
3. Modern Entomology, 2nd edition - By D. B. Tembhare, Himalaya Publication House, Bombay.
4. Principles of Insect Morphology - By R. E. Snodgrass, Tata Mc-Graw Hill Bombay.
5. The Insect: Structure & Function - By R. F. Chapman, E. L. B. S., & E. U. P. London.
6. General Entomology, 2nd edition - By M. S. Mani Oxford & IBH Publishing Company, New Delhi.
7. A Text book of Entomology - By H. H. Ross, John Wiley and Sons, Ins. New York.
8. An Introduction to Entomology - By J. H. Comstock, Ithaca, New York.
9. General & Applied Entomology - By K. K. Nayar, T. N. Anathakrishnan & B.V. David, Tata McGraw-Hill, New Delhi.



ZO 365 - Techniques in Biology

Title & Contents

Number of
lectures**1. Microscopy:**

3 L

1.1 Definitions - Resolving Power, Limit of Resolution and Magnification, Numerical Aperture.

1.2 Basic principle of microscopes - Light, Fluorescence, Phase Contrast, Stereo Microscope, SEM and TEM.

8 L

2. Microtomy: Tissue fixation and Processing

2.1 Methods of tissue fixation: Chemical fixation and physical fixation.

2.2 Procurement of tissue and importance of fixation of tissues.

2.3 Dehydration, clearing, impregnation, embedding and block making.

2.4 Types of microtomes.

2.5 Section cutting: steps and precautions, common faults in section cutting, reasons & remedies.

2.6 Mounting and spreading of ribbons.

2.7 General procedure for staining of sections.

2.8 Demonstration of Nucleic acid (Feulgen Reaction).

2 L

3. Haematological Techniques:

3.1 Total count of RBCs, WBCs and Differential count of WBCs and their significance.

3.2 Bleeding time, clotting time and their significance.

3 L

4. Immunological Techniques:

4.1 Antigen-Antibody Interactions – Immunodiffusion.

4.2 Principle & Working of ELISA.

4.3 Raising Monoclonal Antibodies.

4.4 Application of Immunological techniques in disease diagnosis.

2 L

5. Types of PCR & DNA Barcoding :

4 L

6. Methods in Biodiversity:

6.1 Introduction to sampling and sample size.

6.2 Biodiversity Indices - Species richness, Simpson Diversity Index, Shannon Diversity Index.

6.3 Measuring Biodiversity- Quadrat sampling, Transect sampling, Insect survey - Active (sweep netting, aquatic nets) and Passive methodology (Pit fall traps, Light traps).

3 L

7. Instruments In Field Biology:

7.1 Binoculars, GPS, Basic digital camera techniques: Camera lens - prime



11. To provide glimpse of Phylogenetic Trees and highlight their construction along with interpretation.

Learning outcomes

After completing the course, the student should be able to

1. Students will be able to learn most of the essential aspects of Evolutionary Biology in detail which will help them in acquiring better understanding regarding the subject.
2. Explain important processes, principles and concepts and critically evaluate theories and empirical research within evolutionary biology
3. Apply evolutionary theory and concepts to address empirical and theoretical questions in evolutionary biology.
4. Independently investigate evolutionary questions using literature and analyses of empirical data.
5. Communicate the principles, theories, problems and research results associated with questions that lie within the evolutionary framework to students

Title & Contents

Number of
lectures

1. Introduction:	4 L
1.1 Concept of Evolution.	
1.2 Origin of life.	
1.3 Origin of eukaryotic cell (Origin of mitochondria, plastids & symbionts).	
2. Evidences of Evolution:	5 L
2.1 Analogy and Homology.	
2.2 Embryological Evidences of Evolution.	
2.3 Evolutionary & Paleontological Evidences.	
3. Historical Review of Evolutionary Concept:	3 L
3.1 Theories of Evolution.	
3.2 Lamarckism.	
3.3 Darwinism and Neo Darwinism.	
3.4 Mutation Theory.	
3.5 Modern Synthetic theory.	
4. Sources of Variations:	4 L
4.1 Variation and Mutations.	
5. Isolation	5 L
6. Speciation:	4 L
6.1 Types of speciation (Allopatric & Sympatric).	
6.2 Mechanism of speciation.	
6.3 Patterns of speciation.	
6.4 Factors influencing speciation.	



Department of Hindi

1.3.1 Institution integrates cross cutting issues relevant to Gender Environmen and sustainability, Human Values and Professional Ethics into the Curriculum:
List regarding course content that deals with the following issue : (UG : B.A, B.COM & B.SC)

Programme	Course Code	Course/ Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics	Name of the faculty & Signature
B.A - F.Y.B.A	11092	Hindi G 1		जुही की कली कविता के माध्यम से प्रकृती चित्रण सन्मुख रखा है।	एक टोकरी भर मिट्टी, रोटी और संसद, युद्ध जैसी कविता तथा कहानीयों के माध्यम से राजनीतिक सामाजिक परिस्थितियों को सम्मुख रखा है	संवाद कौशल्य, सूत्रसंचालन, समूह चर्चा, इंटरनेट, सॉफ्टवेयर आदि के माध्यम से आधुनिक का बोध होता हैं।	
B.A - S.Y.B.A	23092	Hindi G 2			नाच, देश के लिए नेता, प्रेम की विरादरी जैसे काव्य ब्यंग पाठ तथा कहानी ब्यंग पाठ के माध्यम से राजनीतिक, सामाजिक, धार्मिक, आर्थिक परिस्थितियों का बोध होता है	संक्षेपण, भाषा से संबंधित ऑप्स के माध्यम से आधुनिकता का बोध होता हैं।	
B.A - T.Y.B.A	35092	Hindi G 3			प्रेमचंद एक स्मरण, पीपल संस्मरण तथा साये मे धूप जैसे गजलों के माध्यम से साहित्यिक, सामाजिक, राजनीतिक, परिस्थितियों का बोध होता हैं।	सभा, वार्ता लेखन, कार्यालयीन ज्ञापन, कार्यालयीन आदेश के माध्यम से आधुनिकता का बोध होता हैं	
F.Y.B.Com.	127C	Hindi		कलगी बाजरे की, पेड़ की पूकार कविता के माध्यम से प्रकृती चित्रण का वर्णन किया गया है	बापू के प्रति, स्वदेश के प्रति कविता तथा भोलाराम का जीव, पहिलवान की ढोलक जैसे कहानियों के माध्यम से समाज बोध मिलता है	इंटरनेट की जानकारी, सॉफ्टवेयर , अनुवाद, संवाद कौशल्य के माध्यम से आधुनिकता का बोध होता हैं	



Pravara Medical Trust's
Arts, Commerce and Science College Shevgaon
Department of English
List of Cross Cutting Issues

For - 2019-20 to 2023-24

Sr. No.	Cross Cutting Issue	Programme	Class	Subject	Title of the Course	Unit/Topic	Outcomes
1	Professional Ethics	B.C.A. (Sci.)	FYBCA	BCA 114: Business Communication	Business Communication		
		B.A.	FYBA	Compulsory English	Compulsory English	The Romance of a Busy Broker by O. Henry	Dedication
		B.Com.	FYBCom	Compulsory English	Compulsory English	Indra Nooyi: A Corporate Giant	Hard work, dedication, maintaining balances personal & Professional life.
		BA	SYBA	Core Course (CC I & II) : Compulsory English		Unit No: 5 Soft Skills	
		BSc & BCA	SYBSc & SYBCA	AECC: Language-English		Unit No.: 3 Interview Skills	
2	Gender	BA	FYBCom	Compulsory English		Muhammad Yunus: An Economics for Peace	Economic Development of Women
			SYBA	Discipline Specific Course (DSE-1A)	Appreciating Drama	Arms and the Man by G. B. Shaw	Gender Sensitivity
				Discipline Specific Course (DSE-2 B)	Appreciating Poetry	My last Duchess by Robert Browning	Inhuman treatment given to the females of the house
			TYBA	Compulsory English (2013 & 2019 Pattern)		Shakespeare's Sister -Virginia Woolf	Gender Sensitivity
Discipline Specific Course (DSE 1C,1D)	Appreciating Novel (Pattern 2019)	The Painter of Signs by R.K.Narayan		Themes like equality, fraternity.			



							freedom, nature, human emotions, honesty and cooperation are discussed
3	Human Values	BA	FYBA	Compulsory English		On Saying 'Please' - A.G. Gardiner	Changing human values
				Optional English- I & II		A Lesson My Father Taught Me by Dr. A.P.J. Abdul Kalam No Men are Foreign by James Kirkup The Thief by Ruskin Bond I Remember, I Remember by Thomas Hood	Integrity Humanity & Universal Brotherhood Honesty Memories, fleeting nature of time, and childhood innocence
			SYBA	Compulsory English		God See the Truth but waits- Leo Tolstoy The Homecoming by R. Tagore	Changing human values Abandon and Isolation
		BSc & BCA	SYBSc & SYBCA	AECC: Language-English		A Shadow by R.K.Narayan	Loneliness, Grief and Pain
4	Environment and Sustainability	BA	FYBA	Optional English- II		The Mountain and the Squirrel by R. W. Emerson	
				Compulsory English		The Felling of a Banyan Tree by Dilip Chitre	Importance of trees



						In Sahyadri Hills, A Lesson in Humility by Sudha Murthy	Life of People on Hills
						My Heart Leaps Up by William Wordsworth	Beauty of Nature
			SYBA	Compulsory English		A Simple Philosophy by Chief Seathl	Importance of Environmental Preservation and Awareness




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Department of Geography

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:
List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
F.Y.B.A.	11201	Physical Geography	-	-	-	Heat Balance Hydrological cycle	Mr. Hamid S Shaikh ATTN/SS
	12201	Human Geography	-	-	-	Problems of Indian Agriculture	Mr. Hamid Shamshuddin Shaikh ATTN/SS



Details of Syllabus:**Semester I
Physical Geography**

Sr. No	Topic	Sub Topics	Teaching Hours	Total Credits
1.	Introduction to Physical Geography	1) Definitions of Physical Geography 2) Nature and scope of Physical Geography 3) Branches of Physical Geography 4) Introduction about the Earth system (Lithosphere, Atmosphere, Hydrosphere and Biosphere)	12	03
2	Lithosphere	1) Interior of the earth 2) Wegner's Continental Drift Theory 3) Davis Concept of Cycle of erosion	12	
3	Atmosphere	1) Structure of the atmosphere 2) Heat Balance 3) Pressure belts and wind system 4) Forms and types of Precipitation	12	
4	Hydrosphere	1) Hydrological cycle 2) General structure of ocean floor 3) Waves and Tides 4) Field Visit (Not more than one day) for observations geographical places and landforms.	12	

Reference Books

- 1) Clyton K., (1986), Earth Crust, AdusBook, London.
- 2) Davis W. M., (1909), Geographical Essay, Ginnia Co.
- 3) Dayal P., (1996), Text Book of Geomorphology, Shukla Book Depot, Patna.
- 4) Kale V.S. and Gupta A., (2015), Introduction of Geomorphology, University Press, PVT Kolkata.
- 5) Kale V.S. and Gupta A., (2001), Elements of Geomorphology, Oxford Univ. Press.
- 6) Monkhouse, (1951), Principle of Physical Geography, McGraw Hill Pub – New York.
- 7) Pitty A. F., (1974), Introduction to Geomorphology, Methuen London.
- 8) Singh Savindra, (2000), Physical Geography, PrayagPustakBhavan, 20-A, University Road, Allahabad – 211002.
- 9) Steers J. A., (1964), The Unstable Earth Some Recent Views in Geography, Kalyani Publishers, New Delhi.
- 10) Swaroop Shanti, (2006), Physical Geography, King Books, NaiSarak, Delhi –110006.
- 11) Wooldridge S. W. and Morgan R. S., (1959), The Physical Basis of Geography and Outline of Geomorphology, Longman Green and Co. London.
- 12) More, Pagar&Thorat, (2014), Elements of Climatology & Oceanography, (Marathi), Atharv Publication, Pune
- 12) S MUKHERJEE, UNDERSTANDING PHYSICAL GEOGRAPHY, ORIENT BLACKSWAN (PVT)LTD



Semester II**DSE (Discipline Specific Elective) - II Geography**
Human Geography

Sr. No	Topic	Sub Topics	Teaching Hours	Credits
1.	Introduction to Human Geography	1) Definitions of Human Geography 2) Nature and scope of Human Geography 3) Branches and importance of Human Geography	12	03
2	Population	1) Factors affecting on distribution of population 2) Theory of demographic transition 3) Composition of Indian population (Gender and literacy)	12	
3	Settlements	1) Types and pattern of rural Settlements 2) Urbanisation in India 3) Urbanisation in Maharashtra	12	
4	Agriculture	1) Types of Agriculture 2) Factors affecting on Agriculture activity 3) Problems of Indian agriculture	12	

Reference Books

1. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
2. Hassan, M.I. (2005) Population Geography, Rawat Publications, Jaipur
3. Daniel, P.A. and Hopkinson, M.F. (1989) The Geography of Settlement, Oliver & Boyd, London.
4. Musmade Arjun, Sonawane Amit and Jyotiram More, Population & Settlement Geography, (2015), Diamond Publication Pune.
5. Jyotiram More and Musmade Arjun (2015) Regional Geography of India .Diamond Publication Pune.
6. Johnston R; Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
7. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, New York.
8. Kaushik, S.D. (2010) Manavi Bhugol, Rastogi Publication, Meerut.
9. Maurya, S.D. (2012) Manav Bhugol, Sharda Pustak Bhawan. Allahabad.
10. Sudeepta Adhikari (2016) Orient Blackswan PVT, New Delhi.
12. Sumitra Ghosh (2015), Introduction of Settlement Geography. Orient Blackswan PVT Kolkaqta.
13. Ghosh B.N. : Fundamentals of Population Geography
14. Hussin M. : Human Geography 1994
15. Money D.S. : Human Geography



Pravara Medical Trust's

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Department of Geography

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum:

List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
S.Y.B.A.	23201	Environment Geography	-	-	-	- Ecosystems - Biodiversity - Environmental pollution	Mr. Hamid S. Shaikh [Signature]
	23203						
	24201	Environment Geography	-	-	-	- Environmental Disaster - Environmental problem - Environmental policies	Mr. Hamid S. Shaikh [Signature]
	24203						



S.Y.B.A. Geography (G2) Syllabus for Semester III**Name of Subject: Environmental Geography- I, Subject Code: Gg.210 (A)****Objectives:**

1. To create the awareness about dynamic environment among the student.
2. To acquaint the students with fundamental concepts of environment geography for development in different areas.
3. The students should be able to integrate various factors of economic development and dynamic aspect of economic geography.
4. To make aware the students about the problems of environment, their utilization and conservation in the view of sustainable development

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Introduction to Environmental Geography	<ol style="list-style-type: none"> 1. Definition, Nature and scope of Environmental Geography. 2. Approaches of environmental Geography 3. Importance of Environmental Geography 4. Types of Environment 	12	03
2	Ecosystem	<ol style="list-style-type: none"> 1. Meaning, concept and definition of ecosystem. 2. Structure (Biotic and Abiotic factors)and food chain, Tropic Level, food web, energy flow 3. Types of ecosystem <ol style="list-style-type: none"> a) Equatorial Forest and b) Pond Ecosystem 	12	
3	Biodiversity and its conservation	<ol style="list-style-type: none"> 1. Concept of biodiversity 2. Economic potential of biodiversity 3. Loss of biodiversity and hotspots in India 4. Conservation of biodiversity 	12	
4	Environmental Pollution	<ol style="list-style-type: none"> 1. Concept of Pollution 2. Air pollution-Causes, effects and control measures 3. Water pollution-Causes, effects and control measures 4. Soil pollution-Causes, effects and control measures 	12	



S.Y.B.A. Geography (G2) Syllabus for Semester IV**Name of Subject: Environmental Geography- II, Subject Code: Gg.210 (B)****Objectives:**

1. To create awareness about dynamic environment among the students.
2. To acquaint students with the fundamental concepts of Environmental Geography.
3. To acquaint students about the past, presents and future utility and potentials of natural resources.
4. To make aware students about the problems of environment, its utilization and conservation in the view of sustainable development.

Sr. No.	Topic	Sub Topics	Teaching Hours	Total Credits
1	Environmental Disaster	1. Meaning and concepts of environmental disaster 2. Classification of Disaster 3. Natural Disaster a) Earthquake b) Flood 4. Biological Disaster a) Swine flu b) Novel Corona (COVID-19)	12	03
2	Environmental Problems	1. Global Warming and climate change 2. Ozone Depletion 3. Acid rain 4. Over use of chemical fertilizers, pesticides and insecticides	12	
3	Environmental Planning and Management	1. Need of Planning and Management 2. Micro, macro and meso level Planning and Management with reference to India 3. Environmental impact assessment	12	
4	Environmental Policies	1. Introduction of environmental policies 2. Environmental education in India 3. Kyoto Protocol	12	



Pravara Medical Trust's

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List of course content that deals with following issues

Programme	Course Code	Subject	Professional Ethics	Gender	Human Values	Environment and Sustainability	Name of the Faculty & Signature
T.Y.B.A.	35201 ₄						
	35203						
	3620 ₄	Geography of Disaster management-I	-	-	-	- Global environmental Issues (Global Warming)	Mr. Hamid S. Shaikh [Signature]
	36203						



Semester VI

T.Y.B.A. (Geography) Choice Based Credit System Syllabus
be implemented from Academic Year 2021-2022

Paper Code	Semester	Paper	Subject
Gg: 310(B)	VI	CC1F	Geography of Disaster Management-II OR Geography of Tourism -II
Gg: 320(B)	VI	DSE 1D	Geography of India -II OR Geography of rural development -II
Gg: 301(B)	VI	DSE 2D	Practical Geography – II (Techniques of Spatial Analysis, Surveying and Excursion / Village / Project Report
(Value/skill based course)		SEC 2 D	Research Methodology – II

Semester VI

Geography of Disaster Management-II CC1F (No. of Credits: 03)

Course Outcome:

1. Describe concepts of anthropogenic disaster, its types, causes and management.
2. Explain important global level disasters i.e, acid rain, ozone depletion and global warming.
3. Demonstrate Disaster Management at local level.
4. Suggest methods of protection from disaster and will be able to do disaster management.

Sr. No.	Topic	Learning Points	No. of Lectures
1	Geological and Geomorphic disasters and their management	a) Earthquakes b) Landslides c) Tsunami	12
2	Anthropogenic disasters and their management	a) Deforestation b) Forest fire c) Soil degradation	12
3	Global Environmental issues	a) Global warming b) Ozone depletion c) Marine Pollution	12
4	Case Studies of disaster	a) Tsunami in Indian Ocean -2004 b) Fukushima Nuclear Disaster -2011 c) Kedarnath Cloud Burst -2013	12



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Department of Chemistry

Cross Cutting Issues incorporated and Addressed through curriculum

Environment Consciousness and Sustainability

Sr. No.	Class	Name of Paper	Title of the Related Topic
1	F.Y.B.Sc.	Chemistry Practical	Measures of Safety
2	S.Y.B.Sc.	Environment Studies (Ability Enhancement Compulsory Course)	Introduction to Environment Studies, Ecosystem, Environmental Pollution, Natural Resources: Renewable and Non-renewable resources.
3	T.Y.B.Sc.	Chemistry of Biomolecules	Carbohydrates Lipids
4	T.Y.B.Sc.	Environmental Chemistry	Concept and Scope of Environmental Chemistry, Hydrosphere and water pollution and Treatment method, Analytical Techniques in water Analysis
5	M.Sc.	Introduction to Laboratory Safety	Measures of Safety

Human Values

Sr. No.	Class	Name of Paper	Title of the Related Topic
1	T.Y.B.Sc.	Industrial Chemistry	Modern Approach to chemical industry
2	M.Sc.	Introduction to Constitution	<p>Unit 2 : Fundamental Rights</p> <p>a) Right to equality b) Right to freedoms c) Right to against exploitation d) Right to freedom of religion e) Cultural and educational rights f) Right to property g) Right to constitutional remedies</p> <p>Unit 3 : Directive Principles of State Policy</p> <p>a) Equal Justice and free legal aid b) Right to work and provisions for just and humane conditions of work c) Provision for early childhood, Right to education and SC, ST, weaker section d) Uniform Civil Code e) Standard of Living, nutrition and public health f) Protection and improvement of environment g) Separation of Judiciary from executive h) Promotion of International peace and security</p>
3	M.Sc.	Skill Development	Different Skills need to be acquired.
4	M.Sc.	Human Rights	Human Values Dignity, Liberty, Equality, Justice, Unity in Diversity Ethics and Morals



Gender Issues

Sr. No.	Class	Name of Paper	Title of the Related Topic
1	M.Sc.	Human Rights	Fundamental rights, Gender sensitivity, Equality, Social status of women, Women rights, Sex workers, Commission of women

Professional Ethics

Sr. No.	Class	Name of Paper	Title of the Related Topic
1	T.Y.B.Sc.	Analytical Chemistry	Parameters of Instrumental Analysis, Principles of Instrument Analysis
2	T.Y.B.Sc.	Physical Chemistry Practical-I	Spectrophotometry and Colorimetry, Principles of Instrument Analysis
3	T.Y.B.Sc.	Inorganic Chemistry	Metals Semiconductors and Superconductors, Concise Inorganic Chemistry
4	M.Sc.	Research Methodology	Scope of Research and Ethics




Principal




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MARATHI

1.3.1 Institution integrates cross cutting issues relevant to Gender Environmen and sustainability, Human Values and Professional Ethics into the Curriculam:

List regarding course content that deals with the following issue : (UG : B.A, B.COM & B.SC)

Programme	Course Code	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics	Name of the faculty & Signature
B.A - T.Y.B.A	3027	Marathi G 3	—	‘प्रवास्तवर्णने’ या साहित्य प्रकारातून नैसर्गिक पर्यावरणाची ओळख होणे.	सामाजिक बांधिलकी भाषाप्रेम, सर्वधर्म समभाव या गोष्टींचा श्लेश मिळतो.	‘देशभिरेश’ यातून पर्यावरणाच्या संबंधी व्यक्तिगतत्व किंवा ग्रंथपरिचय यातून वृत्तपत्रातून निरपेक्ष धरून राहणे	डा. राजेश. ए. ए. २०२० 
B.A - T.Y.B.A	3028	Marathi S 3	साहित्याची सामाजिकता या प्रश्नातून व साक्षी व यांच्या शिक्षातून स्त्री-पुरुष लिंग-वर्ण शक्ति सादर होणे.	—	सामाजिक बांधिलकी संस्कृती परंपरा समाजात या मान्यते मूल्यांना किंवा होणे.	—	 डा. राजेश. ए. ए. २०२०
B.A - T.Y.B.A	3029	Marathi S 4	भाषितेतील लिंगभावज्ञानाची निर्माण होणे.	—	सामाजिक भाषा विज्ञानात वदारे भाषिक साखंडे स्पष्ट होणे व सामाजिक सापोरवा निर्माण होणे.	—	 डा. राजेश. ए. ए. २०२०



घटक क — निबंधसंग्रह

गुण — ३०
तासिका — २४

'विचारधारा' — संपा— डॉ. सेहल तावरे
डॉ. भास्कर शेळके

तृतीय वर्ष कला (T.Y.B.A)

मराठी (सामान्यस्तर पेपर — ३)

द्वितीय सत्र

एकूण तासिका— ४८

घटक अ — प्रवासवर्णन : तात्त्विक विवेचन

गुण — १५
तासिका — १२

- प्रवासवर्णन या साहित्यप्रकाराचे स्वरूप व व्याख्या
- इतर साहित्यप्रकारांच्या तुलनेत प्रवासवर्णनाचे वेगळेपण
- प्रवासवर्णन या साहित्य प्रकारामागील प्रेरणा व प्रयोजने

घटक ब — प्रवासवर्णन साहित्यप्रकाराची वैशिष्ट्ये, व्याप्ती आणि वाटचाल

गुण — १५
तासिका — १२

घटक क — प्रवासवर्णनसंग्रह

गुण — ३०
तासिका — २४

'देशविदेश' — संपा— डॉ. सेहल तावरे
डॉ. अशोक शिंदे
डॉ. अरुण कोळेकर



२) शैशववृत्ती ३) अनुभव समृद्धी ४) विद्वत्ता ५) लेखकाचा जीवनविषयक दृष्टिकोण. ६) लेखकाचा साहित्यविषयक दृष्टिकोण.

४. साहित्याची भाषा:—

- १) व्यवहारभाषा, शास्त्रीय साहित्याची भाषा व साहित्याची भाषा यांच्यातील भेद.
- २) शब्दार्थाचा वक्रव्यापार
- ३) भाषेचे नादरूप
- ४) अलंकार
- ५) रूपक
- ६) प्रतिमा
- ७) प्रतीक
- ८) प्राक्कथा
- ९) शैली विचार — १) लेखक तशी शैली २) आशय तशी शैली ३) साहित्यप्रकार तशी शैली.

द्वितीय सत्र

एकूण तासिका— ४८

५. साहित्याचा आस्वाद:—

- १) आस्वाद मगजे काय ?
- २) आस्वाद प्रक्रिया
- ३) आस्वादकाला आवश्यक असणारे गुण
- ४) आस्वादातील अडथळे

६. साहित्याची सामाजिकता:—

- १) साहित्य आणि समाज यांचे परस्परसंबंध
- २) लेखकाची सामाजिकता



३) भाषेची सामाजिकता

४) कलात्मक अनुभवातील सामाजिकता

५) वाचकाची सामाजिकता

६) साहित्यातील सामाजिकतेला वैश्विक रूप प्राप्त होते काय?

७) बांधीलकीची संकल्पना व साहित्यिकाची बांधीलकी.

७. साहित्यिक अभिरुची

१) अभिरुची म्हणजे काय?

२) अभिरुची आणि सौंदर्यदृष्टी.

३) अभिरुची आणि औचित्य.

४) अभिरुची भिन्नतेची कारणे.

५) अभिरुची नियत करणारे घटक — सांस्कृतिक पर्यावरण, आर्थिक पर्यावरण,

वाङ्मयीन पर्यावरण.

८. साहित्यप्रकाराची संकल्पना:—

१) साहित्याच्या वर्गीकरणाची शक्यता

२) साहित्याच्या वर्गीकरणाची आवश्यकता

३) साहित्याच्या वर्गीकरणाची तत्वे— माध्यमभिन्नता, प्रस्तुतीकरणाची पद्धती,

प्रस्तुतीकर्त्यांचा दृष्टिकोण व प्रस्तुतीकरणाचा काळ

४) साहित्याचे ठळक प्रकार — कथा, कादंबरी, काव्य, नाटक.

संदर्भ साहित्य

१) साहित्यविचार — डॉ. अ. वा कुलकर्णी

२) साहित्यविगर (संपा.) डॉ. द.दि.पुंडे, डॉ.स्नेहल तावरे

३) काव्यशास्त्र प्रदीप — डॉ. स.रा.गाडगीळ

४) वाङ्मयीन शैली आणि तंत्र — म.द.हातकणंगलेकर,

५) साहित्यविचार — भालचंद्र खांडेकर



द्वितीय सत्र

एकूण तासिका- ४८

५. वाक्यविचार - वाक्यविन्यास संकल्पना आणि मराठीतील वाक्यविन्यास व्यवस्था, वाक्याचे घटक
६. अर्थविचार - अर्थविन्यास व मराठीतील त्याचे स्वरूप, अर्थ ही संकल्पना, अर्थाचे विविध प्रकार
७. ऐतिहासिक भाषाभ्यासपध्दती - सर विल्यम जोन्स यांचा सिद्धांत - ऐतिहासिक भाषाविज्ञानाचे स्वरूप - कार्य, भाषाकुलाची संकल्पना - भाषांचे वर्गीकरण - जगातील प्रमुख भाषाकुले - इंडो युरोपियन भाषाकुल - आर्य भाषाकुल व मराठी भाषा - होर्नलॅ यांचा अंतर् बहिर् वर्तुळ सिद्धांत.
८. मराठी भाषेची उत्पत्ती :- मराठी भाषेची उत्पत्ती व त्यासंबंधीची साधने - मराठी भाषेच्या उत्पत्ती संबंधी विविध सिद्धांत - वैद्य-गुणे वाद, मराठीचे कालिक भेद



MARATHI

1.3.1 Institution integrates cross cutting issues relevant to Gender Environmen and sustainability, Human Values and Professional Ethics into the Curriculum:

List regarding course content that deals with the following issue : (UG : B.A, B.COM & B.SC)

Programme	Course Code	Course/Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics	Name of the faculty & Signature
B.A - S.Y.B.A	23023	Marathi G 2	रातो दोगा या कादंबरीतून लहाना संघटना, घर्माघर्मात या जोडवीचा संदेश मिळतो	-	कथा, कविता, नाटक, कादंबरी इ. साहित्य प्रकारातून संवेदनशीलता प्रकाशिते मानवता - जाही इतिकेळ व्यक्ती	-	Najon S.L NS
B.A - S.Y.B.A	23021	Marathi S 1	प्रकाशबाल या आलाची आदल आणिवारी पुरुष-श्री समानतेची साक्षिती होते	-	मदरि वाश ममा-आ इतिहासातून प्रत्येक फार व साहित्यिकाया श्रमीयादी इतिकेळ व्यक्ती शीला सावे	-	Najon S.L NS



तास : २४

३. पाठ्यपुस्तक

गुण ३०

जीवनवेध

संपादक : प्रा. डॉ. स्नेहल तावरे

प्रा. डॉ. शिरीष लांडगे

द्वितीय सत्र

एकूणतास : ४८

गुण : ६०

१) व्यावहारिक मराठी

तास : १२

गुण १५

१ सायंश लेखन

५

२ पारिभाषिक संज्ञा

१०

२) 'आत्मचरित्र' या साहित्यप्रकाराची तात्त्विक मीमांसा

तास : १२

गुण १५

१ आत्मचरित्र : संकल्पना

२ आत्मचरित्र व आत्मकथन : साम्य-भेद

३ आत्मचरित्र : साहित्यप्रकाराची वाटचाल

३) पाठ्यपुस्तक

तास : २४

गुण ३०

माझी जडणघडण

संपादक : प्रा. डॉ. स्नेहल तावरे

प्राचार्य डॉ. उज्वला देवरे

University Of Pune, S. Y. B. A. Marathi Syllabus (From 2014)

3



द्वितीय वर्ष कला (S. Y. B. A.)

पहिले सत्र

विषयाचे नाव

आधुनिक मराठी साहित्य : प्रकाशवाटा [DSE I 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 ललित गद्यातील 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 कन्हाडे
३. आत्मचरित्र मीमांसा, आनंद यादव
४. मराठीतील आत्मचरित्रपर लेखन, ऊषा हस्तक
५. मराठी त्राड्य कोश, खंड ४, संपादक, विजया राजाध्यक्ष
६. आत्मचरित्र, मराठी विश्वकोश, खंड २
७. २० व्या शतकातील मराठी आत्मचरित्र, उषा हस्तक



द्वितीय वर्ष कला (S. Y. B. A.)

नियमित अभ्यासक्रम
पहिले सत्र
विषयाचे नाव

भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : कादंबरी [CC-1C(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



- २ या कालखंडातील साहित्य निर्मिती मागील प्रेरणा आणि प्रवृत्ती.
- ३ या कालखंडातील निबंध, कविता, कथा, कादंबरी, नाटक, चरित्र, आत्मचरित्र या निवडक वाङ्मयप्रकारांचा स्थूल आढावा.

द्वितीय सत्र

अर्वाचीन मराठी वाङ्मयाचा इतिहास (इ. स. १९२१ ते १९६०)

एकूणतास: ४८

सत्रांत परीक्षा गुण: ६०

१) कालखंड : इ.स. १९२१ ते १९४५

तास : १२

गुण ३०

- १ या कालखंडातील सामाजिक, धार्मिक, राजकीय, सांस्कृतिक आणि वाङ्मयीन पार्श्वभूमी.
- २ या कालखंडातील साहित्यनिर्मिती मागील प्रेरणा आणि प्रवृत्ती.
- ३ या कालखंडातील निबंध, कविता, कथा, कादंबरी, नाटक, चरित्र, आत्मचरित्र, ललितगद्य इ. या निवडक वाङ्मयप्रकारांचा स्थूल आढावा.

२) कालखंड : इ.स. १९४६ ते १९६०

तास : १२

गुण ३०

- १ या कालखंडातील सामाजिक, धार्मिक, राजकीय, सांस्कृतिक आणि वाङ्मयीन पार्श्वभूमी.
- २ या कालखंडातील साहित्य निर्मिती मागील प्रेरणा आणि प्रवृत्ती.
- ३ या कालखंडातील निबंध, कविता, कथा, कादंबरी, नाटक, चरित्र, आत्मचरित्र, ललितगद्य इ. या निवडक वाङ्मयप्रकारांचा स्थूल आढावा.

संदर्भ ग्रंथ

- १ मराठी वाङ्मयाचा इतिहास खंड ४, ५, ६, म.सा.प. पुणे.
- २ अर्वाचीन मराठी गद्याची पूर्वपीठिका- गं.बा. सरदार
- ३ महाराष्ट्र जीवन खंड १ व खंड २ गं. बा. सरदार

University Of Pune, S. Y. B. A. Marathi Syllabus (From 2014)

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Pravara Medical Trust's
Arts Commerce Science College, Shevgaon
Department of B.C.A (Science)
List of Cross Cutting Issues

Sr .No	Cross Cutting Issue	Class	Subject	Title of the Course	Unit/Topic	Outcomes
1	Professional Ethics	FYBCA	BCA114: Business Communication	Business Communication		
2	Professional Ethics	FYBCA	Certificate course	Computer Literacy Program	Windows 2000 Professional and Internet	Explored windows with the professional point of view
					Truble Shooting (Pc and Edu Sat)	Computer Maintenance and Troubleshooting
2	Human Values	TYBCA	BCA355:-SEC-II Cloud Computing	Cyber Low	Email Security, Web Security, Database Security	Lecture/ Practical
3	Environment	TYBCA	EVS	Environmentl Sciences	Unit-I: Fundamentals of Environmentl Sciences	Natural resources and their assessment. Remote Sensing and GIS: Principles of remote sensing and GIS. Digital image processing and ground truthing. Application of remote sensing and GIS in land cover/land use planning and management (urban sprawling, vegetation study, forestry, natural resource), waste management and climate change.
4	Environment	SYBCA	EVS	Environmentl Sciences		
5						



Botany

**PRAVARA MEDICAL TRUST'S
ARTS, COMMERCE AND SCIENCE COLLEGE, SHEVGAON.**

DEPARTMENT OF BOTANY


CROSSCUTTING ISSUES IN BOTANY SYLLABUS

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum


Sr.No.	Crosscutting Issues	Programme	Class	Subject	Name Of The Course	Unit/Topic	Outcomes
1.	Professional Ethics	Certificate Course	All Class	Certificate course	Certificate Course In Nursery And Gardening Management	Nursery And Gardening	Student gain knowledge about nursery and Gardening Management and generate own capital income
2.	Gender	B.Sc	TYBsc	Botany	Bo 356 Genetics	Sex linked inheritance	Discuss the knowledge about sex link gene in human
3.	Human Values	B.Sc	TYBsc	Botany	BO 3510 Plant diversity and human health	Role of plants in human welfare	Discuss the uses of plant for human welfare
4.		B.Sc	FYBsc	Botany	BO 111 Plant Life And	Plant Diversity Algae,Fungi,	Discuss the diversity of plant



Environment and Sustainability				Utilization I BO 121 Plant Life And Utilization II	Bryophyte, Pteridophte	
	B.Sc	SYBsc	Botany	BO 231 Taxonomy of Angiosperms and Plant Ecology	Plant Ecology	Knowledge about the Environment
	B.Sc	TYBsc	Botany	BO 351 Algae and Fungi BO 352 Archegoniate BO 353 Spermatophyta and Paleobotany BO 354 Plant ecology BO 364 Evolution and Population Genetics	Plant Diversity And Ecological Principel	Discuss the knowledge about Plant diversity and environmental sustainability


HEAD
 Dept. of Botany
 Pravara Medical Trust's
 Arts, Commerce and Science College
 Shevgaon, Dist. Ahmednagar




Principal
 Arts, Comm. & Sci. College
 Shevgaon, Dist. Ahmednagar

Department of Botany
Certificate Course on Nursery Management

Syllabus

Unit-I: Introduction

Introduction to Nursery Management, Advantages and disadvantages of Nursery Management

Unit-II :Nursary Material and Equipments

Uses of Kudali,Garden fork,Weeding fork,Khurpi,Crow bar,Water cans,Garden rakes,Tying and wrapping material, Baskets and crates,Seedling trays and Pots.

Unit-III: Concept of nursery bed

Preparation of nursery bed, system of crop planting, pot mixture and making.

Unit-IV: Media

Use of growth regulators in propagation, media for propagation of plants in nursery beds.

Unit-V: Methods of vegetative propagation:

Plant Propagation Techniques -Sexual propagation: seeds, sowing methods, and germination.

Asexual propagation: cuttings, budding, grafting, and layering.

Unit VI :Fertilizing Nursery Plants

Plant nutrition and fertilization practices.

Unit VII : Irrigation and Drainage

Irrigation management and watering techniques.

UnitVIII :Disease Identification

Monitoring plant health and identifying common Disease.

Unit-IX: Disease Management

Techniques for pest and disease management in propagation.

Unit-X: Problems of horticulture crops

Problems of horticulture crops, Factors influencing rooting of cutting, layering and grafting.



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.

9 L

2. ALGAE

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 L

3. LICHENS

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

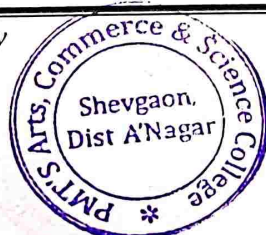
5.2: General Characters

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).



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

REFERENCES:

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.
3. Coulter, J.M. and Chamberlain, C.J. (1917). Morphology of Gymnosperms. Chicago.
4. Davis, P.H. and Heywood, V.H. (1963). Principles of Angiosperms taxonomy. Oliver and Boyd Publ. London.
5. Dutta, S.C. (1988). Systematic Botany. Wiley Eastern Ltd., New Delhi.
6. Eames, E.J. (1983). Morphology of Vascular Plants. Standard University Press.
7. Gangulee and Kar (2006). College Botany. New Central Book Agency (P.) Ltd. Kolkata.
8. Naik, V.N. (1994). Taxonomy of Angiosperms. Tata McGraw Hill Publishing Comp., New Delhi.
9. Parihar, N.S. (1976). Biology and Morphology of Pteridophytes. Central Book Depot.
10. Rashid, A. (1999). An Introduction to Pteridophyta. Vikas Publishing House Pvt. Ltd. New Delhi.
11. Sharma, O.P. (1990). Text Book of Pteridophyta. McMillan India Ltd. Delhi.
12. Singh, V. and Jain, D.K. (2010). Taxonomy of Angiosperms. Rastogy Publications, Meerut.



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



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
		15
	Credit-I Bryophytes	01
1.	Introduction to Archegoniate	02
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. Ltd Bombay.
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 IInd 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.



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:



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.



	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



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 (Professional Ethics)

- a) Conceptions of Power, Power as Exploitation, Authority, Hegemony, Foucault on Power
- b) Authority: Meaning, Nature & its forms

Unit-4 - Right and Justice (Human Values)

- a) Meaning, Nature & Kinds of Rights
- b) Dimensions of Justice (Social, Economic Political)



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Political Science

- Cross Cutting Issues relevant to Gender, environment and Sustainability Human values and professional Ethics into the Curriculum
- List Regarding Course content that deals with the following issue in Political Science

Programme	Course code	Course/ Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics	Name of the Faculty & signature
B.A. S.Y.B.A	2167 & 23161 & 24161	Political Science G-2	Unit -5 Liberty & Equality * Equality of Opportunity	Unit -8 Globalisation :- Nature & Impact	Unit -4 Right & Justice : meaning, nature type, dimension	Unit -3 power & Authority ∴ meaning, nature, Impa ct & forms	Paratwagh M.B.
B.A S.Y.B.A	2168 & 23162 & 24162	Political Science S-1	Unit -1 plato as Views on Justice & Communism	Unit -8 Rousseau a) View on Human nature b) Social Contract	1] plato 2] Aristotle 4] J.S mill	Unit -4 J.S. mill Views on representative Government & state	Paratwagh M.B.
B.A S.Y.B.A	2169 & 23162 & 24162	Political Science S-2	6] political participation :- meaning, nature level, agency of Recruitment	Unit -4 political socialisation process	Unit -2 Intellectual Foundation of political sociology a) mark b) Weber	Unit -3 political Culture	shelke G.S <u>shelke</u>



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Term-II

Unit: 5 – Liberty and Equality (Gender)

- 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 (Environment & sustainability)

- 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)

Gauga 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.



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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.

<u>Term-I</u>	Weight age
<u>Unit: 1 - Plato</u> (Gender) (Human Values) a) Ideal State & Philosopher King b) Views on Education c) Views on Justice & Communism	12 12
<u>Unit: 2 - Aristotle</u> (Human Values) a) Views on State b) Views on Property, Views on Slavery c) Views on Revolution	12
<u>Unit: 3 - Machiavelli</u> a) Views on Human Nature b) Views on Religion & Morality c) Theory of Statecraft	12
<u>Unit: 4 - J.S.Mill</u> (Human Values) (Professional Ethics) ¹² a) Views on Utilitarianism b) Views on Liberty c) Views on Representative Government & State	12
<u>Term-II</u>	12
<u>Unit: 5 - Karl Marx</u> a) Historical Materialism b) Theory of Class & Struggle c) Theory of State & Revolution	12
<u>Unit: 6 - Hobbes</u> a) State of Nature b) Views on Human Nature c) Theory of Social Contract	


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Unit: 7 – John Locke

- a) Theory of Social Contract
- b) Views on natural Rights
- c) Views on civil society & State

Unit: 8 - Rousseau (Environment & sustainability) 12

- a) State of Nature & Views on Human Nature
- b) Theory of General Will
- c) Theory of Social Contract

Readings:

- Shefali Jha, Western Political Thought from Plato to Marx, Pearson, 2012
- Biran R. N., Western Political Thought from Socrates to the Age of Ideology, Pearson 2008.
- Garde D.K, 1977, Western Political Thought, Rane Pub.Pune (Marathi Book).
- Sakalkar E. & Ashok Jain, 1990, Western Political Thought, Sheth Pub.Pune (Marathi Book).
- Deo Vijay, Sharad Gosavi & Sanjoyt Apte, 2012, Western Political Thought, Diamond Pub. Pune (Marathi Book)
- A. Ashcraft, Revolutionary Politics and Locke's Two Treatises of Government, London, Allen and Unwin, 1986.
- A. Avineri, The Social and Political Thought of K. Marx, New Delhi, S. Chand and Co., 1979.
- , The Politics of Aristotle, translated with introduction, notes and appendix, Oxford, Oxford University Press, 1995.
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- S. Mukherjee and S. Ramaswamy, A History of Political Thought: Plato to Marx, New Delhi, Prentice Hall, 1999.
- R. G. Mulgan, Aristotle's Political Theory: An Introduction for Students of Political Theory, Oxford, The Clarendon Press, 1977.
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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 (Human Values)

a) Marx b) Max Weber c) Behavioral Approach

3. Political Culture (Professional Ethics)

a) Meaning and Nature
b) Types of Political Culture

4. Political Socialization (Environment & sustainability)

a) Process and Agencies of Socialization

Section II

5. Political Ideology

a) Meaning and Nature

6. Political Participation (Gender)

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.



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Political Science

- Cross Cutting Issues relevant to Gender, environment and Sustainability Human values and professional Ethics into the Curriculum
- List Regarding Course content that deals with the following issue in Political Science

Programme	Course code	Course/ Subject	Gender	Environment & Sustainability	Human Values	Professional Ethics	Name of the Faculty & signature
B.A. T.Y.B.A	3167 & 35161 & 36161	Political Science G-3	unit-8 Feminism :- meaning, nature Scope, type relevance	unit-5 marxism :- Historical materialism Surplus Value View of state	unit-7 Gandhism :- Truth NON- Violence view of develop- ment	unit-2 Nationalism :- meaning nature, Scope element etc	shelke G.S <u>shelke</u>
B.A. T.Y.B.A	3168 & 35162 & 36162	Political Science S-3	-	4) Governance :- E-governance Good Governance	5) Bureaucracy People orient- ation	5) Bureaucracy 4) Governance Good gover- ence	shelke G.S <u>shelke</u>
B.A. T.Y.B.A	3169 & 35162 & 36162	Political Science S-4	Unit-8 Issues in Int. Politics :- Human Rights	Unit 4) Disarmnt 5) Security 8) Issue in Int Politics :- Tero- rism Environmentalism	1) Int. Politics as Theory of Idealism 2) Issues :- Human Rights	3) power 6) Diplomacy :- meaning Types & Challenges	Panwar Wagh M.B.

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SYLLABUS FOR TYBA POLITICAL SCIENCE (G-3)

POLITICAL IDEALOGIES

Course Rationale:

This paper studies the role of different political ideologies and their impact in politics. Each ideology is critically studied in its historical context. In course of its evolution and development, the different streams and subtle nuances within each ideology, the changes and continuities in its doctrine and its relevance to contemporary times are highlighted. The close link between an idea and its actual realization in public policy needs to be explained as well. The philosophical basis of the ideologies is emphasized with special emphasis on key thinkers and their theoretical formulations. The legacy of all the major ideologies is to be critically assessed.

SECTION-I

UNIT-I: - Ideology

- Origin, Meaning, Definition
- Nature and Scope

08

UNIT-II: - Nationalism

(Professional Ethics)

- Meaning, Definitions and Elements
- Progressive and Reactionary
- Internationalism

14

UNIT-III: - Democratic Socialism

- Meaning, Nature and Features
- Achievements and Limitations
- Types : Febianism, Syndicalism, Guild Socialism

14

UNIT-IV: - Fascism

- Factors responsible for the rise of Fascism
- Principles
- Corporate State

12

SECTION-II

UNIT-V: - Marxism

(Environment & sustainability)

- Historical Materialism
- Theory of Surplus Value
- Marxian State

12

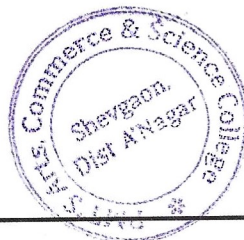
UNIT-VI: - Phule-Ambekarism

- Equality
- Religion
- Democracy

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UNIT-VII: - Gandhism (Human Values)

12

- a) Truth and Non-Violence
- b) Theory of Satyagraha
- c) Gram Swaraj

UNIT-VIII: - Feminism (Gender)

12

- a) Meaning and Nature
- b) Liberal Feminism
- c) Feminism in India : Caste, Patriarchy, Women's Representation

Readings:

- L. P. Baradat, Political Ideologies: Their Origins and Impact, Englewood Cliffs NJ, Prentice Hall, 1989.
———, The Liberal Tradition in China, Hong Kong and New York, Chinese University of Hong Kong Press, 1983.
D. Bell, The End of Ideology, New York, The Free Press, 1960.
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J. Bondurant, Conquest of Violence: the Gandhian Philosophy of Conflict, Berkeley, University of California Press, 1965.
R. M. Christenson, et al., Ideologies and Modern Politics, London, Thomas Nelson and Sons, 1971.
P. Gay, The Dilemma of Democratic Socialism: Eduard Bernstein's challenge to Marx, New York, Columbia University Press, 1952.
E. Gellner, Nations and Nationalism, Oxford, Blackwell, 1983. Political Science 76 J. Gray, Liberalism, Minneapolis, University of Minnesota Press, 1986.
J. Gray, Liberalisms: Essays in Political Philosophy, London, Routledge, 1989.
D. Ingersoll and R.K. Mathews, The Philosophic Roots of Modern Ideologies: Liberalism, Communism and Fascism, Englewood Cliffs NJ, Prentice Hall, 1991.
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M. Kitchen, Fascism, London, Dent, 1979.
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H. C. Mansfield, The Spirit of Liberalism, Cambridge, Harvard University Press. Political Science 77
D. McLellan, Marxism after Marx, London, Macmillan, 1975.
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Dr. Lodhi Kaniz Fatma Niyaz Ahmed, Modern Political Ideologies, Success Publication, Pune, 2015.
Dr. Benke Suvarna, Political Theory (Marathi), Peasant Publication, Jalgaon, 2014.
Dr. Chavan Shankar, Modern Political Ideology (Marathi), Pratima Prakashan, Pune.
Dr. Devare P.D., & Dr. D.S. Nikumbh, Modern Political Ideologies (Marathi), Prashant Publication, Jalgaon, 2008.
Dr. Date Sunil & Dr. Dhobale Ramesh, Political Ideologies (Marathi), Vidya Book Publishers, Aurangabad, 2009.
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SYLLABUS FOR TYBA POLITICAL SCIENCE (S-3)

PUBLIC ADMINISTRATION

Course Rationale:


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

SECTION-I

- UNIT-I: - Public Administration** 12
- a) Meaning
 - b) Nature
 - c) Scope and Significance
- UNIT-II: - New Public Administration** 12
- a) Evolution
 - b) Salient Features
 - c) Goals
- UNIT III:- Approaches to Public Administration.** 12
- a) Traditional Approach
 - b) Behavioral Approach
 - c) System Approach
- UNIT-IV: - Governance (Environment & sustainability)** 12
- a) Idea of Good Governance (Professional Ethics)
 - b) E-Governance
 - c) Public Private Partnership

SECTION-II

- UNIT-V:- Bureaucracy (Human Values) (Professional Ethics)** 12
- a) Meaning and Definitions
 - b) Administrative Reforms
- UNIT-VI: - Personnel Administration** 12
- a) Recruitment
 - b) Training
 - c) Promotion
- UNIT-VII: - Budget** 12
- a) Meaning and types
 - b) Budgetary Process in India


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SYLLABUS FOR TYBA POLITICAL SCIENCE (S-4)

INTERNATIONAL POLITICS

Course Rationale:

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 highlights various aspects of conflict and conflict resolution, collective security and in the specificity of the long period of the post Second World War phase of the Cold War, of Détente and Deterrence leading to theories of rough parity in armaments.

SECTION-I:

- UNIT I :- International Politics (Human Values) 12
- a) Nature and Scope
 - b) Theories of Idealism and Realism
- UNIT II :- Approaches to the Study of International Relations 12
- a) Power Approach
 - b) Decision Making Approach
 - c) System Approach
- UNIT III :- Power (Professional Ethics) 12
- a) Meaning
 - b) Elements
 - c) Changing Nature of the National Power
- UNIT IV :- Balance of Power 12
- a) Meaning and Nature
 - b) Characteristics
 - c) Changing Nature of the Balance of Power

SECTION -II

- UNIT V :- Security (Environment & sustainability) 12
- a) Meaning and definition
 - b) Regional Security
 - c) Collective Security
- UNIT VI :- Diplomacy (Professional Ethics) 12
- a) Meaning
 - b) Types of Diplomacy
 - c) Challenges To Diplomacy



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UNIT VII :- **Disarmament** (Environment & Sustainability) 12

- a) Meaning and Nature
- b) Types of Disarmament
- c) Issues and Challenges

UNIT VIII :- **Issues in International Politics** (Gender) (Environment & Sustainability) (Human Values)

- a) Human Rights - Its variations and Measures
- b) Terrorism - Causes and Consciousness

Readings:

- D. A. Baldwin (ed.), Neo-realism and Neo-liberalism, New York, Columbia University Press, 1993. (ed.), Paradoxes of Power, New York, Basil Blackwell, 1989.
- J. C. Bennett (ed.), Nuclear Weapons and the Conflict of Conscience, New York, Charles Scribner's Sons, 1962.
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- H. Bull, The Control of the Arms Race, New York, Praeger, 1961.
- K von Clausewitz, War, Politics and Power: Selections, Chicago, Henry Regnery Company, 1962.
- W. D. Coplin, Introduction to International Politics, Chicago, Markham, 1971
- K. Deutsch, The Analysis of International Relations, Englewood Cliffs NJ, Prentice Hall, 1967. J. E. Dougherty, How to think about Arms Control and Disarmament, New York, Alfred A. Knopf, 1962
- R. L. Pfaltzraff, Jr., Contending Theories of International Relations, Philadelphia, J.B. Lippincott Co., 1970.
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- R. A. Falk, Law, Morality and War in the Contemporary World, New York, Frederick A Praeger, 1963
- H. W. Forbes, The Strategy of Disarmament, Washington DC, Public Affairs Press, 1962.
- J. Galtung, The True Worlds: A Transnational Perspective, New York, The Free Press, 1980.
- F. I. Greenstein and N. W. Polsby, Theory of International Relations, Reading Massachusetts, Addison-Wesley, 1979.
- K.J. Holsti, Why Nations Realign, London, Allen and Unwin, 1982.
- , The Dividing Discipline, Boston, Allen and Unwin, 1985.
- , Peace and War: Armed Conflicts and International Order 1648-1989, Cambridge, Cambridge University Press, 1991.
- A. Hurrell, "Collective Security and International Order Revisited" International Relations, Vol. II, No.1, April.
- R. O. Keohane, After Hegemony: Cooperation and Discord in the World Political Economy, Princeton NJ, Princeton, University Press, 1984.
- (ed.), Neo-realism and Its Critics, New York, Columbia University Press, 1986.
- , International Institutions and State Power, Boulder Colorado, Westview Press, 1989. ——— and E. Ostrom (eds.), Local Commons and Global Interdependence: Heterogeneity and Co-operation in Two Domains, London, Sage, 1994.
- S. D. Krasner (ed.), International Regimes, Ithaca NY, Cornell University Press, 1983.
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- H. J. Morgenthau, Politics Among Nations, 6th edition, revised by K. W. Thompson, New York, Alfred Knopf, 1985.
- J. A. Vasquez, The Power of Power Politics, London, Frances Pinter, 1983.


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Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in B.C.A.

(Faculty of Science & Technology)

F.Y.B.C.A.

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

Title of the Course : Bachelor of Computer Applications (BCA)

Preamble of the syllabus

The B.C.A. program is a combination of computer and applied courses from science stream. The computer related courses introduce techniques of programming, databases, web designing, system analysis, design tools and different computing environments. The applied courses include mathematics, statistics and electronics that provide theoretical foundation for the learner.

Objectives:

- To produce knowledgeable and skilled human resources that is employable in IT and ITES.
- To impart knowledge required for planning, designing and building Complex Application Software Systems as well as to provide support for automated systems or applications.
- To produce entrepreneurs

Introduction

The Program is of Three Years duration with six semesters. It is a Full Time Degree Program. The program will be based on Choice-based credit system comprising 140 credit points.

Lateral Entry to SYBCA

Any candidate who has passed three Year Diploma course in Computer Engineering/Technology/Information Technology/Electronics Communication/ Electronics Telecommunications/ Electronics approved by the DTE, Maharashtra State or Equivalent authority is eligible for admission to direct second year (SYBCA) of this program.

TABLE -1 Structure for FYBCA (Semester_1)

<u>Semester 1</u>									
Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks			Credit	
		Theory	Tutorial	Practical	CE	End-Sem	Total	TH	PR
BCA111	Fundamentals of Computers	04	--	--	30	70	100	04	--
BCA112	Problem Solving and C Programming	04	--	--	30	70	100	04	--
BCA113	Applied Mathematics	04	--	--	30	70	100	04	--
BCA114	Business Communication	04	--	--	30	70	100	04	--
BCA115	Fundamentals of Computers Laboratory	--	--	03	15	35	--	50	1.5
BCA116	C Programming Laboratory	--	--	03	15	35	--	50	1.5
BCA117	Applied Mathematics Laboratory	--	--	03	15	35	--	50	1.5
BCA118	Business Communication Laboratory	--	--	03	15	35	--	50	1.5
Total Credits								16	06
Total		16	--	12	180	420	600	22	

Abbreviations:**TW:** Term Work**TH:** Theory**OR:** Oral**TUT:** Tutorial**PR:** Practical

TABLE -2 Structure for FYBCA (Semester_2)

Semester 2									
Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks			Credit	
		Theory	Tutorial	Practical	CE	End-Sem	Total	TH	PR
BCA121	Computer Organization	04	--	--	30	70	100	04	--
BCA122	Advanced C Programming	04	--	--	30	70	100	04	--
BCA123	Operating Systems Concepts	04	--	--	30	70	100	04	--
BCA124	Database Management Systems – I	04	--	--	30	70	100	04	--
BCA125	Computer Organization Laboratory	--	--	03	15	35	050	--	1.5
BCA126	Advanced C Programming Laboratory	--	--	03	15	35	050	--	1.5
BCA127	Operating Systems Laboratory	--	--	03	15	35	050	--	1.5
BCA128	Database Management Systems - I Laboratory	--	--	03	15	35	050	--	1.5
Total Credits								16	06
Total		16	--	12	180	420	600	22	

TABLE -3 Structure for SYBCA (Semester 3)

Semester 3									
Course Code	Course	Teaching Scheme Hours			Examination Scheme and Marks			Credit	
		Theory	Tutorial	Practical	CE	End-Sem	Total	TH	PR
BCA231	Data Structures	04	--	--	30	70	100	04	--
BCA232	Database Management Systems – II	04	--	--	30	70	100	04	--
BCA233	Software Engineering	04	--	--	30	70	100	04	--
BCA234	Data Structures Laboratory	--	--	04	15	35	050	--	02
BCA235	Database Management Systems - II Laboratory	--	--	04	15	35	050	--	02
BCA236	Project Laboratory using Software Engineering	--	--	04	15	35	050	--	02
EVS-231	AEC Course – Environmental Science -I	02	--	--	15	35	050	02	---
LA-231	AEC Course – Language –I	02	--	--	15	35	050	02	---
Total Credits								16	06
Total		16	--	12	165	385	550	22	

AEC: Ability Enhancement Compulsory

TABLE -4 Structure for SYBCA (Semester_4)

Semester 4									
Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks			Credit	
		Theory	Tutorial	Practical	CE	End-Sem	Total	TH	PR
BCA241	Object Oriented Programming & C++	04	--	--	30	70	100	04	--
BCA242	Computer Networks and Web Technology	04	--	--	30	70	100	04	--
BCA243	Software Modeling, Design and Testing	04	--	--	30	70	100	04	--
BCA244	C++ Programming Laboratory	--	--	04	15	35	050	--	02
BCA245	Web Technology Laboratory	--	--	04	15	35	050	--	02
BCA246	Software Project Laboratory using Modeling, Design and Testing	--	--	04	15	35	050	--	02
EVS-241	AEC Course – Environmental Science -II	02	--	--	15	35	050	02	---
LA-241	AEC Course – Language –II	02	--	--	15	35	050	02	---
Total Credits								16	06
Total		16	--	12	165	385	550	22	

AEC: Ability Enhancement Compulsory

TABLE -5 Structure for TYBCA (Semester_5)

<u>Semester 5</u>									
Course Code	Course	Teaching Scheme Hours /			Examination Scheme and Marks			Credit	
		Theory	Tutorial	Practical	CE	End-Sem	Total	TH	PR
BCA351	DSE – I (Core Java)	04	--	--	30	70	100	04	--
BCA352	DSE – II (Data Mining & Business Intelligence)	04	--	--	30	70	100	04	--
BCA353	DSE – III (Python Programming)	04	--	--	30	70	100	04	--
BCA354	DSE – I Laboratory (Core Java)	--	--	04	15	35	050	--	02
BCA355	DSE – II Laboratory (Data Mining and Business Intelligence)	--	--	04	15	35	050	--	02
BCA356	DSE –III Laboratory (Python Programming)	--	--	04	15	35	050	--	02
BCA357	SEC – I	02	--	--	15	35	050	02	--
BCA358	SEC – II	02	--	--	15	35	050	02	--
Total Credits								16	06
Total		16	--	12	165	385	550	22	

DSE : Department Specific Elective SEC: Skill Enhancement Course

TABLE - 6 Structure for TYBCA (Semester_6)

Semester 6									
Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks			Credit	
		Theory	Tutorial	Practical	CE	End-Sem	Total	TH	PR
BCA361	DSE – IV (Advanced Java)	04	--	--	30	70	100	04	--
BCA362	DSE – V (AI, Machine Learning & Data Science Using Python)	04	--	--	30	70	100	04	--
BCA363	DSE – VI (IoT)	04	--	--	30	70	100	04	--
BCA364	DSE – IV Laboratory (Advanced Java)	--	--	04	15	35	050	--	02
BCA365	DSE – V Laboratory (AI, Machine Learning & Data Science Using Python)	--	--	04	15	35	050	--	02
BCA366	DSE –VI Laboratory (IoT)	--	--	04	15	35	050	--	02
BCA367	SEC – III	02	--	--	15	35	050	02	--
BCA368	SEC – IV	02	--	--	15	35	050	02	--
Total Credits								16	06
Total		16	--	12	165	385	550	22	

DSE : Department Specific Elective SEC: Skill Enhancement Course

Detailed Syllabus :		
SEMESTER I BCA111: Fundamentals of Computer		
Teaching Scheme: Theory: 04 Hrs/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: None		
Companion Course: BCA115: Fundamentals of Computer Laboratory		
Course Objectives:		
<ul style="list-style-type: none"> • To study the basics of Computer System • To learn how to configure computer devices • To Learn Basic Commands of Operating system and application software • To understand Open Source Software 		
Course Outcomes:		
At the end of the course, students will be able to		
<ul style="list-style-type: none"> • Define working of computers and peripherals, types of software and languages • Troubleshoot the computer systems and use utility software • Choose commands and features of operating systems and application software • Use open source software 		
Course Contents		
Unit I	Introduction to Computer System	08 Hrs
<p>Introduction– Characteristics of Computers, Basic structure and operation of a computer, functional units and their interaction, Types of computers and features- Mini Computers, Micro Computers, Mainframe Computers, Super Computers, Laptops and Tablets,</p> <p>Types of Programming Languages- Machine Languages, Assembly Languages, High Level Languages</p> <p>Translators- Assembler, Compiler, Interpreter</p> <p>Data Organization- Drives, Directories and Files</p> <p>Number Systems - Introduction to Binary, Octal, Hexadecimal system, Conversion, Addition, Subtraction, Multiplication, Division</p>		
Unit II	Computer Peripherals	08 Hrs
<p>Primary storage devices – RAM, ROM, PROM, EPROM</p> <p>Secondary Storage Devices – HDD, CD, DVD, Pen drive</p> <p>I/O Devices- Keyboards, Scanners, Digitizers, Plotters, LCD, Plasma Display,</p> <p>Pointing Devices –Mouse, Joystick, Touch Screens</p> <p>Introduction to Network devices – Hubs, Switches, Routers, NAS, MODEM, Access Points</p>		
Unit III	Computer Software	08 Hrs

Types of software: System Software, Application Software.

System Software: Operating System. Types of O.S., Basic Commands in Linux – ls, pwd

Introduction to GUI: Desktop Icons, File and Directory structure, Menu Items, Control Panel, File and Directory Search

Utility programs: Anti-plagiarism software, Anti-virus, Disk Cleaning, Defragmentation, Compression/Decompression of files.

Application software: Examples of commercial software with brief introduction

Unit IV

Editors, Word Processors, Spreadsheets & Presentation Tools

08 Hrs

Editors and Word Processors: Features and functionalities, examples of basic and advanced editors like notepad, vi and Emacs, Introduction to desktop publishing – Features and functionalities

Spreadsheets: Features and functionalities, Spreadsheet Applications

Introduction to Google Apps: Google Docs, Sheets and Forms and its applications

Presentation Tools: Design Slides (using Text, images, charts, clipart), Slide Animation, Template and theme creation

Unit V

Open Source Software

08 Hrs

Introduction: Open Source, Free Software, Free Software vs. Open Source software, Public Domain Software, Problems with traditional commercial software, Open Source Development Model and Licenses, History, Initiatives, Principles, methodologies and Philosophy

Open Source Operating Systems: GNU/Linux, Android, Free BSD, Open Solaris. Technologies, Development tools, IDEs, LAMP

Example Open Source Projects: Apache web server, GNU/Linux, Android, Mozilla (Firefox), Wikipedia, Drupal, Wordpress, GCC, github, Open Office.

Unit VI

PC Hardware & Trouble Shooting

08 Hrs

Introduction to Computer Hardware - Motherboard, CPU, Basic Input and Output Setting (BIOS), Network Interface Card (NIC), Graphics card

Logical Fault Isolation – ADJUST method, Common Networking Problems, Tools for gathering information, Troubleshooting PC hardware

Reference Books:

1. P.K. Sinha & Priti Sinha, "Computer Fundamentals", 3rd edition, BPB pub.
2. Sumitabha Das, "Unix Concepts and Applications", Tata McGraw Hill Education
3. Join Josh, "PC/HARDWARE" O'Reilly Publication.
4. Open Source Initiative: <https://opensource.org/>
5. Wikipedia: <https://en.wikipedia.org/>
6. Github: <https://help.github.com/>

SEMESTER I		
BCA112: Problem Solving and C Programming		
Teaching Scheme: Theory: 04 Hrs/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: None		
Companion Course: BCA116 C Programming Laboratory		
Course Objectives:		
<ul style="list-style-type: none"> • To provide a broad overview of problem solving techniques • To learn C programming to solve problems 		
Course Outcomes:		
At the end of the course, students will be able to		
<ul style="list-style-type: none"> • Define algorithms and explain their characteristics • Formulate algorithm and draw flow chart to solve a given problem • Explain use of appropriate data types, control statements • Demonstrate ability to use top-down program design 		
Course Contents		
Unit I	Problem solving, algorithms and flowcharts	08 Hrs
Types of Problems, Problem solving using computer, Difficulties with problem solving, Problem solving aspects. Definition & Characteristics of algorithm, Examples of algorithms, Flow charts with examples, Top-down design Problem solving using Arithmetic Statements, Conditional Statement & Iterative Statements such as Addition/Multiplication, check number is positive/negative, Maximum of 2 numbers & 3 numbers, sum of first n numbers, sum of given n numbers, reverse digits of a number, check whether the number is palindrome, check number is prime, factorial of number, factors of number, GCD, LCM of numbers etc.		
Unit II	C Fundamentals	08 Hrs
Introduction to C, Features of C, Structure of C Program, C Character Set, Identifiers and Keywords, Variables and constants Data types- Basic data types, Enumerated types, Type casting, Declarations, Expressions Operators and Expressions Unary and Binary arithmetic operators, Increment Decrement operators Relational and logical operators, Bit wise operators, Assignment operators, Comma operator, size of operator, Ternary conditional operator, Precedence and associativity		
Unit III	Input Output Statements	08 Hrs
printf, scanf functions, getchar, putchar, getch functions, gets, puts functions, Escape sequence characters, Format specifiers		
Unit IV	Control & Iterative Structures	08 Hrs
If, If- Else Statements, Nested If Statements, Conditional Branching – switch statement, Loop (while, do...while, for), break, continue, goto statements		
Unit V	Functions	08 Hrs

Introduction to Functions, Function Arguments, Library & User defined functions, Methods for parameter passing, Recursion, Storage Classes – Auto, Static, Global and Register

Unit VI

Arrays

08 Hrs

Introduction, Array Declarations, Bounds Checking, Single dimension Arrays, Two dimension Arrays, Arrays & Function

Reference Books:

1. Cormen, Leiserson, Rivest, Stein, "Introduction to algorithms"
2. Brian W. Kernighan, Dennis M. Ritchie , "The C Programming Language", ISBN:9788120305960, PHI Learning
3. R.G. Dromey, "How to Solve it by Computer", ISBN: 9788131705629, Pearson Education
4. Behrouz A. Forouzan, RichardF. Gilberg, "A Structured Programming Approach Using C", ISBN:9788131500941, Cengage Learning India
5. E. Balaguruswamy, "Programming in ANSI C", ISBN: 9781259004612, Tata Mc-Graw Hill Publishing Co Ltd.-New Delhi
6. Maureen Spankle, "Problem Solving and Programming Concepts", ISBN: 81-317-0711-3
7. Y S Kanetkar, "Let Us C", BPB Publications

SEMESTER I		
BCA113: Applied Mathematics		
Teaching Scheme: Theory: 04 Hrs/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: Basic Mathematics		
Companion Course: BCA117 Applied Mathematics Laboratory		
Course Objectives: <ul style="list-style-type: none"> • Learn basic terminology formal logic, proofs, sets, relations, functions and perform the operations associated with same • Use formal logic proof and logical reasoning to solve problems • To understand significance of statistical measures • To study Correlation, Probability and sampling theory 		
Course Outcomes: On completion of the course, students will be able to– <ul style="list-style-type: none"> • Relate and apply techniques for constructing mathematical proofs and make use of appropriate set operations, propositional logic to solve problems • Use function or relation models to interpret associated relationships • Apply basic counting techniques and use principles of probability • Given a data, compute various statistical measures of central tendency • Use appropriate Sampling techniques 		
Course Contents		
Unit I	Set Theory and Logic	08 Hrs
Sets – Set Theory, Need for Sets, Representation of Sets, Set Operations, cardinality of set, Types of Sets – Bounded and Unbounded Sets, Countable and Uncountable Sets, Finite and Infinite Sets, Countably Infinite and Uncountably Infinite Sets, power set, Propositional Logic - logic, Propositional Equivalences, Application of Propositional Logic- Translating English Sentences, Proof by Mathematical Induction and Strong Mathematical Induction.		
Unit II	Relations and Functions	08 Hrs
Relations: Properties, n-ary Relations and Applications, Representing Relations , Closures of Relations, Equivalence Relations, Partial Orderings, partitions, Hasse Diagram, Lattices, Chains and Anti-Chains, Transitive Closure and Warshall's Algorithm		
Functions - Surjective, Injective and Bijective functions, Inverse Functions and Compositions of Functions.		
Unit III	Counting	08 Hrs
The Basics of Counting, rule of Sum and Product, Permutations and Combinations, Binomial Coefficients and Identities, Generalized Permutations and Combinations, The Pigeonhole Principle.		
Unit IV	Data Presentation and Aggregation	08 Hrs

Data Types: attribute, variable, discrete and continuous variable, **Data presentation:** frequency distribution, histogram, ogive, box-plot, bar plots

Mean, Median, Mode, and Other Measures of Central Tendency: Arithmetic Mean (AM), Weighted Arithmetic Mean, Arithmetic Mean Computed from Grouped Data, Concept of Median, Mode, Geometric Mean (GM), Harmonic Mean (HM), Quartiles, Deciles, and Percentiles

Standard Deviation and Other Measures of Dispersion: Standard Deviation, Root Mean Square, Variance, Absolute and Relative Dispersion

Unit V

Correlation Theory and Sampling

08 Hrs

Moments, Skewness and Kurtosis: Moments, Computation of Moments for Grouped Data, Skewness, Kurtosis, Computation of Skewness and Kurtosis.

Correlation: Bivariate data, scatter plots, Linear Correlation, Correlation of Attributes, Coefficient of correlation

Linear regression: Concept, The Least-Squares Method, Regression Lines

Elementary Sampling Theory : Sampling Theory, Random Samples and Random Numbers, Sampling With and Without Replacement, Stratified Sampling

Unit VI

Probability & Hypothesis Testing

08 Hrs

Probability : Random experiment, sample space, events types and operations of events, Probability definition, Axioms (The four Elementary Theorems) of probability (without proof), Conditional probability, 'Bayes' theorem (without proof), Examples, Mathematical Expectations

Standard Distributions: Continuous and discrete, PDF/PMF, Introduction and properties (without proof) for binomial, normal, Standard Normal, chi-square, t, F distributions.

Introduction to Hypothesis testing

Reference Books:

1. Kenneth H. Rosen, Discrete Mathematics And Its Applications, Tata Mcgraw-Hill, Isbn 978-0-07-288008-3, 7th Edition.
2. Trivedi, K.S., " Probability, Statistics, Design Of Experiments And Queuing Theory, With Applications Of Computer Science", Prentice Hall Of India, New Delhi
3. C L Liu, "Elements Of Discrete Mathematics", Tata Mcgraw-Hill, Isbn 10:0-07-066913-9.
4. Kulkarni, M.B., Ghatpande, S.B. And Gore, S.D., "Common Statistical Tests" Satyajeet Prakashan, Pune
5. J.N. Kapur And H.C. Saxena, "Mathematical Statistics", S. Chand Publications, 20th Ed.
6. John P. D'angelo & Douglas B. West, "Mathematical Thinking–Problem Solving And Proofs" Prentice Hall, 2nd Ed.

SEMESTER I		
BCA114: Business Communication		
Teaching Scheme: Theory: 04 Hrs/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: Basic writing Skills including grammar		
Companion Course: BCA118 Business Communication Laboratory		
Course Objectives:		
<ul style="list-style-type: none"> • To understand the concept, process and importance of communication. • To develop an integrative approach where reading, writing, presentation skills are used together to enhance ability to communicate and write effectively. • To create awareness about Methods and Media of communication. • To improve job seeking skills. 		
Course Outcomes:		
On completion of the course, students will be able to–		
<ul style="list-style-type: none"> • Apply business communication strategies and principles to prepare effective communication for domestic and international business situations • Identify ethical, legal, cultural, and global issues affecting business communication. • Participate in team activities using collaborative work skills. • Communicate via electronic mail, Internet, and other technologies. • Deliver an effective oral business presentation 		
Course Contents		
Unit I	Introduction to Communication	08 Hrs
Introduction to Communication, Meaning and Definition, Process of communication and importance, Principles of effective communication, Types of Communication, Scope of Business communication - Internal & External, Barriers to Communication, Linguistic Barriers, Psychological Barriers, Interpersonal Barriers, Cultural Barriers, Physical Barriers, Organizational Barriers , Overcoming the barriers		
Verbal Communication - Written Communication-Advantages & Limitations (writing a Cover Letter, Memo, Agenda, Notice & Minutes), Oral Communication - Principles of effective oral communication - Techniques of effective speech, Media of oral communication (Face-to-face conversation - Teleconferences - Press Conference - Demonstration - Radio Recording - Dictaphone - Meetings - Demonstration and Dramatization - Public address system - Grapevine - Group Discussion - Oral report – Advantages and Limitations		
Non-Verbal Communication - Body Language (Positive & Negative Gestures)handshakes, gazes, smiles, hand movements, styles of working, voice modulations, body sport for interviews; business etiquettes; business dining, business manners of people of different cultures, managing customer care		

Unit II	Listening Skills	08 Hrs
<p>Importance, Types of Listening, Barriers to Effective listening, Difference between listening and hearing – active listening, academic listening, listening for details - listening and note-taking, listening for sound contents of videos, listening to talks and descriptions, listening for meaning - listening to announcements (railway/ bus stations/ airport / stadium announcement etc.) ,Listening to Radio and Television, listening to news programmes, Tips for effective listening, 10 Commandments of listening</p>		
Unit III	Speaking and Presentation Skills	08 Hrs
<p>Interactive nature of communication, importance of context ,formal and informal –set Expressions in different situations ,greeting – introducing - making requests - asking for /giving permission - giving instructions and directions – agreeing / disagreeing - seeking and giving advice - inviting and apologizing telephonic skills - conversational manners</p> <p>Presentation as a skill - prerequisites of effective presentation, format of presentation; Assertiveness – indicators of assertive behaviour, strategies of assertive behavior; elements of presentation strategies – audience – objectives medium- key ideas - structuring the material - organizing content - audio-visual aids - hand-outs - use of power point - clarity of presentation - non-verbal communication -seminar paper presentation and discussion</p> <p>Communication skills for group discussion and interviews</p>		
Unit IV	Business Correspondence	08 Hrs
<p>Need of Business Correspondence , Components and layout of Business letter, Drafting of letters: Enquiry, Quotation, order , Complaints and follow up , Recovery , Email etiquette, notices, circulars, memos</p> <p>Preparing agenda and writing minutes of meetings, Making notes on Business conversations</p> <p>Effective use of SMS and Case writing and Documentation, Persuasive letter, Proposal, Report Writing</p> <p>Preparing Press Release and Press Notes, Job application letter , Essentials of an impressive Resume</p>		
Unit V	Creativity and Capacity Building	08 Hrs
<p>Creativity at Workplace: Introduction, Current Workplaces, Creativity, Motivation, Nurturing Hobbies at Work, The Six Thinking Hat Method Ethical Values: Ethics and Society, Theories of Ethics, Correlation between Values and Behavior, Nurturing Ethics, Importance of Work Ethics, Problems in the Absence of Work Ethics</p> <p>Capacity Building: Learn, Unlearn and Relearn: Capacity Building, Elements of Capacity Building, Zones of Learning, Ideas for Learning, Strategies for Capacity Building</p>		
Unit VI	Soft Skills	08 Hrs

Leadership and Team Building: Leader and Leadership, Leadership Traits, Culture and Leadership, Leadership Styles and Trends, Team Building, Types of Teams,

Decision Making and Negotiation: Introduction to Decision Making, Steps for Decision Making, Decision Making Techniques, Negotiation Fundamentals, Negotiation Styles, Major Negotiation Concepts

Stress and Time Management: Stress, Sources of Stress, Ways to Cope with Stress

Reference Books:

1. McGrath, E.H., "Basic Managerial Skills for All", PHI, New Delhi
2. Gajendra S. Chauhan, Sangeeta Sharma, "Soft Skills: an Integrated Approach to Maximise Personality", Wiley India
3. Hamp-Lyons and etal, "Study Writing", 2nd Edition, Cambridge University Press, 2008.
4. Barun K. Mitra , "Personality Development and Soft Skills", Oxford Press
5. S.A. Sherlekar , "Modern Business Organization", Himalaya Publishing"

SEMESTER I**BCA115: Fundamentals of Computers Laboratory****Teaching Scheme:****Credits**
1.5**Examination Scheme:**
Continuous Evaluation: 15 Marks
End-Semester :35 Marks**Practical: 03 Hrs/Week****Companion Course: BCA111: Fundamentals of Computers****Course Objectives:**

- To understand installation process to install operating system and applications
- To learn various features of application software

Course Outcomes:

On completion of the course, students will be able to–

- Install operating system and execute various commands
- Effectively use various features of application software
- Create and use spreadsheets effectively
- Prepare effective Presentation

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include University syllabus, conduction & Assessment guidelines.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign

Program codes with sample output of all performed assignments are to be submitted as softcopy. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints

Guidelines for Assessment

Continuous assessment of laboratory work is to be done based on overall performance of student. For each lab assignment, the instructor will assign grade/marks based on parameters with appropriate weightage. Suggested parameters include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Topics for Laboratory Assignments

Sr. No.	Assignment
1	Operating System Commands
2	Spreadsheet
3	Presentation Tool
4	Utility programs, anti-plagiarism software etc
5	Word Processing using Open Office
6	Google Apps, Wordpress, Drupal, Wiki, Github etc

SEMESTER I		
BCA116: C Programming Laboratory		
Teaching Scheme:	Credits 1.5	Examination Scheme:
Practical: 03 Hrs/Week		Continuous Evaluation: 15 Marks End-Semester :35 Marks
Companion Course: BCA112 Problem Solving & C Programming		
Course Objectives:		
<ul style="list-style-type: none"> • To learn formulation of algorithm for a given problem • To study various data types, arrays and functions in C • To understand input-output and, control and iterative statements in C 		
Course Outcomes:		
On completion of the course, students will be able to–		
<ul style="list-style-type: none"> • Formulate an algorithm and draw flowchart for the given problem • Implement the given algorithm in C • Write programs using appropriate data types and control structures in C 		
Guidelines for Instructor's Manual		
The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include University syllabus, conduction & Assessment guidelines.		
Guidelines for Student Journal		
The laboratory assignments are to be submitted by student in the form of journal. Journal consists of Certificate, table of contents, and handwritten write-up of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign Program codes with sample output of all performed assignments are to be submitted as softcopy. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints.		
Guidelines for Assessment		
Continuous assessment of laboratory work is to be done based on overall performance of student. For each lab assignment, the instructor will assign grade/marks based on parameters with appropriate weightage. Suggested parameters include- timely completion, performance, innovation, efficient codes, punctuality and neatness.		

Sr. No.	Assignment
1	Assignment on use of data types, simple operators (expressions)
2	Assignment on decision making statements (if and if-else, nested structures)
3	Assignment on decision making statements (switch case)
4	Assignment on use of while loops
5	Assignment on use of for loops
6	Assignment on nested loops
7	Assignment on exit, goto, continue, break
8	Assignment on menu driven programs.

9	Assignment on writing C programs in modular way (use of user defined functions)
10	Assignment on call by value
11	Assignment on call by reference
12	Assignment on recursive functions
13	Assignment on use of arrays (1-D array) and functions
14	Assignment on use of multidimensional array (2-D arrays) and functions
15	Assignment on Standard Library Function

SEMESTER I**BCA117: Applied Mathematics Laboratory****Teaching Scheme:****Credits****Examination Scheme:****Practical: 03 Hrs/Week****1.5****Continuous Evaluation: 15 Marks****End-Semester: 35 Marks****Companion Course: BCA113 Applied Mathematics****Course Objectives:**

- To provide knowledge about applying theoretical concepts of applied mathematics and statistics to solve problems
- To provide hands-on experience on statistical package

Course Outcomes:

On completion of the course, student will be able to

- Apply mathematical and statistical concepts to solve problems
- Use R to perform statistical operations and data visualization

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include University syllabus, conduction & Assessment guidelines.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign

Program codes with sample output of all performed assignments are to be submitted as softcopy. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints

Guidelines for Assessment

Continuous assessment of laboratory work is to be done based on overall performance of student. For each lab assignment, the instructor will assign grade/marks based on parameters with appropriate weightage. Suggested parameters include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Suggested List of Laboratory Assignments**Applied Mathematics: 2 Assignments each based on following topics**

1	Set Theory
2	Logic, Mathematical Induction
3	Relations
4	Functions
5	Counting

Statistics (Assignments may be performed using R)

1	Download and Install R, understand IDE
2	Using R execute the basic commands, array, list and frames.

3	Create a Matrix using R and Perform the operations addition, inverse, transpose and multiplication operations.
4	Using R Execute the statistical functions: mean, median, mode, quartiles, range, inter quartile range histogram
5	Using R, drawing scatter Plots, Line Plots, Bar Plots etc
6	Using R import the data from Excel / .CSV file and Perform operations
7	Using R import the data from Excel / .CSV file and Calculate the standard deviation,
8	Using R import the data from Excel / .CSV file and draw the skewness
9	Import the data from Excel / .CSV and perform the Chi-squared Test.

References:

- Richard Cotton, "Learning R", SPD O'Reilly Publications

SEMESTER I

BCA118: Business Communication Laboratory

Teaching Scheme:	Credits	Examination Scheme:
Practical: 03 Hrs/Week	1.5	Continuous Evaluation: 15 Marks
		End-Semester: 35 Marks

Companion Course: BCA114 Business Communications

Course Objectives:

- To study different ways for effective listening, writing, reading and presentation
- To learn tools used in business communication

Course Outcomes:

On completion of the course, student will be able to

- Effectively listen to lectures, public announcements and news on TV and radio.
- Engage in telephonic conversation.
- Communicate effectively and accurately in English
- Use spoken language for various purposes
- Demonstrate ability to prepare documents used in business correspondence

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include University syllabus, conduction & Assessment guidelines.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of Certificate, table of contents, and handwritten write-up of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign

Guidelines for Assessment

Continuous assessment of laboratory work is to be done based on overall performance of student. For each lab assignment, the instructor will assign grade/marks based on parameters with appropriate weightage. Suggested parameters include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Suggested List of Laboratory Assignments

1	Listening Comprehension Exercise
2	Reading Comprehension & Vocabulary Exercise
3	Role Play I
4	Telephone Conversation
5	Face to Face Conversation
6	Introducing Yourself
7	Thumbnail Portrait
8	Writing Skills - Covering Letter, Resume , Application letter, Report Writing, Proposal Writing ,Email Communication
9	Presentation Skills
10	Group Discussions

11	Mock Interviews
12	Public Speaking activity
13	Leadership Skills and Team Building Activity
References:	
<ul style="list-style-type: none"> D. Sudha Rani , “Business Communication and Soft Skills Laboratory Manual” 	

SEMESTER II		
BCA121: Computer Organization		
Teaching Scheme:	Credits	Examination Scheme:
Theory: 04 Hrs/Week	04	Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: BCA111 Fundamentals Of Computer		
Companion Course: BCA125: Computer Organization Laboratory		
Course Objectives:		
<ul style="list-style-type: none"> To study number system, logic gates To understand combinational and sequential circuits To provide a broad overview of architecture and functioning of computer systems To learn the basic concepts behind the architecture and organization of computers. 		
Course Outcomes:		
On completion of the course, student will be able to–		
<ul style="list-style-type: none"> Design of combinational circuits Design of sequential circuits Explain block diagram of CPU, Memory and types of I/O transfers 		
Course Contents		
Unit I	Data representation and Computers Arithmetic	08 Hrs
Review of Decimal, Binary, Octal, Hexadecimal Number system and their inter-conversion, BCD code, Gray code, Excess-3 code, ASCII , EBCDIC, Unicode, Concept of parity code. Signed and Unsigned numbers, 1's and 2's complement of binary numbers, Binary arithmetic (Addition, subtraction and subtraction using 1's complement and 2's complement).		
Unit II	Boolean Algebra & Logic Gates	08 Hrs
Introduction, Logic (AND OR NOT), Boolean theorems, Boolean Laws, De Morgan's Theorem, Reduction of Logic expression using Boolean Algebra, Deriving Boolean expression from given circuit, exclusive OR and Exclusive NOR gates, Universal Logic gates, Implementation of other gates using universal gates		
Minterm, Maxterm and Karnaugh Maps:		
Introduction, minterms and sum of minterm form, maxterm and Product of maxterm form, Reduction technique using Karnaugh maps – 2/3/4 variable K-maps, Grouping of variables in K-maps, K-maps for product of sum form, minimize Boolean expression using K-map and obtain K-map from Boolean expression		
Unit III	Combinational Circuits	08 Hrs

Introduction - Multi-input, multi-output Combinational circuits, Code converters design and implementations

Arithmetic Circuits: Introduction, Adder, BCD Adder, Excess – 3 Adder, Binary Subtractors, BCD Subtractor, Multiplier, Comparator

Multiplexer, Demultiplexer, ALU, Encoder and Decoder: Introduction, Multiplexer, Demultiplexer, Decoder, ALU, Encoders

Unit IV

Sequential circuits

08 Hrs

Introduction, Terminologies used, S-R flip-flop, D flip-flop, JK flip-flop, Race-around condition, Master – slave JK flip-flop, T flip-flop, conversion from one type of flip-flop to another, Application of flip-flops.

Counters:

Introduction, Asynchronous counter, Terms related to counters, IC7493 (4-bit binary counter), Synchronous counter, Bushing, Type T Design, Type JK Design, Pre-settable counter, IC 7490, IC 7492,

Synchronous counter ICs, Analysis of counter circuits.

Shift Register:

Introduction, parallel and shift registers, Ring counter, Johnson counter

Unit V

CPU, Memory and I/O Organization

08 Hrs

Block diagram of CPU, functions of CPU, general register organization, flags, Concept of RISC and CISC, Introduction to hardwired and micro-programmed CPU.

Memory System hierarchy, Cache Memory, Internal Memory, External Memory, Concept of Virtual Memory.

Input/ Output: types of I/O data transfers - CPU initiated, interrupt initiated and DMA, Need of I/O interfaces, Parallel and serial communication (asynchronous and synchronous data transfer).

Unit VI

Introduction to Microprocessors and Microcontrollers

10 Hours

Block diagram of Pentium, Functional units, Concept of pipeline and parallelism, Programmers model

Introduction to Microcontroller Intel 8051 – Functional block diagram, Introduction to multi-core processors.

Reference Books:

1. R.P. Jain, "Modern Digital Electronics", McGraw-Hill Publications
2. Flod and Jain, "Digital Fundamentals", Pearson Publication.
3. Morris Mano, "Computer System Architecture" Prentice-Hall.

SEMESTER II		
BCA122: Advanced C Programming		
Teaching Scheme: Theory: 04 Hrs/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: BCA112: Problem Solving and C Programming		
Companion Course: BCA126: Advanced C Programming Laboratory		
Course Objectives: <ul style="list-style-type: none"> • To learn advanced features in C Programming • To study advanced data types • To understand built-in library functions 		
Course Outcomes: On completion of the course, student will be able to– <ul style="list-style-type: none"> • Write programs using pointers, structures and unions • Use Pre-processor directives • Manipulate strings using library functions • Write programs to perform operations on Files 		
Course Contents		
Unit I	Preprocessor	08 Hrs
<p>Concept, Format of preprocessor directives, File inclusion directives (#include), Macro substitution directives (#define), nested macros, parameterized macros,</p> <p>Macros versus functions, #error / #pragma directives, Conditional compilation (#if/#ifdef/#else/#elif/#endif), Predefined macros (_DATE_ / _TIME_ / _FILE_ / _LINE_ / _STDC_)</p>		
Unit II	Pointers	08 Hrs
<p>Concept – reference & dereference, Declaration, definition, initialization & use, Types of pointers,</p> <p>Pointer Arithmetic, Multiple indirection,</p> <p>parameter passing – call by value and call by reference</p> <p>Arrays & Pointers - Pointer to array, Array of pointers,</p> <p>Functions & pointers - Passing pointer to function, Returning pointer from function, Function pointer, Pointers &const</p> <p>Dynamic memory management, Allocation, Resizing, Releasing, Memory leak / dangling pointers</p>		
Unit III	Strings	08 Hrs

SEMESTER II		
BCA123: Operating Systems Concepts		
Teaching Scheme: Theory: 04 Hrs/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: BCA111 Fundamentals of Computers		
Companion Course: BCA127 Operating Systems Laboratory		
Course Objectives: <ul style="list-style-type: none"> • To Understand the basic concepts of operating system • To study Architecture, File systems and basic operating system commands • To Use of editors and Networking commands. • To learn Shell Programming and shell scripts. 		
Course Outcomes: On completion of the course, student will be able to– <ul style="list-style-type: none"> • explain basic concepts of operating system • use basic Linux commands and Linux documentation • write shell scripts 		
Course Contents		
Unit I	Introduction	08 Hrs
<p>Introduction to Operating Systems, Different services provided by Operating System to Users.</p> <p>Introduce the concept of Process, Process States, Process Control Block, User Interface, System Calls.</p> <p>Introduction to Linux Operating System - Features of Linux, Architecture of the Linux, Introduction to File System and Process Environment.</p> <p>Working with Linux - The login prompt, General features of commands/ command structure, Command arguments and options.</p> <p>Understanding of some basic commands such as echo, printf, ls, who, date, passwd, cal, Combining commands</p>		
Unit II	Commands & Processes	08 Hrs
<p>What is a Command?, Meaning of Internal and external commands, The type command: knowing the type of a command and locating it, The man command knowing more about commands and using Linux online manual pages. The man with keyword option and whatis</p> <p>Operating system Processes - Concept, Mechanism of process creation, Parent and child process, The ps command with its options, Executing a command at a specified point of time: at command.</p> <p>The nice command, Background processes. The bg and fg commands, The kill command, The find command with illustrative example.</p>		
Unit III	File System	08 Hrs

Linux files - Naming files. Basic file types, Organization of files. Standard directories, Parent child relationship, The home directory and the HOME variable.
The PATH variable, manipulating the PATH, Relative and absolute pathnames, Directory commands – pwd, cd, mkdir, rmdir commands, The dot (.) and double dots (..) notations to represent present and parent directories and their usage in relative path names
File related commands – cat, mv, rm, cp, wc and od commands, File attributes and permissions and knowing them, The ls command with options, Changing file permissions: the relative and absolute permissions changing methods

Unit IV	Using Shells and Vi Editor	08 Hrs
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What is Shell? Different types of shells, The shells interpretive cycle, Wild cards and file name generation, Removing the special meanings of wild cards, Three standard files and redirection,
Connecting commands: Pipe, The grep, egrep commands. .

Vi Editor - Introduction to the Vi editor, Different ways of invoking and quitting vi, Different modes of vi, Input mode commands, Command mode commands, The ex mode commands, Illustrative examples Navigation commands

Unit V	Security & Networking	08 Hrs
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Security Understanding Linux Security, Uses of root, pseudo command, working with passwords, Bypassing user authentication, Understanding ssh

Networking Basic introduction to Networking, Network protocols: http, ftp etc., IP address, DNS

Unit VI	Shell Scripts	08 Hrs
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Shell programming - Ordinary and environment variables, The .profile. Read and read only commands, Command line arguments, exit and exit status of a command, Logical operators for conditional execution, The test command and its shortcut.

The if, while, for and case control statements, The set and shift commands and handling positional parameters, The here (<<) document and trap command, Simple shell program examples.

File inodes and the inode structure, File links – hard and soft links. Filters, Head and tail commands.

Cut and paste commands, The sort command and its usage with different options

Reference Books:

1. Unix Concepts and Applications by Sumitabha Das.
2. Operating System Concepts - Siberchatz, Galvin, Gagne (8th Edition)
3. UNIX and Shell Programming, Behrouz A. Forouzan, Richard F. Gilberg : Cengage Learning – India Edition. 2009.
4. Linux Command Line and Shell Scripting Bible, Richard Blum , Christine Bresnahan, 2ndEdition , Wiley,2011

SEMESTER II		
BCA124: Database Management Systems – I		
Teaching Scheme: Theory: 04 Hours/Week	Credits 04	Examination Scheme: Continuous Evaluation: 30 Marks End-Semester : 70 Marks
Pre-requisite Course: BCA113 Applied Mathematics		
Companion Course: BCA128: Database Management Systems – I Laboratory		
Course Objectives: <ul style="list-style-type: none"> To understand the fundamental concepts of database management such as database design, database languages, and database-system implementation To study and understand systematic database design approaches To learn SQL – the database Query language 		
Course Outcomes: On completion of the course, student will be able to– <ul style="list-style-type: none"> Design E-R Model for given requirements and convert the same into database tables. Formulate database queries using SQL Design a database in appropriate normal form 		
Course Contents		
Unit I	File Organization	08 Hrs
Introduction, Physical / logical files, Record organization (fixed, variable length) Types of file organization(heap, sorted, indexed, hashed)		
Unit II	Introduction of DBMS	08 Hrs
Overview, File system Vs. DBMS, Describing & storing data (Data models - relational, hierarchical, network), Levels of abstraction, Data independence, Structure of DBMS, Users of DBMS, Advantages of DBMS		
Unit III	Conceptual Design (E-R model)	08 Hrs
Overview of DB design ER data model (entities, attributes, entity sets, relations, relationship sets) Additional constraints (key constraints, participation constraints, weak entities, aggregation / generalization), Case studies		
Unit IV	Structure of Relational Databases	08 Hrs
Concepts of a table, a row, a relation, a tuple and a key in a relational database Conversion of ER to Relational model Integrity constraints (primary key, referential integrity, Null constraint, unique constraint, check constraint)		
Unit V	SQL	08 Hrs

Introduction, DDL commands (create, drop, alter) with examples, Basic structure of SQL query, Set operations, Aggregate functions, Null values, Nested Sub-queries, Modifications to Database (insert, delete, update), SQL mechanisms for joining relations (inner joins, outer joins and their types) Examples on SQL (case studies)

Unit VI**Relational Database Design****08 Hrs**

Pitfalls in Relational-Database Design (undesirable properties of a RDB design like repetition, inability to represent certain information)
 Functional dependencies (Basic concepts, Closure of set of functional dependencies, Closure of an Attribute set)
 Concept of a Super Key and a primary key (Algorithm to derive a Primary Key for a relation)
 Concept of Decomposition, Desirable Properties of Decomposition (Lossless join and Dependency preservation)
 Concept of Normalization - Normal forms (only definitions) 1NF, 2NF, 3NF, BCNF
 Examples on Normalization

Reference Books:

1. Henry F. Korth, Abraham Silberschatz, S. Sudarshan, "Database System Concepts", Tata McGraw-Hill Education
- 2 . Raghu Ramakrishnan and Johannes Gehrke, "Database Management Systems", McGraw-Hill

SEMESTER II

BCA125: Computer Organization Laboratory

Teaching Scheme: Practical: 03 Hrs/Week	Credits 1.5	Examination Scheme: Continuous Evaluation: 15 Marks End-Semester :35 Marks
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Companion Course: BCA121 Computer Organization

Course Objectives:

- To study architecture and functioning of computer systems
- To learn the basic concept behind the architecture and organization of computers

Course Outcomes:

On completion of the course, student will be able to–

- Design and implement combinational circuits
- Design and implement sequential circuits
- Translate real world problems into digital logic formulations

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include University syllabus, conduction & Assessment guidelines.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign

Program codes with sample output of all performed assignments are to be submitted as softcopy. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints

Guidelines for Assessment

Continuous assessment of laboratory work is to be done based on overall performance of student. For each lab assignment, the instructor will assign grade/marks based on parameters with appropriate weightage. Suggested parameters include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Suggested Topics for Laboratory Assignments

1	Study of Logic gates and their ICs and universal gates
2	Implement code converters
3	Implement Adder and Subtractor Arithmetic circuits
4	Design and implement combinational circuit based on the problem given and minimizing using K-maps
5	Implement Encoder and Decoder and Multiplexer and De-multiplexers
6	Study of flip-flops and counters Memory Organization
7	Study of counter ICs and designing Mod-N counters

SEMESTER II**BCA126: Advanced C Programming Laboratory**

Teaching Scheme: Practical: 03 Hrs/Week	Credits 1.5	Examination Scheme: Continuous Evaluation: 15 Marks End-Semester :35 Marks
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Companion Course: BCA122 Advanced C Programming

Course Objectives:

- To learn advanced features in C Programming
- To study advanced data types
- To understand built-in library functions

Course Outcomes:

On completion of the course, student will be able to–

- Write programs using pointers, structures and unions
- Use Pre-processor directives
- Manipulate strings using library functions
- Write programs to perform operations on Files

Guidelines for Instructor's Manual

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Sr. No.	Assignment
1	To demonstrate use of preprocessor directives
2	To demonstrate use of pointers
3	To demonstrate advanced use of pointers
4	To demonstrate concept of strings, array of strings
5	To demonstrate string operations using pointers
6	To demonstrate command line arguments
7	To demonstrate structures (using array and functions)
8	To demonstrate nested structures and Unions
9	To demonstrate use of bitwise operators.
10	To demonstrate file handling

SEMESTER II

BCA127: Operating Systems Laboratory

Teaching Scheme: Practical: 03 Hrs/Week	Credits 1.5	Examination Scheme: Continuous Evaluation: 15 Marks End-Semester :35 Marks
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Companion Course: BCA123 Operating Systems Concepts

Course Objectives:

- To provide hands-on knowledge for
 - Installation of Linux and Packages
 - Setting environment, use documentation, commands and editors
 - Configure Security and Network environment

Course Outcomes:

On completion of the course, student will be able to–

- Install Linux and packages, configure environment
- Use commands and editors and use documentation
- Configure Security and network environment

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The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include University syllabus, conduction & Assessment guidelines.

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Program codes with sample output of all performed assignments are to be submitted as softcopy. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints

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Suggested List of Laboratory Assignments

- | | |
|---|--|
| 1 | <p>Linux Installation:</p> <ol style="list-style-type: none"> a. Install your choice of Linux distribution e.g. Ubuntu, Fedora, Debian. b. Try different installation media like CD/DVD, USB Drive to install. c. Customize desktop environment by changing different default options like changing default background, themes, screensavers. |
|---|--|

2	<p>a. Screen Resolution: Ascertain the current screen resolution for your desktop.</p> <p>b. Networking: Get the current networking configuration for your desktop. Are you on a wired or a wireless connection? What wireless networks are available, if any?</p> <p>c. Time Settings Change the time zone of your system. After noting the time change, change the time zone back to your local time zone</p>
3	<p>Installing and Removing Software:</p> <p>a. Install gcc package, run the package and remove it.</p>
4	<p>Documentations:</p> <p>a. Finding Info Documentation: From the command line: bring up the info page for say "sed" command. Study the usage section.</p> <p>b. Finding man pages From the command line: Bring up the man page for the 'ls' command. Study the EXAMPLES section.</p> <p>c. Finding man pages by the given Topic, by the given Section</p> <p>d. From the command line, bring up the man page for the given library function</p> <p>e. Study of Command-Line Help</p>
5	<p>Command line operations:</p> <p>a. Find the passwd file in / using find command</p> <p>b. Create a symbolic link to the file you found</p> <p>e. Create a file say, xyz.txt and move it in /tmp directory using relative pathname.</p> <p>f. Delete the file moved to /tmp in previous step using absolute path.</p> <p>d. Find the location of ls, ps, bash commands.</p>
6	<p>File Operations:</p> <p>a. Explore mounted file systems on your system using different ways</p> <p>b. Archive and backup your home directory using tar, gzip commands.</p> <p>d. Use dd command to create files and explore different options to dd.</p> <p>e. Use diff command to create diff of two files.</p> <p>f. Use patch command to patch a file. Analyze the patch using diff command again.</p>
7	<p>User environment</p> <p>a. Find in which account are you logged in?</p> <p>b. Display /etc/shadow file using cat and understand the importance of shadow file. How it's different than passwd file?</p> <p>c. Get you current working directory.</p> <p>d. Explore different ways of getting command history, how to run previously executed command without typing it?</p> <p>e. Create alias to most commonly used commands</p>
8.	<p>Using Linux Editors: vim/emacs</p> <p>a. Create, modify, search, navigate a file in editor.</p> <p>b. Learn all essential commands such as search, search/replace, highlight, show line</p>
9.	<p>Linux Security:</p> <p>a. Use of sudo to change user privileges to root</p> <p>b. Identify all operations that require sudo privileges</p> <p>c. Create a new user and add it to sudo configuration file.</p> <p>d. Set password for new user.</p> <p>e. Modify the expiration date for new user using password ageing.</p> <p>f. Delete newly added user.</p>

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| <p>10. Network:</p> <ul style="list-style-type: none">a. Get IP address of your machine using ifconfig.b. If IP is not set, then assign an IP address according to your network settings.c. Get hostname of your machine.d. Use ping to check the network connectivity to remote machines.e. Use telnet/ssh to connect to remote machines and learn the difference between the two. |
| <p>11. Shell Scripting</p> <ul style="list-style-type: none">a. Searching with grep: Search for your username in the /etc/passwd file.b. Parsing files with awk: Display in a column a unique list of all the shells used for users in /etc/passwd. Which field in /etc/passwd holds the shell (user command interpreter in the manual page)? How do you make a list of unique entries, that is, no repeated entries?c. Searching and substituting with sed: Search all instances of the user command interpreter (shell) equal to /bin/false in /etc/passwd and substitute with /bin/bash using sed.d. Exit status: write a script which does ls to a non-existent file. Display an exit status of the previous command. Now create the file and again display the exit status. In each task send the ls output to /dev/nulle. Working with files: Write a shell script which will ask user for a directory, create that directory and switch to it and tell the user where you are using pwd command. Now use touch to create some new files followed by displaying the filenames. |

SEMESTER II

BCA128: Database Management Systems – I Laboratory

Teaching Scheme: Practical: 03 Hrs/Week	Credits 1.5	Examination Scheme: Continuous Evaluation: 15 Marks End-Semester :35 Marks
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Companion Course: BCA124: Database Management Systems – I

Course Objectives:

- To learn design of E-R diagrams
- To prepare and execute database queries

Course Outcomes:

On completion of the course, student will be able to–

- Prepare E-R Diagram for the given problem statement
- Formulate appropriate SQL DDL Queries
- Formulate appropriate SQL DML Queries

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Sr. No.	Assignment
1	Case study – ER diagram
2	Case study – ER diagram (with generalization)
3	Case study – ER diagram (with aggregation)
4	Using PostgreSQL (demo of PostgrSQL)
5	Data Definition queries (Create)
6	Data Definition querie (Alter)
7	Data Definition queries (Drop)
8	SQL DML Select queries
9	Queries using joins
10	Aggregate Functions and Group by and Having Clauses
11	Nested Queries

12	Data Manipulation queries (Insert)
13	Data Manipulation queries (Delete)
14	Data Manipulation queries (Update)



Nirbhay Kanya Abhiyan



Karate training programme



Mask making and distribution covid 19 pandemic period



Mask making and distribution covid 19 pandemic period



LAKE ATHABASCA CANADA

Latitude

19.335193°

Longitude

75.238548°

LOCAL 13:55:33

WEDNESDAY 07.15.2020

GMT 08:25:33

ALTITUDE 496 METER

Tree Plantation



Blood Donation Camp



Blood Donation Camp



Nss programme



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