ALAGAPPA UNIVERSITY

(A State University Accredited with 'A+ Grade by NAAC (CGPA: 3.64) in the third cycle)
Karaikudi – 630 003, Tamilnadu, India

DIRECTORATE OF DISTANCE EDUCATION

PROGRAMME PROJECT REPORT

B.Com (Computer Applications)

Programme Code: 123

REGULATIONS AND SYLLABUS

[From the academic year 2018-2019 onwards]

Credit Based System

Programme's Mission & Objectives

Vision: To bridge the inherent skills of students with the Industrial expectations in the ever - changing and challenging Global Competitive Business Scenario by continuously providing a comprehensive knowledge in Commerce with computer applications.

Mission: To bestow an exhaustive acquaintance by blending the subjects of Accounting, Banking, Insurance, Taxation, Marketing, Services Marketing and Mercantile Law in a pragmatic manner to the students so as to emerge as efficient Professionals, Entrepreneurs, Managers, Finance Experts, etc….

Objectives:

i). To impart a comprehensive knowledge in Commerce with computer applications to the students in a pragmatic manner.

i). To be a strapping pedestal to key-in and fetch an assortment of job opportunities in the Public and Private Sectors.

i). To craft Accounting, Finance, Tax and Management experts through captivat ing professional and cerebral associations.

Relevance of the Programme with HEI's Mission and Goals:

Affording quality higher Education to the learners who are interested in pursuing higher education through distance mode, so that they are transformed into intellectually competent human resources that will help in the uplift of the nation in terms of Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM). This programme is very much effective in imparting quality education through flexi-timings.

In accordance with the mission of Alagappa University as a research-intensive institution, the teaching programme of the under graduate degree programme in Commerce with computer applications is based on state of the art of scientific research and maintains a strong emphasis on the acquisition of academic and research skills.

Nature of prospective target group of learners:

The curriculum has been designed to fulfill the needs of diverse class of learners including a class of learners. In order to fulfill the needs of the learners, professionals who are in teaching, business professionals, chartered accountant practitioners, banking, Insurance and management professionals.

B.Com., (Computer Applications) Employment Areas:

- Banks
- Budget Planning
- Business Consultancies
- Educational Institutes
- Foreign Trade
- Industrial Houses
- Inventory Control
- Investment Banking
- Marketing
- Merchant Banking
- Public Accounting Firms
- Working Capital Management
- Policy Planning
- Public Accounting Firms
- Treasury and FOREX Department

B.Com., (Computer Applications) Job Types:

- Bank clerk and Bank PO jobs
- UPSC exams
- Railways exam
- Accounts work
- Taxation and financial work
- Chartered Accountancy (CA)
- Company Secretaryship (CS)

- ICWA (Cost and Works Accountancy)
- M.Com. / MBA. ./ LLB. / MHM (Master of Hotel Management)
- Tax Consultant
- Human Resource
- Banker
- Auditor
- Stock Broker
- Export Import Manager
- Finance Consultant

Appropriateness of the programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence in Bachelor of Commerce (Computer Applications) programme focuses both in-depth study of theory and acquisition of professional and research skills.

- This programme makes learners to develop skill oriented entrepreneurship knowledge, business communication at critical thinking and proficiency in the field of business sectors.

- This programme helps learners to acquire necessary skills to perform research, and start up entrepreneurship in the field of commerce and industry.

It is a good base bachelor degree course for the purpose of higher research studies like M.Com. and MBA. They can avail wide employment opportunities and employability skills in the field of Commerce and Industry.

e. Instructional Design:

Sl. No.	Course Code	Title of the Course	CIA Max.	ESE Max.	TOT Max.	C Max
FIRST YEAR						
I Semester						
1	**12311**	Principles of Management	25	75	100	4
2	**12312**	Business Communication	25	75	100	4
3	**12313**	Fundamentals of Information Technology	25	75	100	4
4	**12314**	Financial Accounting	25	75	100	4
		Total	**100**	**300**	**400**	**16**
II Semester						
5	**12321**	Financial Management	25	75	100	4
6	**12322**	Human Resource Management	25	75	100	4
7	**12323**	Marketing Management	25	75	100	4
8	**12324**	E-Commerce	25	75	100	4
		Total	**100**	**300**	**400**	**16**
SECOND YEAR						
III Semester						
9	**12331**	Corporate Accounting	25	75	100	4
10	**12332**	Principles of C Programming	25	75	100	4
11	**12333**	Merchant Banking and Financial Services	25	75	100	4
12	**12334**	Managerial Economics	25	75	100	4
		Total	**100**	**300**	**400**	**16**
IV Semester						
13	**12341**	Insurance Management	25	75	100	4
14	**12342**	Business Statistics	25	75	100	4
15	**12343**	Database Management System	25	75	100	4
16	**12344**	Management Accounting	25	75	100	4
		Total	**100**	**300**	**400**	**16**
THIRD YEAR						
V Semester						
17	**12351**	Human Computer Interface	25	75	100	4
18	**12352**	Retail Marketing Management	25	75	100	4
19	**12353**	Cost Accounting	25	75	100	4
20	**12354**	Project Management	25	75	100	4
		Total	**100**	**300**	**400**	**16**
VI Semester						
21	**12361**	Software Project Management	25	75	100	4
22	**12362**	Supply Chain Management	25	75	100	4
23	**12363**	Entrepreneurship Development	25	75	100	4
24	**12364**	Auditing	25	75	100	4
		Total	**100**	**300**	**400**	**16**
Grand Total			**600**	**1800**	**2400**	**96**

Detailed Syllabi:

FIRST SEMESTER

Course Code	Title of the Course
12311	**Principles of Management**

Learning Objectives:

1. To make the students to understand the elements of effective management
2. To familiarize the students with the basics principles of management
3. To grasp the organizational theories that would enlighten the understanding of human behaviour at work.
4. To understand team and group process and to be able to address issues arising from individual and collective organizational behaviour behavior.

UNIT – I: Understanding an organization – Organizational Process – General - Vision and Mission – Strategy – Structure – System – Process - Jobs and Tasks.

UNIT – II: Management and management process – Importance of Management, Evolution of Management Thought - Principles of Management - Management Process/Functions - and a System View.

UNIT – III: Planning and decision making – Importance of Planning - Types of Planning - Steps in Planning - Decision Making - Model in Planning and Decision Making.

UNIT – IV: Organizing and staffing – Importance of Organizing - Types of Organizations - Organizational division and span of control - Types of Departmentation - Staffing and its importance in the organization - Line and staff concept - Staffing concept and HR Management.

UNIT – V: Leading – Comparison and Contrasting of Directing and Leading - Characteristics of Leading - Importance of Leading - Functions of Leading

UNIT – VI: Controlling – Importance and Process - Critical Control Points Control as a feedback system - Prerequisites of Effective Control - Control Techniques - IT Enabled 'Controls' and its Challenges.

UNIT – VII: Organizational Behaviour – Historical Perspective - Approaches to and Importance - Framework for Learning OB - The Intricate Relation between MP and OB - Human Resources Management Relationship - Limitations of OB - Globalization and OB.

UNIT – VIII: Individual level behavioral variables - 1 (Personality, Perception) - Personality - Definition and Determinants - Personality Traits - Personality Attributes affecting OB - Definition, Importance and Factors Influencing Perception - Perception and Making Judgment about Others.

UNIT – IX: Individual level behavioral variables – 2 (Values, Attitudes and Emotions) – Values – Attitudes - Definition and Concept of Emotions - Emotional Intelligence - Indian Perspective on EI.

UNIT – X: Individual level behavioral variables – 3: Learning and its Applications in Organizations - Definition and Importance of Motivation - Early Theories in Motivation - Contemporary Theories in Motivation - Motivational Tools in Organization.

UNIT – XI: Group level behavioral - 1 (The group) – Concept of Groups - Stages of Group Formation and Group Process - Work Group Behavior - Factors that Affect Group Behavior - Implications of Group Process for Organizations.

UNIT – XII: Group level behavioral-2 (The team) – Definition and Overview of a Team - Seventeen Characteristics of an Effective Team - Designing a Team - Team Wheel - Key Issues in Team Building - The Seven Step of Intact Team Building, Cross Functional Teams.

UNIT – XIII: Group level behavior-3 (Leadership) – Overview of Leadership - Role of Leadership in Contemporary Business - Theories of Leadership - Contingency Theories of Leadership - New Leadership Theories.

UNIT – XIV: Power – politics – conflict - negotiation and stress – Power – Politics – Conflict – Negotiations – Stress - Culture and Change – Concept of Culture - Fundaments of Culture - Fundamentals of Change - Eight Steps of John Kotter on Leading Change.

REFERENCE BOOKS:

1. Ramaswamy. T, 2012, Principles of Management [Eight Edition] Himalaya Publishing Home Pvt Ltd, Mumbai.
2. Dinkar Pagare, 2011, Business Management [Fifth Edition] Sultan Chand & Sons, New Delhi.

3. Govindarajan. M, 2008, Principles of Management [First Edition] PHI, New Delhi.
4. Prasad L.M, 2015, Principles and Practice of Management [Eight Edition], Sultan Chand & Sons, New Delhi.
5. Khanka S. S, "Organisational Behaviour" Sultan Chand & Sons Publications, New Delhi (2012).
6. Aswathappa K, "Organisational Behaviour", Himalaya Publications, New Delhi (2011).
7. Varma, "Organisational Behaviour", Forward Book Depot, New Delhi (2013).
8. Sharma, "Organisational Behaviour", Tata McGrew-Hill Publications, NewDelhi (2012).

Course Code	Title of the Course
12312	**Business Communication**

Learning Objectives:

1. To explain the use of strategic communication model and critical thinking to identify objectives, analyze audience and choose the most effective structure and style for delivering written and spoken messages.
2. Build an understanding of different organization culture, business practices and social norms to communicate more effectively in domestic and cross culture business contexts.

UNIT - I: Communication - Purpose of Communication - Process of Communication - Importance of Communication in Business- Differences between Technical and General Communication - Barriers to Communication - Measures to Overcome the Barriers to Communication.

UNIT - II: Types of Communication - Types of Communication - Verbal Communication - Importance of verbal communication - Advantages of verbal communication - Advantages of written communication - Significance of Non-verbal Communication.

UNIT - III: Listening Skills - Listening Process - Classification of Listening - Purpose of Listening - Common Barriers to the Listening Process - Measures to Improve Listening - Listening as an Important Skill in Work Place.

UNIT - IV: Language for Communication - Language and Communication - General Principles of Writing - Improving Writing Skills - Essentials of good style - Expressions and words to be avoided - Grammar and Usage.

UNIT - V: Communication in Organizations - Internal Communication - Stake Holders in Internal Communication - Channels of Internal Communication - External Communication - Stake Holders in External Communication - Channels of External Communication.

UNIT - VI: Communication Network - Scope and Types of Communication Network - Formal and Informal Communication Network - Upward Communication - Downward Communication - Horizontal Communication - Diagonal Communication.

UNIT - VII: Writing Business Letter - Importance of Business Letters - Difference between Personal and Business Letters - Structure and Format of Business Letters - Types of Business Letters.

UNIT - VIII: Writing Memos - Circulars and Notices - What is a Memo? - Principles of précis writing - Approaches to memo writing - Characteristics of a memo - Guidelines for writing memos - Language and writing style of a memo - Format of a Memo – Circulars - Guidelines for writing a circular - Languages and writing style of a circular- Format of a circular - Notices - Purpose - Format - Important points to remember while writing a notice.

UNIT - IX: Report Writing- Features of Writing a Good Report- Purpose of Report Writing-Difference between Business Report and Engineering Report-Characteristics of writing a good report-Importance of communication in report writing- Guidelines for Report Writing-Steps in Report Writing- Structure of Report-Types of Reports and Different Formats.

UNIT - X: Writing E-mail - Principles of E-mail - E-mail Etiquette - Overcoming Problems in E-mail Communication.

UNIT - XI: Oral Communication Skills Oral Business Presentation - Purpose –Audience - Locale - Steps in Making a Presentation - Research and planning - Structure and style - Preparation - Presentation- Delivering a Presentation.

UNIT - XII: Meetings - Types of Meetings - Importance of Business Meetings - Different Types of Business Meetings - Conducting Meetings-Selecting participants-Developing agendas - Opening meetings - Establishing ground rules for meetings - Time management - Evaluations of meeting process - Evaluating the overall meeting - Closing meetings-Common Mistakes Made at Meetings.

UNIT - XIII: Reading Skills - Reading Skill - Purpose of Reading - Types of Reading - Techniques for Effective Reading - Employment Communication – Resume - Contents of Good Resume -Guidelines for Writing Resume - Different Types of Resumes - Reason for a Cover Letter to Apply for a Job-Format of Cover Letter - Different Types of Cover Letters.

UNIT - XIV: Employment Communication - Job Interview - Importance and Factors Involving Job Interview - Characteristics of Job Interview - Job Interview Process - Job Interview Techniques - Manners and etiquettes to be maintained during an interview - Sample Questions Commonly asked During Interview.

REFERENCE BOOKS:

1. Premavathi.N 2010. Business communication & correspondence (3rd edition) Sultan chand &sons , New Delhi.
2. Rajendra pal Korahill, 2006. Essentials of Business communication Sultan chand & sons, New Delhi.
3. Ramesh, M.S and Pattanshetti C.C, 2003. Business communication Sultan chand & sons , New Delhi
4. Rodriquez M.V, 2003, "Effective Business Communication Concept". Vikas Publishing Company.

Course Code	Title of the Course
12313	**Fundamentals of Information Technology**

Learning Objectives:

1. To have the knowledge of computer hardware and software.
2. To know the various Operating Systems and their Processes.

UNIT - I: Computers - Basics of computer - Characteristics of computers - Limitations of computers - System Components - Input devices - Output devices - Computer Memory - Central Processing Unit - Mother Board.

UNIT – II: Computer Generations & Classifications - Evolution of computers - Classification of Computers - Types of Microcomputers Distributed Computer.

UNIT – III: Number Systems and Boolean algebra – Decimal – Binary – Octal – Hexadecimal - Converting Techniques in Number systems - 1's Complements, 2's Complements - Computer Codes - Rules and Laws of Boolean algebra - Basic Gates (NOT, AND & OR).

UNIT – IV: Logical Circuits - Combinational Circuits - Sequential Circuits - Flip Flops - Shift registers - Types of shift registers – Counters.

UNIT – V: CPU Essentials - Modern CPU concepts - CISC vs. RISC CPUs - Circuit Size and Die Size - Processor Speed - Processor Cooling - System Clocks - CPU Over clocking.

UNIT – VI: Computer Memory - Memory System - Memory Cells - Memory Arrays - Random Access Memory (RAM) Read Only Memory (ROM) - Physical Devices Used to construct Memories.

UNIT – VII: Bus - Bus Interface - Industry standard architecture (ISA) - Micro Channel Architecture (MCA) - VESA (Video Electronics Standards Association - Peripheral component Interconnect - Accelerated graphics Port – FSB – USB - Dual Independent Bus – Troubleshooting.

UNIT – VIII: Storage Devices - Hard Disk – Construction - IDE drive standard and features – Troubleshooting – DVD - Blue-Ray disc - Flash Memory.

UNIT – IX: Input Output Devices Wired and Wireless connectivity - Wired and Wireless Devices - Input Devices - Touch Screen - Visual Display Terminal – Troubleshooting.

UNIT – X: Computer Software - Overview of different operating systems - Overview of different application software - Overview of proprietary software - Overview of open source technology.

UNIT – XI: Software Development, Design and Testing Requirement Analysis - Design Process - Models for System Development - Software Testing Life Cycle - Software Testing - Software Paradigms - Programming Methods - Software Applications.

UNIT – XII: Operating System Concepts - Functions of Operating System - Development of Operating System - Operating system virtual memory - Operating System Components - Operating System Services - Operating System Security.

UNIT – XIII: Internet and Its Working - History of Internet - Web browsers - Web servers - Hypertext Transfer Protocol - Internet Protocols Addressing - Internet Connection Types - How Internet Works.

UNIT – XIV: Internet and Its Uses - Internet Security - Uses of Internet – Virus – Antivirus - Cloud System - Cloud Technologies - Cloud Architecture - Cloud Infrastructure - Cloud Deployment Models.

REFERENCE BOOKS:

1. Sarvanakumar,R., Parameswara,R., and Jayalakshmi, T. 2003. Information Technology [First Edition].Sultan Chand & Company Ltd , New Delhi.
2. AGI Training Team.(2011). Microsoft Office 2010 Digital classroom. Wiley Publishing, Indian Polis, Indiana
3. Alexis Leon and Mathews Leon. 2014. Fundamentals of Information Technology [Second Edition]. Vikas Publishing House Pvt. Ltd, New Delhi.
4. Chetan and Srivastava. 2014. Fundamentals of Information Technology, [First Edition].Kalyani Publishers, New Delhi.
5. Nagpal,D.P. 2013. Computer Fundamentals [First Edition]. Sultan Chand & Company Ltd, New Delhi.

Course Code	Title of the Course
12314	**Financial Accounting**

Learning Objectives:

1. To make the students to understand the basic concepts of accounting applied in the competitive corporate world.
2. To understand accounting software easily.
3. To provide basic knowledge in financial accounting concepts.
4. To enhance practical applications of accounting.

UNIT – I: Financial Accounting – Meaning of Book Keeping, Accounting and Accountancy - Distinction between Book Keeping and Accounting, Accounting Process - Objectives of Accounting - Various users of Accounting Information, Limitations of Accounting - Accounting Terminologies.

UNIT – II: Accounting Concepts - Principles and Conventions – Meaning of Accounting Concepts – Principles – Conventions - Types of Accounting Concepts - Types of Accounting Principles - Types of Accounting Conventions - Accounting standards - International Financial Reporting Standards [IFRS].

UNIT – III: Recording of Transactions - Meaning of Assets – Liabilities – Equity - Accounting Equation and Effects of Financial Transaction on Accounting Equation - Classification of Accounts under Modern Approach Method - Double Entry System and Rules of Debit and Credit Entries.

UNIT – IV: Secondary Books – Cash Book - Petty Cash Book - Ledger.

UNIT – V: Trial Balance and Rectification of Errors - Trial Balance - Error in Accounting.

UNIT – VI: Final Accounts – 1 – Meaning - Objectives and Characteristics of Final Accounts - Adjustments before Preparing Final Accounts - Closing Entries.

UNIT – VII: Final Accounts – 2 – Trading Account - Profit and Loss Account - Balance Sheet - Treatment of Adjustments - Practical Problems.

UNIT – VIII: Bank Reconciliation Statement - Meaning of Bank Reconciliation Statement - Importance of Bank Reconciliation Statement - Reasons for Difference - Procedure for Reconciliation.

UNIT – IX: Bills of Exchange - Bill of Exchange - Acceptance of a Bill - Due Date - Recording of Bill of Exchange in the books of Accounts.

UNIT – X: Partnership Accounts - Admission of a Partner - Partnership - Meaning and Features - Partnership Deed and Contents - Admission of a Partner - Good will-Meaning - Accounting Treatment of Goodwill at the Time of Admission - Revaluation of Assets and Liabilities - Adjustments of Reserves and Accumulated Profits or Losses.

UNIT – XI: Retirement and Death of a Partner – Meaning of Retirement of Partner - Calculation of New Profit Sharing Ratio and Gaining Ratio - Adjustments with Regard to Goodwill - Revaluation of Assets and Liabilities - Settling the Claim of Retiring Partner - Death of Partner.

UNIT – XII: Depreciation Accounting: Meaning of Depreciation - Causes for Depreciation, Need for Depreciation - Computation of the Amount of Depreciation - Depreciation on Additions to Fixed Assets - Methods of Depreciation, Revised AS 6.

UNIT – XIII: Company Accounts – Kinds of Companies - Formation of Companies - Share Capital - Issue of Shares - Under Subscription & Oversubscription - Issue of Shares at Premium & Discount - Buyback of Shares and Treasury Stock - Accounting Treatments and Ledger Preparation.

UNIT – XIV: Company Accounts – Forfeiture of Shares - Reissue of Shares - Issue of Bonus Shares - Rights Issue - Share Split - Buy Back of Shares - Redemption of Preference Shares – Debentures.

REFERENCE BOOKS:

1. Reddy T.S and Murthy. A, 2011. Financial Accounting (6th revised edition2011 Reprint 2014).Margham Publications Chennai.
2. Manikandan .S and Rakesh Shankar .R, 2014. Financial accounting (3rd edition2014). SCITECH Publications' (India) Pvt Ltd Chennai.
3. Dr. Radha.v, 2010. Financial accounting (1st edition 2010, Reprint 2012), KB Printers Chennai.
4. John Gabriel. S and Marcus .A, 2010. Financial Accounting (Edition 2010), Tata McGraw Hill Education Pvt Lt

SECOND SEMESTER

Course Code	Title of the Course
12321	**Financial Management**

Learning Objectives:

1. To enhance your knowledge and understanding of financial management.
2. To give understanding and perspective on financial management function in the company and in its relation to domestic and international economy.
3. To give illustration on financial management practices and policies, processes, techniques and strategies that are used in the financial management.

UNIT – I: Evolution - Scope and Functions of Finance Managers - Scope of Finance - Financial Management System - Finance Functions - Role of a Finance Manager.

UNIT – II: Objectives of a Firm - Profit Maximization - Shareholders' Wealth Maximization (SWM).

UNIT – III: Financial Planning – Meaning of Budget - Types of Budgets - Advantages of Budgeting - Responsibility Accounting.

UNIT – IV: Time Value of Money - Concept of Time Value of Money - Compounding Method - Discounting Method.

UNIT – V: Cost of Capital – Cost of Capital - Cost of Debt - Cost of Preference Capital - Cost of Equity Capital - Approaches to Derive Cost of Equity - Weighted Average Cost of Capital and Weighted Marginal Cost of Capital.

UNIT – VI: Financial and Operating Leverage – Meaning of Financial Leverage - Measures of Financial Leverage - Calculation of Earnings Per Share (EPS) and Return on Equity (ROE) - Financial and Operating Leverages.

UNIT – VII: Capital Budgeting Decisions – Capital Budgeting Process - Methods to Evaluate Investment Proposals - Capital Rationing.

UNIT – VIII: Capital Structure Theories – Relevance of Capital Structure Theories - Irrelevance of Capital Structure.

UNIT – IX: Sources of Finance – Short-term Finance - Long-term Funds.

UNIT – X: Asset-Based Financing – Lease Financing - Hire Purchase Financing - Infrastructure Project Financing.

UNIT – XI: Dividend Policy – Dividend Policy - Financing and Dividend Decision - Dividend Relevance - Walter's Model.

UNIT – XII: Working capital Management – Concepts of Working Capital - Operating Cycle Method.

UNIT – XIII: Management of Cash – Motives for Holding Cash - Facets of Cash Management - Cash Planning - Cash Forecasting and Budgeting - Determining the Optimum Cash Balance - Investing Surplus Cash in Marketable Securities.

UNIT – XIV: Credit Policy - Nature and Goals - Collection Procedures - Nature of Inventory.

REFERENCE BOOKS:

1. Dr. Maheshwari S.N. & Dr. Mittal S.N., 2011-12 Financial Management Principles and Practice, Sultan Chand & Sons, New Delhi.

2. Khan M. Y. and Jain, P. K, 2012, Financial Management Accounting, Tata Mc Graw Hill, Publications New Delhi.

3. Shashi K. Gupta and Sharma R.K., 2014, Financial Management, Kalyani Publishers.

4. Pandey I.M., 2006, Financial Management Accounting, Vikas Publications HouseNew Delhi.

Course Code	Title of the Course
12322	**Human Resource Management**

Learning Objectives:

1. To evaluate and apply theories of social science disciplines to workplace issues;
2. To enhance their effectiveness for optimizing the human resource potential of their organization in order to achieve business and strategic objectives.
3. To examine current issues, trends, practices, and processes in HRM.

UNIT – I: Human Resource Management - Definition and Concept – Features – Objectives – Functions - Scope and Development of Human Resource Management - Importance of Human Resource Management - Human Resource Practices.

UNIT – II: HRM and Personnel Management – Concept of Personnel Management - Personnel Management in India - Functions of the Labour Welfare Officer - Difference between Personnel Management and HRM.

UNIT – III: Human Resource Planning - Concept of Human Resource Planning (HRP) - Factors in HRP - Process of HRP.

UNIT – IV: Job Analysis and Design - Job Analysis - Job Description - Writing a Job Description - Job Specification - Job Design.

UNIT – V: Recruitment – Concept of Recruitment - Factors Affecting Recruitment - Types of Recruitment.

UNIT – VI: Selection: Concept of Selection - Process of Selection - Selection Tests - Barriers in Selection.

UNIT – VII: Induction - Meaning and Definition of Induction - Need for Induction - Problems Faced during Induction - Induction Programme Planning

UNIT – VIII: Training - Concept and Significance of Training - Training Needs - Training Methods - Types of Training.

UNIT – IX: Performance Appraisal - Concept of Performance Appraisal - Purpose of performance appraisal – Process - Methods of Performance Appraisal - Major Issues in Performance Appraisal.

UNIT – X: Wages and Salary – Nature and Significance of Wage and Salary Administration - Theories of Wages - Methods of Wage Fixation.

UNIT – XI: Incentives: Concept of Incentives - Effective Incentive System - Types of Incentive Scheme.

UNIT – XII: Employee Relations - Concept of Employee Relations - Managing Discipline - Managing Grievance - Employee Counseling.

UNIT – XIII: Employee Empowerment – Concept of Employee Empowerment - Process of Empowerment - Empowerment in Indian Scenario - Empowerment in Global Scenario.

UNIT – XIV: International HRM – Comparison of Domestic and International HRM - Challenges in International HRM.

REFERENCE BOOKS:

1. Tripathi P.C., 2013, Personnel Management and Industrial Relations, Sultan Chand and Sons, New Delhi.

2, Aswathappa K., 2013, Human Resource Management: Text and Cases, McGraw Hill Education, New Delhi.

3. Memoria C.B. & Rao V.S.P., 2014, Personnel Management - Text & Cases, Himalaya Publishing house, New Delhi.

4. Khanka S.S., 2007, Human Resource Management - Text & Cases**,** S. Chand & Company Ltd., New Delhi.

Course Code	Title of the Course
12323	**Marketing Management**

Learning Objectives:

1. To give the knowledge of updated marketing scenario.
2. To enhance the knowledge of marketing behavior of consumer among the students.

UNIT – I: Marketing – An Overview – Definition of Market - Types of Markets - Meaning and Definition of Marketing - Origin of Marketing, Scope of Marketing - Importance of Marketing - Functions of Marketing - Difference between Marketing and Selling.

UNIT – II: Marketing Concepts – Exchange concept - Production concept - Product concept - Sales/selling concept - Modern marketing concept - Societal marketing concept - Impact of marketing concepts and its applicability.

UNIT – III: Marketing Environment – Need and Importance of Environmental Analysis - Methods of Analysis – SWOT- PEST- Internal Environment of the Organization - External Environment.

UNIT – IV: Marketing Mix – Evolution of the "Marketing mix" -Components of a traditional marketing mix - Additional components in the mix - Importance of marketing mix in marketing decisions.

UNIT – V: Marketing Planning and Strategies – Management Processes in Marketing - Types of Marketing Plan - Competitive Marketing Strategies - Interactions between Marketing Mix and Marketing Environment, Control Mechanisms in Marketing.

UNIT – VI: Product Related Decisions: Features of a Product and its Classifications - Product Plan and New Product Development - Product Mix and its Elements - Decisions related to Product Mix - Product Life Cycle.

UNIT – VII: Branding – Definition of a Brand - Development of a Brand - Types of Brands - Importance of Brands and Branding - Merits and Demerits of Branding - Brand Equity – Definition and Benefits.

UNIT – VIII: Pricing Decisions – Price and its Determinants - Objectives of Pricing Decisions - Factors Affecting Pricing Decisions - Pricing Policies and Strategies - Pricing Methods.

UNIT – IX: Distribution Strategy – Meaning - Need for and Importance of Distribution Channel - Factors Influencing Channel Decisions - Types of Channels - Direct Channel - Indirect Channel - Functions of Channel Members.

UNIT – X: Promotion Mix – Promotion mix and its components – Advertising - Sales Promotion - Personal selling - Direct marketing - Public Relations and publicity - Online marketing - Developing an integrated promotion mix.

UNIT – XI: Promotion Mix Decisions – Advertising decisions - Sales promotion decisions - Personal selling decisions - Public Relations and Publicity decisions.

UNIT – XII: Market Segmentation – Definition of market segmentation - Need for market segmentation - Criteria for effective segmentation - Bases for market segmentation - Benefits of market segmentation.

UNIT – XIII: Consumer Behaviour - Important definitions - Evolution of the study of consumer behavior - Determinants of consumer behavior - Types of buying decisions - Stages of the buying process - Importance of consumer behaviour study.

UNIT – XIV: Services Marketing – Definition of services - Characteristics of services - Distinction between goods and services - Marketing mix for services - Types of services - Strategies for Services Marketing - Recent Trends in Marketing – E-commerce - E-marketing - E-Retailing - Relationship marketing - Mobile marketing - Green marketing.

REFERENCE BOOKS:

1. Philip Kotler, 2014 Principles of Marketing (15th edition 2014). Pearson Education Pvt.

2. Pillai. R. S. N and Baghavathy .N, Modern Marketing (edition 1987, Reprint2012).Sultan Chand and sons Publishers.

3. Gupta .C.B and RajanNair .N, Marketing Management. (Edition 1996 Reprint 2012). Sultan Chand and Sons Publishers.

4. Ramasamy.R. V.S and Namakumari, Marketing Management, (3rd **Edition**), MacMillan India. Limited, New Delhi.

Course Code	Title of the Course
12324	**E-Commerce**

Learning Objectives:

1. To enable the students to understand the technology of E–Commerce for Business Application.
2. To enable awareness on the Application of E–Commerce.

UNIT - I: E-Commerce: Defining Commerce; Main Activities of Electronic Commerce; Benefits of E-Commerce; Broad Goals of Electronic Commerce; Main Components of E-Commerce; Functions of Electronic Commerce – Communication, Process Management, Service Management, Transaction Capabilities; Process of E-Commerce; Types of E-Commerce; Role of Internet and Web in E-Commerce; Technologies Used; E-Commerce Systems; Pre-requisites of E-Commerce; Scope of E-Commerce; E-Business Models.

UNIT - II: E-Commerce Activities: Various Activities of E-Commerce; Various Modes of Operation Associated with E-Commerce; Matrix of E-Commerce Types; Elements and Resources Impacting E-Commerce and Changes; Types of E-Commerce Providers and Vendors; Man Power Associated with E-Commerce Activities; Opportunity Development for E-Commerce Stages; Development of E-Commerce Business Case; Components and Factors for the Development of the Business Case; Steps to Design and Develop an E-Commerce Website.

UNIT - III: Internet – The Backbone for E-Commerce: Early Ages of Internet; Networking Categories; Characteristics of Internet; Components of Internet – Internet Services, Elements of Internet, Uniform Resource Locators, Internet Protocol; Shopping Cart, Cookies and E-Commerce; Web Site Communication; Strategic Capabilities of Internet.

UNIT – IV: ISP, WWW and Portals: Internet Service Provider (ISP); World Wide Web (WWW); Portals – Steps to build homepage, Metadata; Advantages of Portal; Enterprise Information Portal (EIP).

UNIT - V: Reference Models: Open Systems Interconnection (OSI) Model – Physical layer, Data link layer, Network layer, Transport layer, Session layer, Presentation layer, Application layer; Transmission Control Protocol (TCP) / Internet Protocol (IP) Model; Protocol – Internet Protocol (IP), User Datagram Protocol (UDP), Transmission Control

Protocol (TCP), Dynamic Host Configuration Protocol (DHCP), Hyper Text Transfer Protocol (HTTP), File Transfer Protocol (FTP), Telnet, Post Office Protocol (POP), Simple Mail Transfer Protocol (SMTP).

UNIT - VI: XML and Data Warehousing: Definition of eXtensible Markup Language (XML); XML Development Goals; Comparison between HTML and XML; Business importance in using XML Based Technology; Advantages, Disadvantages and Applications of XML; Structure of an XML Document; XHTML and X/Secure; Data Warehousing; Data Marts and Operational Data Stores.

UNIT - VII: E-Marketing: Traditional Marketing; E-Marketing; Identifying Web Presence Goals – Achieving web presence goals, Uniqueness of the web, Meeting the needs of website visitors, Site Adhesion: Content, format and access; Maintaining a Website; Metrics Defining Internet Units of Measurement; Online Marketing; Advantages of Online Marketing.

UNIT - VIII: E-Security: Security on the Internet; Network and Website Security Risks – Denial-of-Service attacks, Viruses, Unauthorized access to a computer network; Vulnerability of Internet Sites; Network and Website Security – Transaction security and data protection, Security audits and penetration testing; E-Business Risk Management Issues; Firewall – Network policy, Advanced authentication mechanism, Packet filtering, Application gateways; Defining Enterprise Wide Security Framework.

UNIT - IX: E-Payment Systems: Electronic Funds Transfer; Digital Token Based E-Payment Systems; Modern Payment Systems; Steps for Electronic Payment; Payment Security; Net Banking.

UNIT - X: E-Customer Relationship Management: Customer Relationship Management (CRM) – Marketing automation, Enterprise customer management; Customer Relationship Management Areas; CRM Processes; Architectural Components of a CRM Solution – Customer's information repository, Campaign management, Event triggers, business logic and rules repository, Decision support tools, Higher level statistical analysis, Forecasting and planning tools, True channel management, Workflow management, Collateral management; Electronic Customer Relationship Management; Need, Architecture and Applications of Electronic CRM.

UNIT - XI: Supply Chain Management: Supply Chain Management (SCM); Goals of SCM; Functions of SCM; Strategies of SCM; Electronic SCM and its benefits; Components of Electronic SCM; Electronic Logistics and its Implementation.

UNIT - XII: Wireless Application Protocol: Wireless Application Protocol (WAP); Architecture of WAP; Working of WAP; Wireless Technologies; Generations in Wireless Communications; Security Issues related to Wireless Communications; Mobile Computing in Four Dimensions; Wireless Millennium.

UNIT -XIII: Knowledge Management: Knowledge Management and its Goals; Collaborative Computing and Knowledge Management; Knowledge Management Tools; Features of Knowledge Management Tools; Knowledge Creating Process; Knowledge Management Strategies for Different Organizations; Knowledge Management in Research and Development Organizations.

UNIT - XIV: Implementation of E-Commerce: WWW.EBAY.COM - B2C Website – Registration, Time factor, Bidding process, Growth of eBay; PayPal – New Trend in Making Payments Online; National Electronic Funds Transfer.

REFERENCE BOOKS:

1. Bharat Bhasker. 2009. Electronic Commerce [Third Edition]. Tata Mc Graw Hill Publishing Co Ltd., New Delhi.

2. RaviKalakota., and Andrew B.Whinston. 2013. Frontiers of Electronic Commerce [Fourteenth Edition]. Dorling Kindersley (India) Pvt Ltd,.

3. Daniel Minoli., and Emma Minoli. 2007. Web Commerce Technology Handbook. [Thirteenth Edition]. Tata McGraw Hill Publishing, New Delhi.

4. Elias,M. and Awa. .2009. E–Commerce From vision to Fulfillment [Third Edition]. PHI Publishing, New Delhi.

THIRD SEMESTER

Course Code	Title of the Course
12331	**Corporate Accounting**

Learning Objectives:

1. To give a clear understanding and knowledge to the students in the area of corporate accounting and other related matters.
2. To provide the knowledge based on corporate need to have a global perspective and grow accordingly.

UNIT – I: Issue of shares: Par, Premium and Discount - Forfeiture - Reissue - Surrender of Shares - Right Issue – Underwriting.

UNIT – II: Redemption of Preference Shares – Provisions of the companies Act - Debentures - Issue – Treatment of different items relating to debenture in final accounts – Redemption – Methods of redemption of Debenture - Sinking Fund Method – Insurance Policy method.

UNIT – III: Final Accounts of Companies – Trading Account – Profit and Loss Account – Profit and Loss Appropriation Accounts – Balance sheet - Managerial Remuneration – Remuneration payable to different categories of managerial personnel – Calculation of Managerial remuneration.

UNIT – IV: Valuation of Goodwill - Need - Methods of valuation of Goodwill - Average Profit method – super profit method – capitalization method.

UNIT – V: Shares - Methods of valuation of Shares – Net asset method – Yield Method – Fair value Method.

UNIT – VI: Liquidation of Companies –Modes of Winding up - Statement of Affairs - Deficiency account or Surplus Account.

UNIT – VII: Company Final accounts – Schedule VI Part I and Part II – Profit prior to incorporation - Managerial remuneration – Preparation of profit and loss account and Balance Sheet.

UNIT – VIII: Amalgamation – Meaning – Advantages – Purchase consideration – Types of amalgamation – Net present value method - Absorption (Excluding inter – company holdings).

UNIT – IX: External reconstruction and Internal reconstruction – Meaning – Accounting treatment – Alteration of share capital – Capital reduction account.

UNIT – X: Holding company accounts excluding inter-company holdings – Mutual Owings - Contingent Liability - Unrealized Profit - Revaluation of Assets.

UNIT – XI: Liquidation of companies – Meaning – Reasons for winding up – Liquidator – Preferential creditors – Calculation of liquidator's remunerations – Liquidator's final statement of accounts.

UNIT – XII: Accounts for banking companies - Preparation of profit and loss account and balance sheet - Accounts for Insurance Companies - Preparation of profit and loss account and balance sheet.

UNIT – XIII: International Financial Reporting Standards (IFRS) – Meaning – Advantages - Disadvantages.

UNIT – XIV: Human resource accounting - Characteristic, Applications methods - Principles of Government accounting – Principles of Responsibility accounting.

REFERENCE BOOKS:

1. Dr. M. A. Arulanandam, and Dr. K. S. Raman, 2003, "Advanced Accountancy, Part-I" - Himalaya Publications, New Delhi.
2. Jain S. P. & Narang K. L., 2004 - "Advanced Accounting" - Kalyani Publishers, New Delhi.
3. Gupta R. L. & Radhaswamy M., 2006, "Corporate Accounts – Theory, Method and Application", Sultan Chand & Co., New Delhi.
4. Reddy & Murthy, 2004, "Financial Accounting" - Margham Publicatuions, Chennai.
5. Jain S. P and Narang K. L. 2004, Corporate Accounting, (First Edition) Kalyani Publications, Chennai.
6. Joseph. T. 2009, Corporate Accounting, Vol. 1, (1st Edition), Tata McGraw-Hill Education Pvt. Limited, New Delhi.

Course Code	Title of the Course
12332	**Principles of C Programming**

Learning Objectives:

1. Objective - C is a general-purpose, object-oriented programming language that adds Smalltalk-style messaging to the C programming language. This is the main programming language used by Apple for the OS X and iOS operating systems and their respective APIs, Cocoa and Cocoa Touch

UNIT - I: Principles of programming - Programming - Programming Domain - Scientific Application - Business Applications - Artificial Intelligence - Systems Programming - Web Software Categories of Programming Languages - Machine Level Languages - Assembly Level Languages - High Level Languages Programming Design Methodologies - Top Down and Bottom UP Program Development Cycle with case study - Program Execution and Translation Process -Problem solving using Algorithms and Flowcharts - Performance Analysis and Measurements - Time and Space complexity.

UNIT - II: C Programming - Features of C and its Basic Structure - Simple C programs – Constants - Integer Constants - Real Constants - Character Constants - String Constants - Backslash Character Constants - Concept of an Integer and Variable - Rules for naming Variables and assigning values to variables.

UNIT - III: Operators and Expressions - Arithmetic Operators - Unary Operators - Relational and Logical Operators - The Conditional Operator - Library Functions - Bitwise Operators - The Increment and Decrement Operators - The Size of Operator - Precedence of operators.

UNIT - IV: Data Types and Input/Output Operators – Floating - point Numbers - Converting Integers to Floating-point and vice-versa - Mixed-mode Expressions - The type cast Operator - The type char - Keywords - Character Input and Output - Formatted input and output - The gets( ) and puts( ) functions - Interactive Programming.

UNIT - V: Control Statements and Decision Making - The go to statement - The if statement - The if-else statement - Nesting of if statements - The conditional expression

- The switch statement - The while loop - The do…while loop - The for loop - The nesting of for loops - The break statement and continue statement.

UNIT - VI: Arrays and Strings - One Dimensional Array - Passing Arrays to Functions - Multidimensional Arrays – Strings.

UNIT - VII: Pointers – I - Basics of Pointers - Pointers and One-dimensional Arrays - Pointer Arithmetic - Pointer Subtraction and Comparison - Similarities between Pointers and One-dimensional Arrays.

UNIT - VIII: Pointers – II - Null pointers - Pointers and Strings - Pointers and two - dimensional arrays - Arrays of Pointers.

UNIT - IX: Structures and Unions - Basics of Structures - Arrays of Structures - Pointers to Structures - Self-referential Structures - Unions.

UNIT - X: Functions - Function Philosophy - Function Basics - Function Prototypes - and Passing Parameters - Passing Parameter by value and Passing Parameter by reference - passing string to function - Passing array to function - Structures and Functions Recursion.

UNIT - XI: Storage Classes - Storage Classes and Visibility - Automatic or local variables - Global variables - Static variables - External variables.

UNIT - XII: The Preprocessor - File Inclusion - Macro Definition and Substitution - Macros with Arguments - Nesting of Macros - Conditional Compilation.

UNIT - XIII: Dynamic Memory Allocation and Linked List - Dynamic Memory Allocation - Allocating Memory with malloc - Allocating Memory with calloc - Freeing Memory - Reallocating Memory Blocks - Pointer Safety - The Concept of linked list - Inserting a node by using Recursive Programs - Sorting and Reversing a Linked List - Deleting the Specified Node in a Singly Linked List.

UNIT - XIV: File Management - Defining and Opening a file - Closing Files - Input/output Operations on Files - Predefined Streams - Error Handling during I/O Operations - Random Access to Files - Command Line Arguments.

REFERENCE BOOKS:

1. Er. Anil Panghal and Sharda Panghal, Principles of Programming Languages, Laxmi Publications (P) Ltd., New Delhi.

Course Code	Title of the Course
12333	**Merchant Banking and Financial Services**

Learning Objectives:

1. To understand the trade-off between risk and reward in investing
2. To know the structure of financial markets
3. To learn the Functioning of Stock Exchanges and Financial Intermediaries
4. This course acquaints students with the concept and tools and techniques of marketing financial services.

UNIT – I: Merchant Banking and Financial Services – Concept of merchant banking - financial system in India - development of merchant banks and regulations.

UNIT – II: Issue Management - pre-issue and post-issue management activities performed by merchant banks.

UNIT – III: Underwriting and Brokerage - This unit introduces you to the different roles played by underwriters and brokers in issue management and their responsibilities.

UNIT – IV: Raising Capital from International Markets - needs of Indian companies for raising funds from foreign markets usage of euro issue - evaluation of various types of depository receipts - American Depository Receipts - Global Depository Receipts - FCCBs and FCEBs.

UNIT – V: Financial Services - financial services in India – types - and importance - online trading - dematerialization and re-materialization.

UNIT – VI: Depository System in India - depository system - the Depository Act of 1996 and depository participants – NSDL - CDSL and benefits of a depository system.

UNIT – VII: Mutual Funds and AMCs - mutual funds - various types of mutual funds schemes - advantages and disadvantages of investing in mutual funds - egal structure and the regulation of mutual funds in India.

UNIT – VIII: Lease - leasing, benefits and limitations - types of leasing.
UNIT – IX: Hire Purchase - important financial innovations - lease financing and hire - purchase financing.

UNIT – X: Mergers and Acquisitions – Mergers and acquisitions - benefits of mergers - the procedure and theories of mergers and the legal aspects governing mergers - acquisitions and takeovers in India.

UNIT – XI: Portfolio Management - Portfolio management - theories of portfolio management - techniques of portfolio evaluation and measures of portfolio revision.

UNIT – XII: Securitization of Debts - Securitization – features - advantages and the steps involved in the securitization process - guidelines laid down by the Securitization Act – 2002.

UNIT – XIII: Venture Capital Funds - Venture capital fund – features - emergence of venture capitalism in India - Credit Rating - Credit rating – processes - scope of credit rating agencies in India.

UNIT – XIV: Factoring - process and features of factoring - types of factoring contracts - advantages and disadvantages of factoring - differences between factoring and bill discounting - process of factoring as it exists in India and explains the process of forfeiting.

REFERENCE BOOKS:

1. Dr Natarajan K, 2009, “Financial Markets and Services”, Himalaya Publishing House Pvt. Ltd., India.

2. Dr. Guruswamy S, 2009, “Financial Services”, Tata Mc Graw-hill Education, New Delhi.

3. Prasanna Chandra, 2011 “Financial Management Theory and Practice”, Tata McGraw-hill Education, New Delhi.

4. Khan M Y and Jain P K, 2008, “Financial Management Text, Problems and Cases”, Tata Mc Graw-hill Education, New Delhi.

Course Code	Title of the Course
12334	**Managerial Economics**

Learning Objectives:

1. To discuss the relationship between economics and business.
2. To analyze the application of economic theories in modern business.

UNIT – I: Meaning and Importance of Managerial Economics - Meaning - Scope of Managerial Economics - Importance of the study of Managerial Economics - Two Major Functions of a Managerial Economist.

UNIT – II: Demand Analysis – Meaning and Law of Demand - Elasticity of Demand.

UNIT – III: Demand Forecasting – Meaning and Forecasting - Level of Demand Forecasting - Criteria for Good Demand Forecasting, Methods or Techniques of Demand Forecasting - Survey Methods - Statistical Methods - Demand Forecasting for a New Products.

UNIT – IV: Supply & Market Equilibrium - Meaning of Supply and Law of Supply - Exceptions to the Law of Supply - Changes or Shifts in Supply - Elasticity of supply - Factors Determining Elasticity of Supply - Practical Importance - Market Equilibrium and Changes in Market Equilibrium.

UNIT – V: Production Analysis – Meaning of Production and Production Function - Cost of Production.

UNIT – VI: Cost Analysis - Types of Costs - Cost-Output Relationship - Cost Function - Cost-Output Relationships in the Short Run - and Cost-Output Relationships in the Long Run.

UNIT – VII: Objectives of Firm - Profit Maximization Model - Economist Theory of the Firm - Cyert and March's Behavior Theory - Marris' Growth Maximisation Model, Baumol's Static and Dynamic Models - Williamson's Managerial Discretionary Theory
UNIT – VIII: Revenue Analysis and Pricing Policies - Revenue - Meaning and Types - Relationship between Revenues and Price Elasticity of Demand - Pricing Policies - Objectives of Pricing Policies - Pricing Methods.

UNIT – IX: Price Determination under Perfect Competition – Market and Market Structure - Perfect Competition - Price-Output Determination under Perfect Competition - Short-run Industry Equilibrium under Perfect Competition - Short-run Firm Equilibrium under Perfect Competition - Long-run Industry Equilibrium under Perfect Competition - Long-run Firm Equilibrium under Perfect Competition.

UNIT – X: Pricing Under Imperfect Competition – Monopoly - Price Discrimination under Monopoly - Bilateral Monopoly - Monopolistic Competition – Oligopoly - Collusive Oligopoly and Price Leadership – Duopoly - Industry Analysis.

UNIT – XI: Macro Economics and some of its measures – Basic Concepts - Macroeconomic Ratios - Index Numbers - National Income Deflators.

UNIT – XII: Consumption Function and Investment Function - Consumption Function, Investment Function - Marginal efficiency of capital and business expectations - Multiplier - Accelerator.

UNIT – XIII: Stabilization Policies – Economic Stability - Instruments of economic Stability - Monetary Policy - Fiscal Policy - Physical Policy or Direct Controls.

UNIT – XIV: Business Cycle – Meaning and Features - Theories of Business Cycles - Measures to Control Business Cycles - Business Cycles and Business Decisions - Inflation and Deflation - Inflation - Meaning and Kinds - Measures to Control Inflation – Deflation.

REFERENCE BOOKS:

1. Sankaran.S.2004. **Managerial Economics.** Margham Publication.
2. Gupta.G.S .2009. **Managerial Economics.** Tata McGraw-Hill Education Pvt.Ltd.
3. Cauvery.R., Dr.Sudha Nayak. U.K., Girija.M.and Dr.Meenakshi.R. 2010. **Managerial Economics.** S.Chand, New Delhi.
4. Maheswari.K.L and Varshney.R.L. 2014. **Managerial Economics.** [22nd Edition, Chand Sons, New Delhi.

FOURTH SEMESTER

Course Code	Title of the Course
12341	**Insurance Management**

Learning Objectives:

1. Demonstrate knowledge of insurance contracts and provisions, and the features of property-liability insurance, life and health insurance, and employee benefit plans.
2. Demonstrate knowledge of the operation and management of insurance entities, and the economic implications of organizational design and structure.
3. Develop skills to facilitate insurance product cost and pricing, marketing, and distribution.
4. Develop practical skills through professional development seminars, internships, and / or a practicums in insurance and risk management.
5. Examine the role of public policy including social insurance in personal financial planning and risk management.

UNIT – I: Risk - Interpretations of the term 'risk' - types of business and personal risks - significance of risk management function within business organizations.

UNIT – II: Insurance and Risk - significance of insurance and risk - general structure of the insurance market - significant aspects of this industry.

UNIT – III: Reforms in Indian Insurance Industry - importance of the privatization of insurance industry - problems associated with public insurance enterprises - relation between insurance and economic growth.

UNIT – IV: Regulations Relating to Insurance Accounting and Management - framework for IRDA rules and regulations regarding general insurance investment in the country - role of financial reporting in managing insurance operations - significance of determining solvency margins.

UNIT – V: Life Insurance - factors influencing the key functioning of insurance organizations insurable interest - role of riders in insurance policies.

UNIT – VI: Non-life Insurance - elements of fire insurance contract and its ancillary features - Significance of marine insurance and its various policies - the role of rural insurance in making people's lives better in rural India.

UNIT – VII: Non-life Insurance - II - types of motor insurance policies - critical aspects of aviation industry in the country - significance of liability insurance in India.

UNIT – VIII: Functions and Organization of Insurers - components of the distribution system of life insurance companies in the country - role of agents in the life insurance sector in India - important activities carried out in a life insurance organization

UNIT – IX: Product Design and Development - Product development in the life and non-life insurance sectors in India - role of risk evaluation in the process of insurance product formation - future trends in the domain of insurance product design and development.

UNIT – X: Insurance Underwriting - need for insurance underwriting - factors that affect the activities performed by the underwriter - steps involved in the process of insurance underwriting.

UNIT – XI: Claims Management - factors affecting the insurance claim management system - types of documents needed in various types of claims, meaning of 'Causa Proxima' in insurance claim settlement.

UNIT – XII: Insurance Pricing and Marketing - principles of insurance pricing and marketing - tools and techniques used in pricing individual life and health insurance.

UNIT – XIII: Financial Management in Insurance Companies and Insurance Ombudsman - importance of financial management in insurance companies - tools of managing expenses in the insurance companies - modes used by the insurance companies in channelizing their funds.

UNIT – XIV: Reinsurance - reinsurance in the insurance sector - Areas of the application of reinsurance - Information Technology in Insurance - application of information technology in the insurance sector - role of insurance companies in insurance security - contours of the future of insurance in rural areas.

REFERENCE BOOKS:

1. Neelam C. Gulati, Principles of Insurance Management, Published by Excel Books 2007.

2. S.C. Das and S.C. Sahoo, Insurance Management (Text and Cases, Himalaya Publishing House Private Limited, Mumbai, 2015.

Course Code	Title of the Course
12342	**Business Statistics**

Learning Objectives:

1. To describe data with descriptive statistics
2. To perform statistical analyses
3. To interpret the results of statistical analyses
4. To make inferences about the population from sample data

UNIT – I: Statistics - Importance of Statistics in modern business environment - Definition of Statistics - Scope and Applications of Statistics Characteristics of Statistics - Functions of Statistics - Limitations of Statistics - Statistical Software.

UNIT – II: Measures of Central Tendency and Dispersion - Objectives of statistical average - Requisites of a Good Average - Statistical Averages - Arithmetic mean - Properties of arithmetic mean - Merits and demerits of arithmetic mean \- Median - Merits and demerits of median - Mode - Merits and demerits of mode - Geometric Mean - Harmonic Mean - Appropriate Situations for the Use of Various Averages - Positional Averages - Dispersion – Range - Quartile deviations - Mean deviation, Standard Deviation - Properties of standard deviation Coefficient of Variance.

UNIT – III: Theory of Probability - Definition of probability - Basic terminology used in probability theory - Approaches to probability - Rules of Probability - Addition rule - Multiplication rule - Conditional Probability - Steps Involved in Solving Problems on Probability - Bayes' Probability - Random Variables.

UNIT – IV: Theoretical Probability Distributions - Random variables - Probability Distributions - Discrete probability distributions - Continuous probability distributions - Bernoulli Distribution - Repetition of a Bernoulli experiment - Binomial Distribution - Assumptions for applying a binomial distribution - Examples of binomial variate - Recurrence formula in case of binomial distribution - Case study on binomial distribution Poisson Distribution - Assumptions for applying the Poisson distribution -Real life examples of Poisson variate - Recurrence relation -Case study on Poisson distribution - Normal Distribution - Standard Normal Distribution.

UNIT – V: Estimation: Reasons for Making Estimates - Making Statistical Inference - Types of Estimates - Point estimate - Interval estimate - Criteria of a Good Estimator - Unbiasedness - Efficiency - Consistency – Sufficiency - Point Estimates - Interval

Estimates - Case study on calculating estimates - Making the interval estimate Interval Estimates and Confidence Intervals - Interval estimates of the mean of large samples - Interval estimates of the proportion of large samples - Interval estimates using the Student's 't' distribution - Determining the Sample Size in Estimation.

UNIT – VI: Testing of Hypothesis in Case of Large and Small Samples - Large Samples – Assumptions - Testing Hypothesis - Null and alternate hypothesis - Interpreting the level of significance - Hypotheses are accepted and not proved - Selecting a Significance Level - Preference of type I error - Preference of type II error - Determine appropriate distribution - Two – Tailed Tests and One – Tailed Tests - Two – tailed tests - Case study on two – tailed and one-tailed tests - Classification of Test Statistics - Statistics used for testing of hypothesis - Test procedure - How to identify the right statistics for the test - Testing of Hypothesis in Case of Small Samples - Small samples - 't' Distribution - Uses of 't' test.

UNIT – VII: Chi-square Test - Chi-square as a Test of Independence - Characteristics of Chi-square test - Degrees of freedom - Restrictions in applying Chi-square test - Practical applications of Chi-square test - Levels of significance - Steps in solving problems related to Chi-Square test - Interpretation of Chi-Square values - Chi-Square Distribution - Properties of Chi-square distribution - Conditions for applying the Chi-Square test - Uses of Chi-square test - Applications of Chi-Square test - Tests for independence of attributes - Test of goodness of fit - Test for specified variance.

UNIT – VIII: F – Distribution and Analysis of Variance (ANOVA) – Analysis of Variance (ANOVA) - Assumptions for F-test - Objectives of ANOVA - ANOVA table - Assumptions for study of ANOVA - Classification of ANOVA - ANOVA table in one-way ANOVA - Two way classifications.

UNIT – IX: Simple Correlation and Regression - Correlation - Causation and Correlation - Types of Correlation - Measures of Correlation - Scatter diagram - Karl Pearson's correlation coefficient - Properties of Karl Pearson's correlation coefficient - Factors influencing the size of correlation coefficient - Probable Error - Conditions under which probable error can be used.

UNIT – X: Spearman's Rank Correlation Coefficient - Partial Correlations - Multiple Correlations - Regression - Regression analysis - Regression lines - Regression coefficient - Standard Error of Estimate - Multiple Regression Analysis - Reliability of Estimates - Application of Multiple Regressions.

UNIT – XI: Business Forecasting – Business Forecasting - Objectives of forecasting in business - Prediction, projection and forecasting - Characteristics of business forecasting - Steps in forecasting , Methods of Business Forecasting - Business barometers.

UNIT – XII: Time series analysis – Extrapolation - Regression analysis - Modern econometric methods - Exponential smoothing method - Theories of Business Forecasting - Sequence or time-lag theory - Action and reaction theory - Economic rhythm theory - Specific historical analogy - Cross-cut analysis theory - Utility of Business Forecasting - Advantages of business forecasting - Limitations of business forecasting.

UNIT – XIII: Time Series Analysis – Utility of the Time Series - Components of Time Series - Long term trend or secular trend - Seasonal variations - Cyclic variations - Random variations - Methods of Measuring Trend - Free hand or graphic method - Semi-average method - Method of moving averages - Method of least squares - Mathematical Models for Time Series - Additive model - multiplicative model, Editing of Time Series - Measurement of Seasonal Variation - Seasonal average method - Seasonal variation through moving averages - Chain or link relative method - Ratio to trend method - Forecasting Methods Using Time Series - Mean forecast - Naive forecast - Linear trend forecast - Non-linear trend forecast - Forecasting with exponential smoothing.

UNIT – XIV: Index Numbers: Definition – Relative - Classification of index numbers - Base year and current year - Chief characteristics of index numbers - Main steps in the construction of index numbers - Methods of Computation of Index Numbers – Un-weighted index numbers - Weighted index numbers, Tests for Adequacy of Index Number Formulae - Cost of Living Index Numbers of Consumer Price Index - Utility of consumer price index numbers - Assumptions of cost of living index number - Steps in construction of cost of living index numbers - Methods of Constructing Consumer Price Index - Aggregate expenditure method - Family budget method - Weight average of price relatives - Limitations of Index Numbers - Utility and Importance of IndexNumbers.

REFERENCE BOOKS:

1. G. V. Shenoy, Uma K. Srivastava, S. C. Sharma, Business Statistics, New Age International, 1988.

2. T N Srivastava (Author), Shailaja Rego, Statistics for Management, McGraw Hill Education, 2017.

Course Code	Title of the Course
12343	**Database Management System**

Learning Objectives:

1. To learn the basic concepts of DBMS
2. To know the concepts of SQL
3. To understand PL / SQL, Triggers and cursors
4. To know the concept of Normalization

UNIT - I: Database Management System Concepts - Significance of Database - Database System Applications - Data Independence - Data Modeling for a Database - Entities and their Attributes - Entities – Attributes - Relationships and Relationships Types - Advantages and Disadvantages of Database Management System - DBMS Vs RDBMS.

UNIT - II: Database System Architecture - Three Level Architecture of DBMS - The External Level or Subschema - The Conceptual Level or Conceptual Schema - The Internal Level or Physical Schema - Mapping - MySQL Architecture - SQL Server 2000 Architecture - Oracle Architecture - Database Management System Facilities - Data Definition Language - Data Manipulation Language - Database Management System Structure - Database Manager - Database Administrator - Data Dictionary - Distributed Processing - Information and Communications Technology System (ICT) - Client / Server Architecture.

UNIT - III: Database Models and Implementation - Data Model and Types of Data Model - Relational Data Model - Hierarchical Model - Network Data Model - Object/Relational Model - Object-Oriented Model - Entity-Relationship Model - Modeling using E-R Diagrams - Notation used in E-R Model - Relationships and Relationship Types - Associative Database Model.

UNIT - IV: File Organization for Conventional DBMS - Storage Devices and its Characteristics - Magnetic Disks - Physical Characteristics of Disks - Performance Measures of Disks - Optimization of Disk-Block Access - File Organization - Fixed-Length Records - Variable-Length Records - Organization of records in files - Sequential file Organization - Indexed Sequential Access Method (ISAM) - Virtual Storage Access Method (VSAM).

UNIT - V: RDBMS - An informal look at the relational model - Relational Database Management System - RDBMS Properties - The Entity-Relationship Model - Overview

of Relational Query Optimization - System Catalog in a Relational DBMS - Information Stored in the System Catalog - How Catalogs are Stored.

UNIT - VI: SQL – 1 - Categories of SQL Commands - Data Definition - Data Manipulation Statements - SELECT - The Basic Form - Sub queries - Functions - GROUP BY Feature - Updating the Database - Data Definition Facilities.

UNIT - VII: SQL – 2 - Views - Embedded SQL * - Declaring Variables and Exceptions - Embedding SQL Statements - Transaction Processing - Consistency and Isolation - Atomicity and Durability.

UNIT - VIII: Relational Algebra - Basic Operations - Union (U) - Difference (-) - Intersection - Cartesian product (x) - Additional Relational Algebraic Operations – Projection - Selection - JOIN – Division.

UNIT - IX: Relational Calculus - Tuple Relational Calculus - Semantics of TRC Queries - Examples of TRC Queries - Domain Relational Calculus - Relational ALGEBRA vs. Relational CALCULUS.

UNIT - X: Normalization - Functional Dependency - Anomalies in a Database - Properties of Normalized Relations - First Normalization - Second Normal Form Relation - Third Normal Form - Boyce-Cod Normal Form (BNCF) - Fourth and Fifth Normal Form.

UNIT - XI: Query Processing and Optimization - Query Interpretation - Equivalence of Expressions - Algorithm for Executing Query Operations - External sorting - Select operation - Join operation - PROJECT and set operation - Aggregate operations - Outer join - Heuristics in Query Optimization - Semantic Query Optimization - Converting Query Tree to Query Evaluation Plan - Cost Estimates in Query Optimization - Measure of query cost - Catalog information for cost estimation of queries - Join Strategies for Parallel Processing - Parallel join - Pipelined multi way join - Physical organization.

UNIT - XII: Distributed Databases - Structure of Distributed Database - Trade-offs in Distributing the Database - Advantages of Data Distribution - Disadvantages of Data Distribution - Design of Distributed Databases - Data Replication - Data Fragmentation.

UNIT - XIII: Object Oriented DBMS - Next Generation Data Base System - New Database Application - Object Oriented Database Management System - Features of Object Oriented System - Advantages of Object Oriented Database Management System - Deficiencies of Relational Database Management System - Difference between

Relational Database Management System and Object Oriented Database Management System - Alternative Object Oriented Database Strategies.

UNIT - XIV: Object Relational Mapping - Significance of Mapping - Mapping Basics - Mapping a Class Inheritance Tree - Mapping Object Relationships - Types of relationships - Implementation of object relationships - Implementation of relational database relationships - Relationship mappings - Mapping ordered collections - Mapping recursive relationships - Modeling with Join Tables - Open Source Object Relational Mapping Software.

REFERENCE BOOKS:

1. P. S. Gill, Database Management Systems, I K International Publishing House Pvt. Ltd, 2011.

Course Code	Title of the Course
12344	**Management Accounting**

Learning Objectives:

1. To enable the students to understand the conceptual framework of Management Accounting.
2. To acquaint the students with the Management Accounting Techniques that facilitates managerial decision making.

UNIT – I: Management Accounting - Meaning, Features – Scope – Importance – Functions - Differences between Financial accounting - Cost accounting and Management accounting.

UNIT – II: Budgetary Control – Meaning - Characteristics – Objectives – Steps – Advantages – Limitations - Types of budgets.

UNIT – III: Standard Costing: Meaning – Advantages – Limitations – Preliminaries - Steps in setting up of standard costs - Differences between Budgetary control and standard costing - Estimated cost.

UNIT – IV: Variance Analysis – Meaning - Favourable and Unfavourable variances - Controllable and uncontrollable variances - Uses of variances - Analysis of variances - Types of variances.

UNIT – V: Marginal Costing – Meaning – Features – Advantages – Limitations - Absorption costing.

UNIT – VI: Cost – Volume – Profit Analysis- Contribution - Break even analysis - Profit Volume Ratio - Margin of safety.

UNIT – V: Analysis and Interpretation of Financial Statements – Meaning – Steps – Objectives - Types of Analysis - Comparative financial statement - Common size financial statement - Trend Analysis.

UNIT – VI: Ratio Analysis: Meaning – Advantages – Limitations - Classifications of ratios.

UNIT – VII: Working Capital Management - Meaning of working capital - Kinds of working capital - Sources of working capital - Objectives of working capital management - Determinants of working capital requirement - Estimation of working capital requirement.

UNIT – VIII: Fund Flow Statement – Meaning – Uses – Limitations - Sources and uses of funds.

UNIT – IX: Cash Flow Statement – Meaning – Uses – Limitations - Sources and uses of cash.

UNIT – XII: Capital Budgeting – Meaning - Principles of capital – budgeting - Methods of evaluating - Capital Rationing.

UNIT – XIII: Management of Profits / Dividend Policy - Meaning of dividend policy - Types of dividend policy - Factors influencing dividend policy - Forms of dividend - Dividend models.

UNIT – XIV: Overview of latest developments in Accounting - Transfer Pricing – Responsibility – accounting - Inflation accounting - Divisional performance analysis - Human Resources Accounting.

REFERENCE BOOKS:

1. Sharma., and Gupta, S.K. (2006). Management Accounting. Kalyani Publishers, New Delhi.

2. Reddy, T.S., and Hari Prased Reddy, Y. (2010). Management Accounting. Margham publications. Chennai.

3. Maheswari, S.N. (2004). Management Accounting. Sultan Chand & Sons, New Delhi.

3. Jain, S.P., and Narang. K.L. (2001). Cost and Management Accounting. Kalyani Publishers, New Delhi.

FIFTH SEMESTER

Course Code	Title of the Course
12351	**Human Computer Interface**

Learning Objectives:

1. The principles and characteristics of human-computer interaction, such as direct manipulation, usability affordances, and interaction design heuristics.
2. The workflow for designing and evaluating user-centered designs, from need finding to prototyping to evaluation.
3. The current state of research and development in human-computer interaction, such as augmented reality, wearable devices, and robotics.

UNIT - I: Human Computer Interface - Importance of User Interface - History of Human Computer Interface - Importance of Good Design - Benefits of Good Design - Principles of User Interface Design.

UNIT - II: Interaction Devices - Keyboard Keys - Function Keys - Pointing Devices - Speech Recognition - Handwriting Recognition - Speech Generation - Image Display - Video Display - Device Drivers.

UNIT - III: Color and Content - Why Colors - Color Uses - Choosing Colors - Possible Problems With Colors - Page Title - Headings - Text - Messages - Error Messages - Icons.

UNIT - IV: User Interface Design Process – I Understanding How User Interact With Computers - User Interface Models - Design Methodologies - Designing an Interface - Process of Interaction Design.

UNIT - V: User Interface Design Process - II Human Interaction with Computers - Human Interaction Speeds - Human Characteristics in Design - Human Consideration in Design.

UNIT - VI: Graphical User Interface Popularity of Graphics - Characteristics of Graphical User Interface - Concepts of Direct Manipulation - Graphical System Advantages and Disadvantages - Web User Interface Characteristics and Popularity.

UNIT - VII: Device and Screen - Based Control Device Based Controls - Operable Controls - Text Entry/Read-Only Controls - Selection Controls - Combining Entry/Selection Controls - Other Operable Controls - Presentation Controls and Selecting Proper Controls.

UNIT - VIII: Design Goals - Test for a Good Design - Screen and Web Page Meaning and Purpose - Organizing Screen Elements Clearly - Ordering of Screen Data and Content - Screen Navigation and Flow.

UNIT – IX: Windows Window characteristics - Components of Window - Window Presentation Styles - Types of Windows - Window Management.

UNIT - X: Understanding Business Functions Business Definitions and Requirement analysis - Determining Business Functions - Design Standards or Style Guides - System Training and Documentation.

UNIT - XI: Software Tools Specification Methods - Interface Building Tools - Interface Mock Up Tools - Software Engineering Tools - Windowing System Layer - GUI Tool Kit Layer.

UNIT - XII: Information Search and Visualization Database Query - Phase Search in Documents - Multimedia Document Searches - Information Visualization - Advanced Filtering - Hypertext - Web Technology - Static Web Content and Dynamic Web Content.

UNIT - XIII: Time Response Time - Dealing With Time Delays - Echo Delay - File Delay - Blinking for Attention - Use of Sound - Preventing Errors.

UNIT - XIV: Usability and Prototypes Usability - Purpose of Usability - Importance of Usability - Usability Testing – Prototypes - Hand Sketches and Scenarios - Interactive Paper Prototypes - Programme Facades - Prototype - Oriented Languages - Comparisons of Prototypes.

REFERENCE BOOKS:

1. K. Meena and R. Sivakuma, Human-Computer Interaction, Prentice-Hall of India Private Limited, New Delhi, 2015.

Course Code	Title of the Course
12352	**Retail Marketing Management**

Learning Objectives:

1. To describe the key elements of a retail business and the retail trading environment
2. To discuss issues associated with operating a business in a retail environment / context
3. Outline the key module topics and explain why each topic is important to understanding the principles of retail management
3. To explain linkages between components of the module
4. To organize your studies, including paper-based and computer-based services
5. Continue to develop your awareness of how you learn and how different elements of
6. The module applied to your individual learning style.

UNIT – I: Property Management: Concept of Real Property - Types of Real Property - Residential property - Commercial real estate - Industrial property – Special - purpose property - Concept of Property Management - Duties of Property Manager - Property Management as a Profession - Growth of Professionalism in Property Management.

UNIT – II: Characteristics of Property and Property User - Understanding Characteristics of Property - Good record keeping - Physical appraisal of property - Proprietary features - Financial appraisal – Evaluation - Define Property User - Society and Stakeholder Relationships - Management Relationships with Stakeholders - Management Relationships with User Community.

UNIT – III: Sources and Essentials when buying a Property - Different Sources for buying a property (banks, building societies, client's employer, private mortgage, finance houses) - Necessities when buying a Property (need, checking hidden costs, insurance, taxes).

UNIT – IV: Property Management - Economics and Planning - Economics of Property management - Business Economy - Real Estate Economy - Concept of Property Management Planning - Market analysis - Property analysis - Analysis of owner's objectives - Preparation of Property Management Plan - Property as a Part of Competitive Strategy.

UNIT – V: Strategic Property Management - Concept of Strategic Property Management - Importance of strategic property management - Property as investment asset - Definition of Corporate Property (exhibit- SEZ) - Formulating Strategy for Property

Management - Catchment survey - Positioning the property - Joint Development of property - Activity for strategic utilization of property - Legal aspects of property development (legal laws) (registration, mutation).

UNIT – VI: Performance Evaluation of Property - Role of Property in Business - Performance Evaluation of Property as an Investment Asset - Performance Evaluation of Property as an Operational Asset - Property Life Cycle (for residential and commercial) - Concept of Benchmarking.

UNIT – VII: Retail Property - Concept of Retail Property - Importance of Retail Property Management - Increasing Demand of Retail Property - FSI (floor space index) - Retail Hierarchy.

UNIT – VIII: Managing Retail Property - Need of Managing Retail Property - Ways to Manage Retail Property - Market area classifications - Pattern classifications - Owner classification - Merchandising classification.

UNIT – IX: Leasing Retail Property - Define Leasing - Leasing of Retail Property - Qualifying retail prospects - Tenant mix – Location - Prospect's needs - Percentage Leases, Negotiating Lease - Setting the Rental Rates - Non-Complete Clause - Regulating Tenant Operation.

UNIT – X: Financial Aspects of Retail Property - Administrative Responsibilities of Retail Property Manager - Financial Reports - Major rental income items - Actual income - Expense items - Operating Budget - Capital Expenditure – Preservation – Income - producing capital expenditures - Monthly Cash Flow Forecast - Insurance for Shopping Centers.

UNIT – XI: Valuation of Retail Property - Define Valuation - Cost components of property - Determinants of Property Value - Factors Affecting Retail Property Value - Estimation of Rental Value of Retail Property - Methods of Property Valuation - Activity to forecast retail property management comparing three catchment areas.

UNIT – XII: Marketing Retail Property - Importance of Effective Marketing of Retail Property - Different Methods of Marketing Retail Property – Signage - Display advertising - Brochures - Direct mail - Personal contact - Publicity and public relations – Newspapers - Online promotion.

UNIT – XIII: Maintenance of Retail Property: Property Maintenance - Types of Maintenance - Preventive maintenance - Emergency maintenance - Corrective

maintenance - Cosmetic maintenance - Measures to Maintain a Property - Need and Maintenance of Retail Property - Security of Retail Property.

UNIT – XIV: Future of Retail Property - Future of Retailers - Increasing competition- Methods to handle competition - Analysing the requirement of retail property - Retail Customers in Future - Increasing retail market size - Changing expectations and buying behaviour of customers - Influence of social trends - How retail property industry meets the demand of customers? - Usage of Internet in Future - Impact of Internet Usage on Retail Property Industry - Importance of Future Planning in Retail Property Industry - Impact of Transportation on Retail Property Industry - Future Designs of Retail Stores.

REFERENCE BOOKS:

1. S.C. Bhatia, Retail Management, Atlantic Publishers & Dist, 2008

2. Suja R Nair, Retail Management,Himalaya Publishing House.

Course Code	Title of the Course
12353	**Cost Accounting**

Learning Objectives:

1. To enable the students to understand the Costing Terms in business.
2. To provide adequate knowledge on Cost Accounting Practice

UNIT – I: Cost Accounting Principles: Meaning of cost and cost accounting – Objectives of cost accounting – Installation of a costing system.

UNIT – II: Elements of cost – Cost concepts – Cost classifications – Methods, systems and techniques of costing – Cost sheet.

UNIT – III: Cost Accounting for material cost control – Need for material cost control – Purchase control – Stores control – Stock levels – EOQ analysis.

UNIT – IV: Pricing of stores issues – Perpetual inventory control – ABC analysis – VED analysis – Treatment of waste, scrap, defectives and spoilage.

UNIT – V: Labour Cost Control – Time keeping and time booking – Treatment of idle time and overtime cost – Wage rates for costing – Systems of wage payment – Time wage and piece rate – Incentive schemes of wage payment – Labour turnover.

UNIT – VI: Overhead Cost Control – Classification of overheads – Allocation and appointment – Absorption of overheads – Different methods – Treatment of under absorption and over absorption of overheads.

UNIT – VII: Methods of Costing – Job costing – Contract costing – Profit on incomplete contracts – Cost plus contracts – Target costing – Escalation clause.

UNIT – VIII: Unit costing – Meaning – Cost accumulation – Procedure in unit costing – Preparation of cost sheet.

UNIT – IX: Process Costing – Features – Job costing Vs Process costing – Process cost accounts – Inter-process profits – Accounting for joint products and by products.

UNIT – X: Contract costing – Types – Procedure for contract costing – Contract plus costing – Profit from incomplete contract.

UNIT – XI: Operating Costing – Meaning – Features – Objectives – Cost Unit – Transport costing – Operating cost sheet.

UNTI – XII: Batch costing – Definition – Economic batch quantity – Applicability of batch costing.

UNIT - XIII: Standard Costing – Definition –Advantages and limitations of standard costing – Variance analysis.

UNIT – XIV: Reconciliation of cost and final accounts – Cost control and cost reduction – Meaning – Tools and techniques – Essentials for success of cost control and cost reduction – Distinction between cost control and cost reduction – Areas of cost reduction and control – Advantages.

REFERENCE BOOKS:

1. Jain, S. P., and Narang, K. L. 2001, Cost and Management Accounting [Fifth Edition], Kalyani Publishers, New Delhi.

2. Pillai, R. S. N., and Bagavathi, 2009, Cost Accounting [First Edition], Sultan Chand Company Ltd., NewDelhi.

3. Sharma, and Shashi K. Gupta, 2012, Management Accounting [TwelfthEdition], Kalyani Publishers, New Delhi.

4. Maheswari, S. N. 2003, Cost and Management Accounting [First Edition], Sultan Chand Company Ltd., New Delhi.

Course Code	Title of the Course
12354	**Project Management**

Learning Objectives:

1. Manage the selection and initiation of individual projects and of portfolios of projects in the enterprise.
2. Conduct project planning activities that accurately forecast project costs, timelines, and quality. Implement processes for successful resource, communication, and risk and change management.
3. Demonstrate effective project execution and control techniques that result in successful projects.
4. Conduct project closure activities and obtain formal project acceptance.
5. Demonstrate a strong working knowledge of ethics and professional responsibility.
6. Demonstrate effective organizational leadership and change skills for managing projects, project teams, and stakeholders.

UNIT – I: Basics of Project Management – Need for Project Management - Project Management Knowledge Areas and Processes - The Project Life Cycle - The Project Manager (PM) - Phases of Project Management Life Cycle - Project Management Processes - Impact of Delays in Project Completions - Essentials of Project Management Philosophy - Project Management Principles.

UNIT – II: Project Identification and Selection - Project Identification Process - Project Initiation - Pre-Feasibility Study - Feasibility Studies - Project Break -even point.

UNIT- III: Project Planning - Project Planning - Need of Project Planning - Project Life Cycle – Roles - Responsibility and Team Work - Project Planning Process - Work Breakdown Structure (WBS).

UNIT – IV: Organisational Structure and Organisational Issues - Concept of Organisational Structure - Roles and Responsibilities of Project Leader - Relationship between Project Manager and Line Manager - Leadership Styles for Project Managers - Conflict Resolution - Team Management and Diversity Management - Change management.

UNIT – V: PERT and CPM – Development of Project Network - Time Estimation - Determination of the Critical Path - PERT Model - Measures of variability - CPM Model - Network Cost System.

UNIT – VI: Resources Considerations in Projects - Resource Allocation – Scheduling - Project Cost Estimate and Budgets - Cost Forecasts.

UNIT – VII: Project Risk Management – Risk - Risk Management - Role of Risk Management in Overall Project Management - Steps in Risk Management - Risk Identification - Risk Analysis - Reducing Risks.

UNIT – VIII: Project Quality Management and Value Engineering – Quality - Quality Concepts - Value Engineering.

UNIT – XI: Project Management Information System – Project Management Information System (PMIS) - Planning of PMIS - Design of PMIS.

UNIT – X: Purchasing and Contracting for Projects – Purchase Cycle - Contract Management - Procurement Process.

UNIT – XI: Project Performance Measurement and Evaluation – Performance Measurement – Productivity - Project Performance Evaluation - Benefits and Challenges of Performance Measurement and Evaluation - Controlling the Projects.

UNIT – XII: Project Execution and Control – Project Execution - Project Control Process - Purpose of Project Execution and Control.

UNIT – XIII: Project Close-out - Termination and Follow-up – Project Close-out - Steps for Closing the Project - Project Termination - Project Follow-up.

UNIT – IV: Project Management Software - Advantages of Using Project Management Software - Common Features Available In Most of the Project Management Software – Illustration.

REFERENCE BOOKS:

1. Nagarajan K, Project Management, New Age International, New Delhi, 2004.

SIXTH SEMESTER

Course Code	Title of the Course
12361	**Software Project Management**

Learning Objectives:

1. Understand the fundamental principles of Software Project management & will also have a good knowledge of responsibilities of project manager and how to handle these.
2. Be familiar with the different methods and techniques used for project management.
3. By the end of this course student will have good knowledge of the issues and challenges faced while doing the Software project Management and will also be able to understand why majority of the software projects fails and how that failure probability can be reduced effectively, will be able to do the Project Scheduling, tracking, Risk analysis, Quality management and Project Cost estimation using different techniques.

UNIT - I: Software Development Organization and Roles - The Management Spectrum - Organizational Structure - Types of Organizational Structures - Hierarchical Organizational Structure - Flat Organizational Structure - Matrix Organizational Structure - Networked Organizational Structure - T-form Organization - Job Roles in Software Development.

UNIT - II: Overview of Project Management - Project Management - Definitions - Factors Influencing Project Management - Project Manager - Project Management Activities - Stakeholders - Project Communication - Project Development Phases - Project Charter - Statement of Work (Sow) - Project Management Associations.

UNIT - III: Project Planning - Tasks in Project Planning - Work Breakdown Structures (WBS) - Planning Methods - Development Life Cycle Models - A Generic Project Model.

UNIT - IV: Estimation and Budgeting of Projects - Software Cost Estimation - COCOMO Model - Budgeting.

UNIT - V: Project Scheduling - Scheduling Techniques - Program Evaluation and Review Technique (PERT) - Gantt chart - Critical Path Method (CPM) - Automated Tools.

UNIT - VI: Project Monitoring and Controlling - Project Status Reporting - Project Metrics - Earned Value Analysis (EVA) - Project Communication Plan & Techniques - Steps for Process Improvement.

UNIT - VII: Risk Management - Concepts of Risks and Risk Management - Risk Management Activities - Effective Risk Management - Risk Categories - Aids for Risk Identification - Potential Risk Treatments - Risk Components and Drivers - Risk Prioritization.

UNIT - VIII: Configuration Management - Software Configuration Management (SCM) - Baselines - Software Configuration Items (SCI) - SCM Process - Identification of Objects in the Software Configuration - Version Control - Change Control - Configuration Audit - Status Reporting - Goals of SCM.

UNIT - IX: Team Development and Conflict Management - Basic Concepts - Organization Types – Centralized - control team organization - Decentralized - control team organization - Mixed-control team organization - Case Study 1. Open-Source Development Team Organization - An Assessment of Team Organizations - Nokia Software Factories - Team Discipline; Conflict Management.

UNIT - X: Software Quality Assurance - Software Quality Assurance Activities - Software Qualities - Software Quality Standards - ISO Standards for Software Organization - Capability Maturity Model (CMM) - Comparison between ISO 9001 & SEI CMM - Other Standards.

UNIT - XI: Computer Aided Software Engineering (CASE) Tools - CASE Concepts - Classification of CASE Tools - Steps for CASE Tool Implementation - Integrated CASE Environment - Architecture of CASE Environment.

UNIT - XII: Testing Techniques - Software Testing Concepts - Types of Software Testing - Manual Testing - Automated Testing - Black Box Testing - White Box Testing Techniques.

UNIT - XIII: Software Re-Engineering - Software Maintenance Problems - Redevelopment vs. Reengineering - Business Process Reengineering - Software Reengineering Process Model - Technical Problems of Reengineering.

UNIT - XIV: Project Closure - Project Closure Analysis - Infosys Project Closure Analysis Report - ACIC Project Closure Analysis Report.

REFERENCE BOOKS:

1. Hughes, Software Project Management, McGraw Hill Education, 2017

Course Code	Title of the Course
12362	**Supply Chain Management**

Learning Objectives:

1. Understand fundamental supply chain management concepts
2. Apply knowledge to evaluate and manage an effective supply chain
3. Understand the foundational role of logistics as it relates to transportation and warehousing
4. How to align the management of a supply chain with corporate goals and strategies
5. Analyze and improve supply chain processes

UNIT - I: Concept of supply chain - integrated supply chain - Growth of Supply chain - Strategic decision in supply chain.

UNIT - II: Scope of Supply Chain Management - Scope - Supply Chain Management as a Management Philosophy - Function of SCM - Why Supply Chain Management - Value chain for Supply Chain Management.

UNIT - III: SCM Strategies Performance - Supply chain strategies - achieving strategic fit - value chain - Supply chain drivers and obstacles - Strategic Alliances and Outsourcing - purchasing aspects of supply chain - Supply chain performance measurement - The balanced score card approach - Performance Metrics - Planning demand and supply - Demand forecasting in supply chain - Aggregate planning in supply chain - Predictable variability.

UNIT - IV: The role of IT in Supply chain - Uses of IT in inventories - transportation & facilities within a supply chain - The Supply Chain It frame Work-macro Processes - Advent of internet business technologies.

UNIT - V: Supply chain information System Design - Planning - Capacity - Performance requirement - manufacturing requirement - Operation - Transportation - Inventory development - E-Business - Role in Supply chain - Framework - Impact on Cost.

UNIT - VI: Integrating Impact of IT integrated SCM: Infrastructure - impact of e-commerce - framework for IT integrated SCM - Impact of integrating IT with SCM.

UNIT - VII: Decision support systems for SCM - DSS - Components - types - processing information - specific types of DSS - Information Technology (IT) Support System for Effective Supply Chain Decision Making.

UNIT - VIII: Customer and Service Management - Utilizing CRM to Drive value to the customer - Creating the customer - centric supply chain - Applying technology to CRM - CRM and the supply chain - New concepts in customer management technologies.

UNIT - IX: Manufacturing and supply chain planning - Manufacturing in the age of the global enterprise - Impact of technology on manufacturing - supply chain optimization tools.

UNIT - X: Supply chain and Inventory management - Overview - benefits - key features - warehouse and inventory control - purchasing and vendor management - Optimized manufacturing process.

UNIT - XI: Logistics Resource Management - Utilizing technology to enhance logistics competitive advantage - Defining LRM - Defining LRM in the age of the global internet - Understanding third party logistics network.

UNIT - XII: Supplier Relationship Management - Integrating suppliers into the value chain - Defining purchasing and SRM - Internet driven SRM environment - implementation of e-SRM.

UNIT - XIII: Strategic Cost Management in Supply Chain - The financial impacts - Volume leveraging and cross docking - global logistics and material positioning - global supplier development - target pricing - cost management enablers - Measuring service levels in supply chains - Customer Satisfaction/Value/Profitability/Differential Advantage.

UNIT - XIV: The future of IT in the Supply Chain - Internal Supply Chain management- Supply relationship management - The Transaction Management Foundation - Data mining - Methods application area in supply chain.

REFERENCE BOOKS:

1. Sunil Chopra, Supply Chain Management, Pearson Prentice Hall, 2015.

2. Anand Sharma, Supply Chain Management, Himalaya Publishing House Pvt. Ltd, Mumbai.

SIXTH SEMESTER

Course Code	Title of the Course
12363	**Entrepreneurship Development**

Learning Objectives:

1. Ability to recognize a business opportunity that fits the individual student
2. Demonstrate the understanding of how to launch the individual's entrepreneurial career

UNIT – I: Concept of entrepreneurship - Definition Nature and characteristics of entrepreneurship – Function and type of entrepreneurship - Phases of EDP - Development of women entrepreneur & rural entrepreneur – including self employment of women council scheme.

UNIT – II: Factors influencing entrepreneurship – Internal factors – External factors – Institutional Finance to entrepreneurs – Functions of DICs – NSIC – SIDO – SISIs – KVIC – IFCI.

UNIT – III: Business idea generation technique – Sources of business idea – Methods of generating ideas – Method of evaluating ideas.

UNIT – IV: Identification of business opportunities – Meaning – Sources of entrepreneurial opportunities – Opportunity analysis.

UNIT – V: Marketing feasibility – Phases of feasibility study – Marketing strategies – Specialist roles open to market Nichers – Financial and Economic feasibilities – Classification of sources of finance.

UNIT – VI: Technical and locational feasibilities – technical analysis – Locational feasibility – Selection of site – plant lay out – Size of the business firm.

UNIT – VII: Managerial and legal feasibility – Characteristics of a company – Types of companies.

UNIT – VIII: Project appraisal – Classification of the project – Marketing risk – Process of risk management – Types of risk.

UNIT – IX: Project report – Meaning – Purposes of project report – Formulation of business plan – Characteristics of a successful business plan.

UNIT – X: Role of entrepreneur in economic development – Role of entrepreneurs – Small scale entrepreneurs – Importance of SSIs – Problems of small industries in India.

UNIT – XI: Creativity and innovation – Characteristics of innovation – Sources of innovation – Forms of innovation – Importance of creativity and innovation – Global and Indian innovations.

UNIT – XII: Family enterprises – Stages of transformation – Family management practices in India – Issues in family business – Planning process – Future of family business.

UNIT – XIII: Recent development in small enterprises in India – Government rules and regulations – Industrial sickness in India – Reasons for sickness – Causes – Consequences.

UNIT – XIV: Franchising – Types – Advantages – Disadvantages – Evaluation of franchise arrangement – Rural entrepreneurship – Need for rural entrepreneurship – Problems – SHGs and rural development.

REFERENCE BOOKS:

1. Gupta C.B. and Srinivasan, N. P., Entrepreneurial Development, Kalyani Publishers.

2. S. S. Khanka, 2013, Entrepreneurial Development (Fourth Revised & Millennium Edition) Sultan Chand & Sons Publishers. New Delhi.

3. Mohanty K. S., Fundamentals of Entrepreneurship, Prentice Hall of India.

4. Vasant Desai, 1997, Management of Small Scale Industries, Himalayan Publishing House.

5. Radha, Entrepreneurial Development, Prasanna Publishers, Chennai.

Course Code	Title of the Course
12364	**Auditing**

Learning Objectives:

1. To discuss the philosophy and environment of auditing.
2. To Examine the CPA's legal liability to clients and third parties.
3. To analyze the concept of materiality in an audit.

UNIT – I: Auditing – Definitions – Features – Accountancy and auditing – Scope of auditing – Objectives of independent audit – Efficiency audit – Cost audit – techniques of audit – Audit evidence.

UNIT – II: Internal check – Internal control – Internal audit – Procedure for implementing accounting control – Limitations of internal control – Comparison of internal audit and independent financial audit – Operational audit.

UNIT – III: Vouching - Voucher - Vouching of Cash Book - Vouching of Trading Transactions - Vouching of Impersonal Ledger – Cash transactions – Verification of documentary evidence – Methods of window dressing.

UNIT – IV: Audit evidence and sampling – Nature of evidence – Procedures – Methods – Audit sampling – Test checking – Limitations of test checking – Statistical sampling.

UNIT – V: Audit of ledgers – Role of auditor – General ledger - Derivatives: Financial or speculative - Price risk and exchange rate financial instruments like derivatives.

UNIT – VI: Verification and valuation of assets and liabilities – auditors position regarding the valuation and verifications of assets and liabilities – depreciation – reserves and provisions – secret reserves.

UNIT – VII: Company audit – Appointment of auditors – Auditor’s remuneration – Removal of auditors – Procedure for removal.

UNIT – VIII: Company audit – Powers and duties of auditors – Auditor’s report – Maintenance of books and records – Types of audit report.

UNIT – IX: Audit of share capital – Steps involved in issue of shares – Verification of allotment and money received on allotment – Verification of calls – Alteration of share capital.

UNIT – X: Branch audit – Special audit – Joint audit – Continuous audit – Statutory audit – Management audit – Scope – Objectives – Advantages and disadvantages.

UNIT – XI: Cost audit – Appointment of cost auditor – Powers of cost auditor – Cost audit report – Approach to EDP auditing – Auditing with the computer – Administrative control – Procedural control.

UNIT – XII: Audit of special institutions – Role of an auditor on verification of reports – Audit of club – Audit of cinema – Audit of hostels – Audit of hospitals.

UNIT – XIII: Liabilities of an auditor – Professional negligence – Damages – Civil liabilities – Professional ethics – Qualities of good auditor – Procedure for enquiry.

UNIT – XIV: Investigation - Objectives of Investigation - Audit of Computerized Accounts – Computer based Accounting Vs Conventional Accounting System-Computer assisted auditing techniques- Electronic Auditing - Investigation under the provisions of Companies Act.

REFERENCE BOOKS:

1. Tandon B.N, 2005, “Practical Auditing”, S. Chand Company Ltd, New Delhi.

2. Pagare Dinkar, 2014, “Principles & Practice of Auditing”, Sultan Chand & Sons, New Delhi.

3. Kishnadwala V.H and Kishnadwala N.H, “Principles and Practice of Auditing”, Sultan Chand & Sons, New Delhi.

4. Jagdish Prakash, 2014, “Auditing- Principles, Practices and Problems”, Kalyani Publishers, New Delhi.

Duration of the Programme: The programme for the degree of Bachelor of Commerce with computer applications consists of three academic / calendar years divided into six semesters. Each semester is having four core papers carries four credits each. The duration of course covers 96 credits which are divided equally twenty four credits into four semesters.

Faculty and Support Staff Requirements: The programme for the degree of **Bachelor of Commerce with computer applications** requires the following faculty and supporting staff:

Staff Category	Required
Core Faculty	3
Faculty for Specialization	2
Clerical Assistant	1

Instructional Delivery Mechanisms:

- Self Learning Materials
- Web based Teaching and Learning
- Electronic study materials

6. Student Support Services: The student support services will be facilitated by the head quarter i.e., Directorate of Distance Education, Alagappa University, Karaikudi and its approved Learning Centres located at various parts of Tamil Nadu. The pre-admission student support services like counselling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at head quarter and Learning Centres. The post-admission student support services like issue of identity card, study materials, etc. will be routed through the Learning Centres. The face to face contact programme for theory courses will be held at the university campus. The conduct of end-semester examinations, evaluation and issue of certificates will be done by office of the controller of examinations, Alagappa University, Karaikudi.

Procedure for Admission, curriculum transaction and evaluation:

f. 1. Procedure for Admission:

A pass in Higher Secondary School (HSC) or Three year Diploma.
Lateral Entry to II year B.Com (CA): Three Year Diploma in Modern Office Practice / Commercial Practice.

f. 2. Curriculum Transactions:

The classroom teaching would be lecture method by using electronic devices. The face to face contact classes cover group discussion, seminars and paper presentation.

The face to face contact classes will be conducted in following durations;

Course Type	**Face to Face Contact Classes Per Semester (in Hours)**
Theory Courses (4 courses with 4 credits each)	**64**

3. Evaluation: The evaluation method which comprises both internal assessment and end semester examination. The internal assessment shall contain maximum 25 marks for each paper. The end semester examination shall contain 3 hours duration to each course at the end of each semester. The end semester examination shall comprise maximum 75 marks for each paper. The candidate who failed in any papers are permitted to appear in subsequent examinations to clear the failed papers.

Question Paper Pattern:

Answer all questions (one question from each unit with internal choices

Time: 3 Hours; Maximum Marks: 75

Part A - 10 x 2 Marks = 20 Marks

Part B - 5 x 5 Marks = 25 Marks

Part C - 3 x 10 Marks = 30 Marks

Distribution of Marks in Continuous Internal Assessments

The following procedure shall be followed for awarding internal marks for the courses

Component	Marks
Assignments (per course)	25

Passing Minimum:

The students will be evaluated by examinations. There shall be no passing minimum for internal. The candidate shall be declared to have passed the examination if the candidate secures a minimum of 40% marks (40% out of 75 marks) in the University end semester examination. Then the marks secured by the candidate in the end semester examination will be taken and added with his/her internal marks (Maximum marks 25). In aggregate (External + Internal) the passing minimum shall be 40% for each course. Grading shall be based on overall marks obtained.

Candidate who does not obtain the required minimum marks for a pass in a course shall be required to appear and pass the same at a subsequent appearance.

***Marks and Grades*:**

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0-10.0	O	Outstanding
80-89	8.0-8.9	D+	Excellent
75-79	7.5-7.9	D	Distinction
70-74	7.0-7.4	A+	Very Good
60-69	6.0-6.9	A	Good
50-59	5.0-5.9	B+	Average
40-49	4.0-4.9	B	Below Average
00-39	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

C_i = Credits earned for the course i in any semester
G_i = Grade Point obtained for course i in any semester.
n refers to the semester in which such courses were credited

For a semester;

Grade Point Average [GPA] = $\sum_i C_i G_i / \sum_i C_i$

Grade Point Average = Sum of the multiplication of grade points by the credits of the courses
Sum of the credits of the courses in a semester

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

CGPA = Sum of the multiplication of grade points by the credits of the entire programme
Sum of the credits of the courses for the entire programme

CGPA	Grade	Classification of Final Result
9.5-10.0 9.0 and above but below 9.5	O+ O	First Class- Exemplary*
8.5 and above but below 9.0 8.0 and above but below 8.5 7.5 and above but below 8.0	D++ D+ D	First Class with Distinction*
7.0 and above but below 7.5 6.5 and above but below 7.0 6.0 and above but below 6.5	A++ A+ A	First Class
5.5 and above but below 6.0 5.0 and above but below 5.5 4.5 and above but below 5.0 4.0 and above but below 4.5	B+++ B++ B+ B	Second Class
0.0 and above but below 4.0	U	Re-appear

*The candidates who have passed in the first appearance and within the prescribed semester of the UG Programme are eligible.

Maximum duration for the completion of the course: The maximum duration for completion of B.Com (CA) Degree programme shall not exceed ten semesters from their sixth semester.

Commencement of this Regulation: These regulations shall come into force from the academic year 2018 - 2019 (June session) i.e., for students who are to be admitted to the first year of the course during the academic year 2018 - 2019 (June session) and thereafter.

Fee Structure: The programme has the following Fee Structure:

Sl. No.	Fees Detail	Amount in Rs.		
		First Year	**Second Year**	**Third Year**
1.	Admission Processing Fees	100.00	-	-
2.	Course Fees	4400.00	4400.00	4400.00
3.	ICT Fees	150.00	150.00	150.00
	Total	**4650.00**	**4550.00**	**4550.00**

The above mentioned fee structure is exclusive of Exam fees.

Requirement of the laboratory support and Library Resources: Alagappa University, Karaikudi having well established Library facility with adequate number of copies of books in relevant titles for Commerce (Computer applications) programme.

Cost estimate of the programme and the provisions:

The cost estimate of the programme and provisions for the fund to meet out the expenditure to be incurred in connection with B.Com., (CA) degree Programme are as follows:

Sl. No.	Expenditure Heads	Approx. Amount in Rs.
1.	Programme Development (Single Time investment)	10,00,000/-
2.	Programme Delivery (Per Year)	20,00,000/-
3.	Programme Maintenance	3,00,000/-

Quality Assurance Mechanism and Expected Programme Outcomes: Separate Internal Quality Assurance Cell (IQAC) has been established with certain parameters in the Directorate of Distance Education in order to provide quality teaching to the stakeholders.

University Motto: 'Excellence in Action'

University Vision Statement: Achieving Excellence in all spheres of Education, with particular emphasis on **"PEARL"-** Pedagogy, Extension, Administration, Research and Learning.

University Objectives: Providing for Instructions and Training in such Branches of Learning as the University may determine. Fostering Research for the Advancement and Dissemination of Knowledge

University Quality Policy: Attaining Benchmark Quality in every domain of **'PEARL'** to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

University Quality Quote: Quality Unleashes Opportunities towards Excellence **(QUOTE).**

Minutes of the Meeting of the Board of Studies in Commerce [For B.Com., (Computer Applications) Programme to be offered through ODL Mode] held at the Directorate of Distance Education, Alagappa University, Karaikudi – 630 004, on 04.09.2017 (Monday), at 10:25 a.m.

Members Present:

1. Dr. T. R. Gurumoorthy	-	Chairman
2. Dr. S. Ganapathy	-	Member
3. Dr. A. Muthusamy	-	Member
4. Dr. R. Ganapathi	-	Member

After the deliberation and discussion the board resolved the following:

1. The board considered the curriculum design and detailed syllabi of B.Com., (Computer Applications) programme, prepared as per the norms by the Chairman and the Board Members, scrutinized and suitably modified the same.

2. The board resolved to approve curriculum design, detailed syllabi and other regulations for the B.Com., (Computer Applications) programme to be offered by the Directorate of Distance Education of Alagappa University are given in Annexure - 1.

Dr. T. R. Gurumoorthy

Dr. S. Ganapathy

Dr. A. Muthusamy

Dr. R. Ganapathi

ALAGAPPA UNIVERSITY

Accredited with A+ Grade by NAAC (CGPA 3.64) in the Third Cycle
Karaikudi – 630003. Tamilnadu , INDIA

Directorate of Distance Education

PROGRAMME PROJECT REPORT

for

Bachelor of Computer Applications (B.C.A)

submitted to

UGC, Distance Education Bureau (DEB), New Delhi

for seeking approval to introduce programme through Distance Education Mode

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ALAGAPPA UNIVERSITY, KARAIKUDI
DIRECTORATE OF DISTANCE EDUCATION

BACHELOR OF COMPUTER APPLICATIONS (B.C.A)
Credit Based System (CBS)
(With effect from June 2018-2019 Onwards)

Mission

Mission is to impart an understanding of the basics of Computer Applications. Each graduated student should be able to apply fundamental principles and methods of Computer Science to a wide range of applications, develop proficiency in the practice of computing, and to prepare them for continued professional development.

Learning Objectives

- ✓ To effectively communicate computing concepts and solutions to bridge the gap between computing industry experts and business leaders to create and initiate innovation
- ✓ To effectively utilize their knowledge of computing principles and mathematical theory to develop sustainable solutions to current and future computing problems.
- ✓ To Exhibit their computing expertise within the computing community through corporate leadership, entrepreneurship, and/or advanced graduate study
- ✓ To Develop and implement solution based systems and/or processes that address issues and/or improve existing systems within in a computing based industry.
- ✓ To offer high-grade, value-based Under-graduate programmes in the field of Computer Applications.
- ✓ To provide conducive environment so as to achieve excellence in teaching-learning, and research and development activities.
- ✓ To bridge the gap between industry and academia by framing curricula and syllabi based on industrial and societal needs.
- ✓ To offer tasks for experiential technology-intensive knowledge through collaborative and interdisciplinary activities.
- ✓ To provide appropriate forums to develop innovative talents, practice ethical values and inculcate as enduring learners.
- ✓ To facilitate students to nurture skills to practice their professions competently to meet the ever-changing needs of society such as Digital India, Safety and Privacy.

Learning Outcomes

- ✓ Ability to use current programming languages such that the student produces useful algorithms that solve mathematical, graphical and other structures.
- ✓ Ability to reason and think in abstract terms, such as object orientation in order to build proper algorithms.
- ✓ Ability to communicate the fundamentals of computer science both in written form by applying software engineering techniques and verbal forms.
- ✓ Ability to cross disciplinary lines to abstract and apply CS based solutions in different disciplines.
- ✓ Understanding of basic computer hardware architecture and be able to design fundamental logic circuits.

(b)Relevance of the program with HEI's and Alagappa University Mission and Goals

This programme is aligned with HEI's and Alagappa University mission and goals to be offered through distance mode to reach quality higher education to the unreachable and/or rural learners. Higher education in Computer Science offered through distance mode meets the mission of HEI's like digital India and e-cash transaction will enrich the Human resources for the uplift of the nation.

(c) Nature of prospective target group of learners

The nature of prospective target group of learners is from various disciplines like Commerce, Mathematics, Physics, Chemistry, Biology, Electronics, and Engineering etc. It also includes the learners who want to become entrepreneurs like Web Designers, Software Developers, BPO's, KPO's etc.,

(d) Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence;

B.C.A Programme through Distance Learning mode is developed in order to give subject-specific skills including i) Knowledge about various kinds of programming languages ii) Operating systems, RDBMS, Data Structure iii) inter-disciplinary knowledge like Accounting Management iv) Cutting Edge Technologies like Java.

(e) Instructional Design

e.1 Revisions of Regulation and Curriculum Design

1. The University reserves the right to amend or change the regulations, schemes of examinations and syllabi from time to time based on recent market dynamics, industrial developments, research and feedback from stakeholders and learners.

2. Each student should secure 96 credits to complete B.C.A. programme.

3. Each theory and practical course carries 4 credits with 75 marks in the University End Semester Examination (ESE) and 25 marks in the Continuous Internal Assessment (CIA).

Programme code

B.C.A	101	**B.C.A(Lateral Entry LE)**	127

B.C.A Credit Based Curriculum and Evaluation System

COURSE OF STUDY & SCHEME OF EXAMINATIONS

S.No	Course Code BCA	Course Code BCA (LE)	Title of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	C Max.
	FIRST YEAR						
	SEMESTER I						
1	10111A 10111B		**Part I:** Tamil - Paper I Communication Skills – I	25	75	100	4
2	10112		**Part II:** English – Paper I	25	75	100	4
3	10113		**Part III : Core Course:** C and Data Structure	25	75	100	4
4	10114		**Part III : Core Course:** C and Data Structure Lab	25	75	100	4
			Total	**100**	**300**	**400**	**16**
	SEMESTER II						
5	10121A 10121B		**Part I:** Tamil Paper II: Communication Skills – II	25	75	100	4
6	10122		**Part II:** Paper I: English – II	25	75	100	4
7	10123		**Part III : Core Course:** Programming in C++	25	75	100	4
8	10124		**Part III : Core Course:** Programming in C++ Lab	25	75	100	4
			Total	**100**	**300**	**400**	**16**
	SECOND YEAR						
	SEMESTER III						
9	10131A 10131B	12731A 12731B	**Part I:** Tamil Paper III Human Skills Development - I	25	75	100	4
10	10132	12732	**Part II:** Paper I: English – III	25	75	100	4
11	10133	12733	**Part III : Core Course:** Relational Database Management Systems (RDBMS)	25	75	100	4
12	10134	12734	**Part III : Core Course:** RDBMS Lab	25	75	100	4
			Total	**100**	**300**	**400**	**16**
	SEMESTER IV						
13	10141A 10141B	12741A 12741B	**Part I:** Tamil Paper IV Human Skills Development - II	25	75	100	4
14	10142	12742	**Part II:** Paper I: English – IV	25	75	100	4
15	10143	12743	**Part III : Core Course:** Internet and Java Programming	25	75	100	4
16	10144	12744	**Part III : Core Course:** Internet and Java Programming Lab	25	75	100	4
			Total	**100**	**300**	**400**	**16**
	THIRD YEAR						
	SEMESTER V						
17	10151	12751	**Part III : Core Course:** Accounting Fundamentals	25	75	100	4
18	10152	12752	**Part III : Core Course:** Computer Graphics	25	75	100	4
19	10153	12753	**Part III : Core Course:** Operating	25	75	100	4

			Systems				
20	10154	12754	**Part III : Core Course:** Unix & Shell Programming Lab	25	75	100	4
			Total	**100**	**300**	**400**	**16**
	SEMESTER VI						
21	10161	12761	**Part III : Core Course:** Management Principles and Techniques	25	75	100	4
22	10162	12762	**Part III : Core Course:** System Analysis and Design	25	75	100	4
23	10163	12763	**Part III : Core Course:** Visual Basic Programming	25	75	100	4
24	10164	12764	**Part III : Core Course:** Visual Basic Programming Lab	25	75	100	4
			Total	**100**	**300**	**400**	**16**
			Grand Total	**600**	**1800**	**2400**	**96**

CIA : Continuous Internal Assessment **ESE :** End semester Examination **Max**. Maximum Marks; **C:** Credits

Course Code Legend:

1	0	1	S	C

101 – Programme code for Bachelor of Computer Applications (B.C.A).
S -- Semester Number
C – Course Number in the Semester

e.2 Detailed Syllabi

The detailed Syllabi of Core course shall be as shown in Appendix

e.3 Duration of the Programme:(Minimum 3 Years maximum 5 Years)

The B.C.A programme shall consist of a period of three years (Six Semesters).

Medium of Instruction

The medium of instruction is only in **English**. The course material is also in **English.**

e.4 Faculty and Support Staff Requirements:

The following faculty and support staff is required for this programme.

Staff Category	Required
Core Faculty*	3
Faculty for Specialization	2
Laboratory Assistant	1
Clerical Assistant	1

* Faculty at least in Assistant Professor Level

e.5 Instructional Delivery mechanisms

The instructional delivery mechanisms of the programme includes SLM- Study materials, Lab instruction manual, Personal contact session for both theory and practical courses of the programme, e-version of the course materials in the form of CD, e-book, e-tutorials, Massive Open Online Courses (MOOC) courses, Open Educational Resources(OER) and virtual lab.

e.6 Identification of media

The printed version of SLM – study material shall be given to the learners in addition to MOOC, e-tutorial and virtual lab.

e.7 Student Support Services

The student support services will be facilitated by the Directorate of Distance Education, Alagappa University, Karaikudi and its approved learning centres located in various parts of Tamilnadu.

The pre-admission student support services like counseling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at Directorate of Distance Education or Learning centres.

The post-admission student support services like issuing Identity card, study materials will be provided thru Directorate or Learning centres. The face to face contact sessions of the programme for both theory and practical's will be held at the Directorate or Learning centres.

The student support regarding the conduct of examinations, evaluations, publication of results and certificates are done by the Office of the Controller of Examinations, Alagappa University, Karaikudi.

f. Procedure for Admission:

f.1 Minimum qualification for admission

Candidates for admission to the first year of the Bachelor of Computer Applications (B.C.A) programme shall be required to have passed the following examinations. Candidates who have passed HSC or 3 year diploma from recognized institution shall be eligible.

f.1.1 Lateral Entry(LE)

Candidates who have passed 3 year diploma in Computer Science Engineering, Electrical and Electronics Engineering and Civil Engineering from recognized institution are eligible for admission into the Second Year of B.C.A programme

f.2 Curriculum transaction

- The face to face contact sessions in class room teaching with the support of SLM, Power Point Presentations, web based tools, audio and animated videos.

- The practical classes are based on the respective subject study materials containing requirement for the laboratory experiments.
- Face to face contact sessions will be conducted for both theory and practical courses in the following manner.

Course Type	**Face to face contact session per semester (in Hours)**
Theory courses (3 Courses with 4 credits each)	48
Practical courses (1 Course with 4 credits each)	120
Total	**168**

f.3 Evaluation

There shall be two types of evaluation systems; Continuous internal assessment and end semester examination will be conducted by the University according to the following scheme. The internal assessment for both theory and practical's is maximum of 25 marks for each course. The end semester examination for theory and practical is maximum of 75 marks for each course. The candidate failing in any course(s) will be permitted to appear for each failed course(s) in the subsequent examination.

Internal assessment

- Internal assessment of theory courses is through home assignment with workbook, case studies, review questions, quiz, multiple choice questions etc., for 25 marks.

- The internal assessment for the practical courses shall be through home assignment which includes workbook designing algorithm, preparing source code, PL/SQL coding etc., for 25 marks.

- Student should submit assignment for theory and practical courses of every course and semester.

Division of Internal Marks (Assignment)

Theory		**Practical**	
Assignment	**Marks**	**Assignment**	**Marks**
Review questions etc.,	15	Flowchart and Algorithm Design etc.,	15
Workbook, case studies, quiz, multiple choice questions etc	10	Workbook for preparing Source code, Pseudo code, PL/SQL coding etc.,	10
TOTAL	**25**	**TOTAL**	**25**

End Semester Examination (ESE)

The university end Semester Examinations shall be of three hours duration with maximum of 75 Marks for both theory and practical courses.

f.3.1 Minimum for a pass:

To pass in each course, a candidate is required to secure 40% marks in the End Semester examination and 40% marks in the aggregate (marks in End Semester Examination + marks in Internal Assessment).

The students who does not secure required minimum marks for pass in a course(s) shall be required to reappear and pass the same in the subsequent examination,

f.3.2 Question Paper Pattern (ESE) - Theory

The end semester examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

All the Blocks Should Be Given Equal Importance

Part – A (10 x 2 Marks: 20 Marks) Answer all questions

Part – B (5 x 5 Marks: 25 Marks) Answer all questions choosing either (a) or (b)

Part – C (3 x 10 Marks: 30 Marks) (Answer any 3 out of 5 questions)

End Semester Examination (ESE) - Practical

Students are required to prepare a separate lab record for each lab course. The practical counsellor should duly sign this lab record after each session.
Students shall prepare practical record note book which includes aim, algorithm, source code, input, expected output and result of the experiment and submit during end semester practical examination.

Division of marks in ESE – Practical (Maximum 75 marks)

The end semester practical examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

Practical details	**Max. Marks**
Algorithm / Flowchart	10
Source Code	20
Debugging	10
Execution	10
Results	10
Viva-Voce	5
Record	10
Total	**75**

f.3.3 Procedure for Completing the Course:

A student shall be permitted to continue the programme from I to VI semester irrespective of failure(s) in the courses of the earlier semesters. The candidate will qualify for the B.C.A degree only if he/she passes all the (including arrears) courses with in a period of FIVE years from the date of admission.

f.3.4 Results and Classification:

Results will be declared at the end of each semester of the University examination and the marks/grade obtained by the candidate will be forwarded to them by the Controller of Examinations, Alagappa University.

f.3.4.1 Marks and grades

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0 - 10.00	O	Outstanding
80-89	8.0 - 8.9	D+	Excellent
75-79	7.5 - 7.9	D	Distinction
70-74	7.0 - 7.4	A+	Very Good
60-69	6.0 - 6.9	A	Good
50-59	5.0 - 5.9	B	Average
40-49	4.0 – 4.9	C	Satisfactory
00-39	0.00	U	Reappear
ABSENT	0.00	AAA	Absent

For a semester

Grade Point Average[GPA] = $\sum C_i G_i / \sum C_i$

GPA = Sum of the multiplication of Grade points by the credit of the courses
Sum of the credit of the courses in the semester

= Sum of [Credit earned x Grade Points]
Sum of the credits earned in the semester

For the entire programme

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

= sum of the multiplication of grade points by the credits of the entire programme
Sum of the credits of the courses for the entire programme

Where,

C_i - Credits earned for the course i in any semester

G_i – Grade Point earned for course i in any semester

n - is number of all Courses successfully cleared during the particular semester in the case of GPA and during all the semesters (programme) in the case of CGPA.

CGPA	Grade	Classification of Final Result
9.5 – 10.00	O+	First class – Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
4.5 and above but below 5.0	C+	Third Class
4.0 and above but below 4.5	C	
0.0 and above but below 4.0	U	Reappear

* The candidates who have passed in the first appearance and within the prescribed semester

f.4 Fees Structure:

Fee Particulars	Amount in Rs.		
	First Year	Second Year	Third Year
Admission Processing Fees	100	--	--
Course Fees	8300	8300	8300
ICT fees	150	150	150
Total Fees	**8550**	**8450**	**8450**

The above mentioned fees structure is exclusive of examination fees.

g)Requirement of the laboratory support and library resources

g.1 Laboratory Support

A well- equipment Computer Laboratory was established in the Alagappa University, Karaikudi with necessary software's as per the practical's syllabi for conducting face to face contact sessions for practical courses of this programme. Model Practical Questions is available to the learners in the university website.

g.2 Library Resources

The Directorate of Distance Education, Alagappa University provides library facility with number of books and Self Learning materials for Computer Science programmes. The Central library of Alagappa University provides the collection of volumes of Self Learning Materials, Printed books, Subscriptions to printed periodicals and Non-book materials in print form for the learner's references. All these library resources are meant for learner's reference purpose only.

h) Cost estimate of the programme and the provisions:

Expense details	Amount in (Rs.) Approx.
Programme development (Single Time Investment)	20,00,000/-
Programme delivery (per year)	24,00,000/-
Programme maintenance (per year)	5,00,000/-

i)Quality assurance mechanism and expected programme outcomes:

i.1 University's Moto:

' Excellence in Action'

i.2 University's Vision and Mission

Vision

Achieving Excellence in all spheres of Education, with particular emphasis on ' PEARL' - Pedagogy, Extension, Administration, Research and Learning.

Mission

Affording a High Quality Higher Education to the learners so that they are transformed into intellectually competent human resources that will help in the uplift of the nation to Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM).

i.3 University Objectives

1. Providing for instructions and training in such branches of Learning at the university may determine.
2. Fostering Research for the Advancement and Dissemination of Knowledge and Application.

i.4 Quality Policy

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

i.5 Quality Quote

Quality Unleashes Opportunities Towards Excellence (QUOTE).

i.6. Course benchmarks

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations and number of enrolments of students. Feedback from the alumni, students, parents, stakeholders and employers will be received to analyze the benchmark qualities for the further improvement of the programme.

*****

Appendix A

Detailed Syllabi
FIRST YEAR
SEMESTER I

Course Code	Title of the Course
10111A	PART 1 : TAMIL - PAPER -1

பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1

1. **கண்ணதாசன் - ஸ்ரீ கிருஷ்ண கானம்**
   1. புல்லாங்குழல் கொடுத்த
   2. குருவாயூருக்குவாருங்கள்

கூறு 2

1. கோகுலத்துபசுக்கள்
2. கோகுலத்தில்ஒருநாள் ராதை
3. ஆயர்பாடிமாளிகையில்

கூறு 3

பட்டுக்கோட்டைகல்யாணசுந்தரம்

1. நெஞ்சில் குடியிருக்கும்
2. செய்யும் தொழிலேதெய்வம்

கூறு 4

1. **பாரதியார்**
   கண்ணன் என் விளையாட்டுப்பிள்ளை
   பாரதமாதாதிருப்பள்ளிஎழுச்சி

கூறு 5

1. **பாரதிதாசன்** - உலகப்பன்பாட்டு (5)
2. **நாமக்கல் கவிஞர்** - நோயற்றவாழ்வு7 பாட்டு
3. **பெ.தூரன்** - நிலாபிஞ்சு

கூறு 6

1. **வல்லிக் கண்ணன்** - வெறும் புகழ்
2. **கு.ப.இராஜகோபாலன்** - எதற்காக?
3. **மீரா** - பதினைந்து

கூறு 7

1. **சிற்பி** - சர்ப்பயாகம்
2. **ஞானக்கூத்தன்** - தோழர் மோசிகீரனார்

கூறு 8

1. **அப்துல் ரகுமான்** - கண்ணும் எழுதேம்
2. **சண்முகசுப்பையா** - வயிறு

கூறு 9

1. **சிலப்பதிகாரம்** - வழக்குரைகாதை
2. **கம்பராமாயணம்** - அயோத்தியாகாண்டம்

கூறு 10

1. **சீறாப்புராணம்** - ஈத்தங்குலைவரவழைத்தபடலம் (1)

கூறு 11

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண்(ஒவ்வொருபாடலின் முதல்வரி)

1. இன்னவாயில்
2. கொழுந்துறும்
3. பஞ்(ச) அரங்கில்

கூறு 12

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)

4. எண்ணுளே
5. ஒண்தலங்கள்
6. இரவியேந்தகஞ்சக்

கூறு 13

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)

7. கன்னியாயதாயும்
8. ஏந்திஓங்குஉளத்து
9. ஆவ தேமுனர்
10. கொல்லும் வேலொடும்

கூறு 14

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)

11. என்றவாசகம்
12. அம்பினால்
13. வேண்டும் ஓர் வினை

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Course Code	Title of the Course
10111B	PART 1 : COMMUNICATION SKILLS - I

Learning objectives:

1. To make students to understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

Unit - I Communication – Meaning – Types- Importance

Unit – II Barriers to Effective Communication – Principles – Principles of Effective Communication

Unit – III Oral Communication – Meaning – Importance- Forms of Oral Communication

Unit – IV Intonation –Meaning – Function- Types
Preparation of Speech- Steps Involved

Unit – V Principles of Effective Oral Communication

Unit – VI Written Communication – Meaning –Steps – Importance- Advantages
Use of words and Phrases

Unit – VII Sentence – Meaning –Sentence formation- Characteristics of an Effective Sentence

Unit – VIII Paragraph Writing –Essay Writing –Steps Involved –Outline-Layout – Contents-Drafting-Correction- Final Draft

Unit – IX Application for Employment and Curriculum Vitae –Steps involved

Unit – X Non –Verbal Communication – Meaning –Types –Body Language – Postures-Gestures –Facial Expressions –Eye Contact

Unit – XI Report Writing –Report –Types of Reports –Format of a Report

Unit – XII Essentials of a Good Report –Preparation of Report-Procedure Involved

Unit – XIII Meetings-Purpose of the Meeting – Procedure

Unit – XIV Group Discussion –Quality of Content-Participation –Logical Presentation – Behavioural Skills

References:

1. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
2. Geetha Nagaraj, Write to Communicate, 2004.
3. Wren & Martin, English Grammar and Composition, 2002.
4. Dale Carnegie, How to Win Friends and Influence People, 1981.
5. Dale R Jordan, Language Skills and Use.
6. Gartside L. Bahld, Nagammiah and McComas, Satterwhite, Modern Business Correspondence.
7. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.
8. Wallace, Michael J, Study Skills in English.
9. Editors of Readers Digest, Super Word Power.

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Course Code	Title of the Course
10112	PART II : ENGLISH – I

Learning objective:

1. To make the students master the different topics prescribed in the Prose, Grammar and Composition.

Prose

Unit – I	Water-the Elixir of life	- C.V. Raman
Unit – II	Mrs. Packletide's Tiger	- SAKI
Unit – III	A Deed of Bravery	- Jim Carbett
Unit – IV	The Cat	- Catharine M.Willson
Unit – V	On Letter Writing	- Alpha of the Plough
Unit – VI	Our Ancestors	- Carl Sagan
Unit – VII	Our Civilization	- C.E.Foad
Unit – VIII	A Hero on Probation	- B.R. Nanda
Unit – IX	Dangers of Drug Abuse	- Hardin B. Fones
Unit – X	Food	- J.B.S. Haldane

Grammar

Unit – XI - Articles-Gerunds-Participles-Infinitives-Modals-Proposition – Tenses.

Unit – XII - Direct and Indirect Speech-Transformation of sentences- Active and passive voice.

Composition

Unit – XIII - Letter writing - Precis writing - Developing hints.

Unit – XIV - Dialogue writing - Paragraph writing.

References:

1. Sebastian D K, *Prose for the Young Reader*, Macmillan.
2. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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Course Code	Title of the Course
10113	C AND DATA STRUCTURE

Course Objectives:

- To design, implement and apply the basic C programming concepts.
- To understand the linear and non linear data structures available in solving problems

Course Requirements:

- Before studying this course, the student has knowledge about
- Basic principles of programming
- Concepts of stack, queue and array

Course Outcome:

After the completion of this course, the student will able to

- To write programs using structures, strings, arrays, pointers and strings for solving complex computational problem.
- Use the data structures real time applications
- analyze the efficiency of Data Structures

Unit no.	Contents
	BLOCK 1 : INTRODUCTION TO C
1	**Program Development styles and Basics of C**. Introduction to C – Character set – Identifiers and keywords – Data types – constants – Variables – declarations – Declaring variables, - Rules for defining variables. Initializing variables - Type conversion. Operator and Expressions
2	**Data input, output** and Preliminaries – single character input and output – Entering input data – Writing output data – gets and puts functions –
3	**control statements:** Branching and looping – Nested control structures –

	Switch – Break – Continue and Goto.
	BLOCK 2 : FUNCTIONS,ARRAYS AND POINTERS
4	**Function:** defining a function – Accessing a function – Passing arguments to a function – Recursion – Library function – Macros – C preprocessor – Program structure: Storage classes – Automatic variables – Global variables – Static variables– Multiple programming – Bitwise operation.
5	**Arrays** – Array initialization, Definition of Array, Characteristic of Array, One dimensional array, Two dimensional array, Multidimensional arrays, Character array and strings – string handling functions.
6	**Pointers** – Features of Pointers, Pointer declaration, Arithmetic operation with pointers, Pointers and Arrays, Pointers and two dimensional arrays, Array of Pointers, Pointers to Pointers, Pointers and strings.
	BLOCK 3 : STRUCTURE UNION AND FILES
7	Structures and Unions: defining a structure – Processing a structure – Structures and pointers– Passing structures to functions – Self referential structures – Bit fields – Unions – Enumerations.
8	Data file: Opening and Closing a data file – Creating a data file – Processing a data file – Unformatted data file – Command line parameters.
	BLOCK 4 : LINEAR DATA STRUCUTRE
9	**Introduction to Data Structure,** Stack, Stack related terms, operation on a stack, Representation of Stack, Implementation of a stack - Polish notation.
10	**Queues,** Various Positions of Queue, Circular Queues. Operations on Queue , Representation of Queues. Applications of Queue..
11	**List,** Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list. Representation of Linked list
	BLOCK 5 : NON-LINEAR DATA STRUCTURE
12	**Introduction** – Trees, Binary Trees, Types of Binary trees,
13	**Binary Tree Representation**, Traversing Binary Trees,
14	**Binary Search tree**, Insertion and Deletion operations, trees and their applications Hashing Techniques.

TEXT BOOKS:

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.

REFERENCE BOOKS :

1. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
2. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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Course Code	Title of the Course
10114	C AND DATA STRUCTURE LAB

Course Objectives

- To be able to solve data structure problems using C language
- To learn and implement C language programming techniques

Course Outcome

- Students can develop programming knowledge
- Students can solve any kind of problems using C language
- Data Structure based problems can be solved

Experiments based on C programming and Data Structures

Unit No.	Contents
	BLOCK 1 : C PROGRAM FUNDAMENTALS
1	Simple C Programs
2	Using if and switch constructs Programs
3	Looping statements Problems
	BLOCK 2 : FUNCTIONS,ARRAYS,STRINGS,FILEAND POINTERS
4	Functions and Recursive programs
5	Arrays ,Strings and Matrices Programs
6	File Handling Programs
7	Pointers and Arrays Programs programs
	BLOCK 3 – STRUCTURE , UNION AND FILES
8	Structure and union : Programs using structure and union
9	Files : Programs based on file handling
	BLOCK 4 : LINEAR DATA STRUCTURE PROGRAMS
10	Stacks, queues ,expression evaluation programs
11	Infix to postfix conversion
12	Linked List programs: List, Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list.
	BLOCK 5 : NON LINEAR DATA STRUCURE EXPERIMENTS
13	Tree Programs : Trees, Binary Trees, Types of Binary trees, Binary Tree Representation,
14	Traversing Binary Trees, Binary Search tree, Insertion and Deletion operations,

REFERENCE BOOKS:

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011

2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.
3. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
4. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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SEMESTER II

Course Code	Title of the Course
10121A	PART 1 : TAMIL - PAPER II

பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)

14. சொல் தவிர்ந்த
15. அன்னை
16. அஞ்சுவார்
17. சொல்லக் கேட்டனள்
18. மற்செய்கை
19. மண்கனியப்
20. அழுதுஆர்ந்த

கூறு 2

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)

21. பொய் பொதுளும்
22. இன்புஅருந்தி
23. வழுதாயின இன்பு
24. மறம் ஏவினர்

கூறு 3

தேம்பாவணி - காட்சிப்படலம்

பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)

25. மண்ணோர்கள்
26. பொய்யாவிதியோய்
27. விடியா இருள்
28. அழுவார் எவரும்

கூறு 4

சிறுகதை - நீலபத்மநாபனின் ''வானவீதியில்''

கூறு 5

உரைநடை - கம்பன் புறத்திணை - தி.சொக்கலிங்கம்

இலக்கணம் - எழுத்தும் சொல்லும்

கூறு 6

1. முதலெழுத்துகள்,சார்பெழுத்துகள்
2. மொழிமுதலெழுத்துகள்,மொழி இறுதிஎழுத்துகள்

கூறு 7

1. ஒற்றெழுத்துமிகலும் மிகாமையும்,
2. ஆகு பெயர்,அன்மொழித் தொகை.
3. வினா-விடை வகைகள்

கூறு 8

1. தமிழ்ச் சொல்லமைப்பின் சிறப்பு–பெயர்,வினை, இடை,உரிவடிவங்கள்,
2. பிறமொழிச் சொற்களைத் தமிழில் ஆளும் முறைகள்

கூறு 9

3. அல் வழி,வேற்றுமைப் புணர்ச்சிகள்
4. திணை,பால்,எண், இட இயைபு.

தமிழ் இலக்கியவரலாறு

கூறு 10

1. **இக்கால இலக்கிய வகைகள்**
   அ) மரபுக் கவிதை
   ஆ) புதுக் கவிதையின் தோற்றமும் வளர்ச்சியும்

கூறு 11

1. **உரைநடை இலக்கியங்கள் - தோற்றமும் வளர்ச்சியும்**
   அ) கட்டுரை ஆ) சிறுகதை
   இ) புதினம் ஈ) நாடகம்

கூறு 12

1. **இக்கால இலக்கியக் களங்கள்**
   திரைப்படம்,தொலைக்காட்சி,வானொலி, இதழ்கள் தமிழுக்குஆற்றிவரும் பணிகள்

கூறு 13

1. **தமிழும் சமயமும் :**
   அ) சைவம் ஆ)வைணவம் இ)சமணம் ஈ)பௌத்தம் உ)இசுலாம்
   ஊ) கிறித்துவம்

கூறு 14

1. **பிற்காலக் காப்பியங்கள் :**
   அ) கம்பராமாயணம் **ஆ)** பெரியபராணம்
2. **இணையம் - பற்றியசெய்திகள்**

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Course Code	Title of the Course
10121B	PART 1 : COMMUNICATION SKILLS - II

Learning objectives:

1. To make students understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

Unit – I Code and Content of Communication Skills
Unit – II Stimulus and Response of Communication Skills
Unit – III Effective Speaking Guidelines
Unit – IV Pronunciation Etiquette of Communication Skills
Unit – V Phonetics in Communication Skills
Unit – VI A self Assessment of Communicating Soft Skills
Unit – VII Language Skills –Ability –Skill Selected Need- Learner Centre activities
Unit – VIII Listening Skills –Importance –Types of Listening- Interview Skills
Unit – IX Conversation Skills –Modes
Unit – X Presentation Skills - Preparing –Planning-Presentation
Unit – XI Written Communication –Structure of Effective Sentences –Paragraph
Unit – XII Technical Writing-Creative Writing- Editing and Publishing
Unit – XIII Corporate Communication Skills-Internal –Effective business writing – Letters, Proposals, Resume
Unit – XIV Corporal Communication Skills-External - Press release - Newsletters-Interviewing skills

References:

1. Dutt. Kiranmai & Geeta Rajjevan. Basic Communication Skills. Rev.ed. Foundation Books Pvt.Ltd. Cambridge House, New Delhi 2006.
2. Bill R. Swetmon. Communication Skills for the 21st Century. Chennai: Eswar Press. First South Asian Edition 2006.
3. Glass. Lillian. Talk to Win. New York: Perigee Books,1987.
4. Pease. Alan. Signals: How to Use Body Language for Power, Success and Love, New York: Bantam Books, 1981.
5. Walters. Lilly. Secrets of Successful Speakers. New York: McGraw-Hill, Inc., 1993.
6. Mandal. S.K. How to Succeed in Group Discussions & Personal Interviews. Mumbai: JAICO Publishing House.
7. Rogoff. Leonard and Ballenger. Grady. Office Guide to Business Letters, Memos & Reports. New York: Macmillan, 1994.
8. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
9. Geetha Nagaraj, Write to Communicate, 2004.
10. Wren & Martin, English Grammar and Composition, 2002.
11. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.

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Course Code	Title of the Course
10122	PART II : ENGLISH – II

Learning objective:

1. To make the students master the different topics prescribed in the Poetry and Language use Sections.

Poetry

Unit – I Sonnet - William Shakespeare
Unit – II Lines Composed upon Westminster Bridge

-William Wordsworth

Unit – III Grecian Urn - John Keats (1795-1827)
Unit – IV Andrea Del Sarto - Robert Browning (1812-1889)
Unit – V The Road Not Taken - Robert Frost (1874-1963)
Unit – VI Strange Meeting - Wilfred Owen (1813-1918)
Unit – VII Gitanjali - Rabindranath Tagore (1861-1946)
Unit – VIII The Coromandel Fishers - Sarojini Naidu
Unit – IX The Express - Stephen Spender
Unit – X **Shakespeare :** The Merchant of Venice

Language Use:

Unit – XI Essay writing
Unit – XII Note Making
Unit – XIII Report writing
Unit – XIV Comprehension

References:

1. *The Golden Quill*, P.K. Seshadri, Macmillan.
2. *The Merchant of Venice*, Shakespeare. (Any overseas edition).
3. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
4. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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Course Code	Title of the Course
10123	PROGRAMMING IN C++

Course objectives:

Identify and practice object oriented Programming concepts.
Practice the use of c++ libraries
Develop applications using Object oriented programming concepts

Course Outcome:

Able to understand and design the solution to a problem using object-oriented programming concepts.
Understand and implement the features of C++ including templates, exceptions and file handling for providing programmed solutions to complex problems.

Unit No	Contents
	BLOCK I : PRINCIPLES OF OBJECT-ORIENTED PROGRAMMING
1	**Principles of Object-Oriented Programming:** Software Crisis – Software Evolution – Basic Concepts of Object-Oriented Programming – Benefits of OOP – Object-Oriented Languages - Applications of OOP – Application of C++ -
2	**Structure of a C++ Program** – Tokens – Keywords – Identifiers – Basic Data

	Types – User defined Data types – Derived data types – Symbolic constants – Type compatibility – Declaration of variables – Dynamic initialization of variables – Reference variables – Operators in C++ - Manipulators – Type cast operator – Expressions and their types-Implicit conversions
3	**Control structures and function** – The main function – Function prototyping – inline functions – Function overloading.
	BLOCK 2 : CLASSES AND OBJECTS
4	**Introduction** - Specifying a Class -Defining Member Function - C++ Program with Class - Making an Outside Function Inline - Nesting of Member Functions - Arrays within a Class
5	**Memory Allocation for Objects** - Static Data Members - Static Member Functions - Arrays of Objects - Objects as Function Arguments - Friendly Functions - Returning Objects.
6	**Constructors and Destructors**: Introduction - Constructors - Parameterized Constructors - Multiple Constructors in Class - Constructors with Default Arguments - Dynamic Initialization of Objects - Copy Constructor - Dynamic Constructors - Constructing Two Dimensional Arrays - Destructors.
	BLOCK 3 : INHERITANCE, POLYMORPHISM AND POINTERS
7	**Inheritance**: Introduction - Defining Derived Classes - Single Inheritance - Making a Private Member Inheritable - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance - Virtual Base classes - Abstract Classes - Constructors in Derived Classes - Member Classes: Nesting of Classes.
8	**Pointers Virtual Functions and Polymorphism**: Introduction - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual Functions - Pure Virtual Functions.
9	**Managing Console I/O Operations** - C++ Streams - C++ Stream Classes - Unformatted I/O Operations, Formatted Console I/O Operations - Managing Output with Manipulators.
	BLOCK 4 : WORKING WITH FILES
10	**Introduction** - Classes for File Stream Operations - Opening and Closing a File - Detecting End of File - More About Open (): File Modes
11	**File Pointers and their Manipulations** - Sequential Input and output Operations - Updating a File - Random Access - Error handling During File Operations - Command Line Arguments.
	BLOCK 5 : TEMPLATES AND EXCEPTION HANDLING
12	**Templates**: Introduction - Function Templates - Overloaded Function Templates - Nesting of Function Calls - Multiple Arguments Function Template - User Defined Templates.
13	**Exception Handling**: **Introduction** - Error Handling - Exception Handling Model - Exception handling Constructs - Handler Throwing the Same Exception Again -
14	**Other Exception Handling:** List of Exceptions - Catch All Exceptions - Exceptions in Constructors and Destructors - Handling Uncaught Exceptions - Ten Rules for Handing Exceptions Successfully.

Text Book:

1. E.Balagurusamy, Object Oriented Programming with C++, Tata McGraw Hill, New Delhi, Sixth Edition, 2013.

Books for Reference:

1. Object Oriented Program in C++ – Nabajyoti Barkakati, A prentice Hall of India Private Limited, New Delhi 1997.
2. Mastering C++ – K R Venugopal, T. Ravishankar, RajKumar, Tata Mc Graw-Hill Publishing Company Limited, New Delhi, 2006.

Course Code	Title of the Course
10124	PROGRAMMING IN C++ LAB

Course objectives:

Identify and practice object oriented Programming concepts.
Practice the use of c++ libraries
Develop applications using Object oriented programming concepts

Course Outcome:

Able to understand and design the solution to a problem using object-oriented programming concepts.
Understand and implement the features of C++ including templates, exceptions and file handling for providing programmed solutions to complex problems.

Syllabi Based On Course : Object Oriented Programming And C++

Unit No.	Contents
1.	Simple Programs using decisions, loops and arrays
2.	Simple functions & Inline functions
3.	Usage of classes and Objects
4.	this pointer and Static functions
5.	Constructors and Destructors
6.	Function overloading
7.	Operator Overloading
8.	Friend functions
9.	Inheritance & Multiple Inheritance
10.	Pointers
11.	Polymorphism
12.	Virtual Functions
13.	Files
14.	I/O Streams

Books for Reference:

1. E.Balagurusamy, Object Oriented Programming with C++, Tata McGraw Hill, New Delhi, Sixth Edition, 2013.
2. Object Oriented Program in C++ – Nabajyoti Barkakati, A prentice Hall of India Private Limited, New Delhi 1997.

3. Mastering C++ – K R Venugopal, T. Ravishankar, RajKumar, Tata Mc Graw-Hill Publishing Company Limited, New Delhi, 2006.

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SECOND YEAR
SEMESTER III

Course Code	Title of the Course
10131A / 12731A	PART 1 : TAMIL - PAPER III

பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1 :பத்துப்பாட்டு–முல்லைப்பாட்டு

கூறு 2 :எட்டுத்தொகை–ஐங்குறுநூறு

கூறு 3 :கபிலர் - குறிஞ்சித்திணை

கூறு 4 :மஞ்ஞைப்பத்து–முதல் மூன்றுபாடல்கள்

கூறு 5 :குறுந்தொகை–பரணர் பாடல்கள் பா. எண். 19, 24, 36, 128, 399

கூறு 6 : நற்றிணை– பெருங்குன்றூர்கிழார் - பா. எண். 5
பெருவழுதியார் - பா. எண். 55
பெருங்கௌசிகனார் - பா. எண். 139

கூறு 7 :நற்றிணை– கருவூர்க்கோசிகனார் - பா. எண். 214
உலோச்சனார் - பா. எண் 249

கூறு 8 :அகநானூறு –சேந்தம்பூதனார் பாடல்கள் பா.எண். 84, 207

கூறு 9 :புறநானூறு –மறோக்கத்துநப்பசலையார் பாடல்கள்
பா. எண். 37, 39, 126, 226, 280

கூறு 10 :பதினெண் கீழ்க்கணக்கு–திருக்குறள் - வாழ்க்கைத்துணைநலம் (6), அறிவுடைமை (43),பிரிவாற்றாமை (116)

கூறு 11: நான்மணிக்கடிகை–எள்ளற்க (3),பறைபடவாழா (4),

கூறு 12:நான்மணிக்கடிகை - மண்ணயறிப (5),கள்ளிவயிற்றில் (6),கல்லிற்பிறக்கும்(7)

கூறு 13: நாடகம் - இராசராசசோழன் - அரு. இராமநாதன்

கூறு 14: நாவல் - சுவடுகள் - இரா. பாலசுப்பிரமணியன்,சத்யாவெளியீடு,மதுரை

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Course Code	Title of the Course
10131B / 12731B	PART 1 : HUMAN SKILL DEVELOPMENT- I

Learning objective:

1. To Make the Students develop human skills.

Unit – I Human Skills –Developing skills-Types

Unit – II Mind-Levels of functions
Habits-Meaning-Types-Merits of good habits - Interpersonal Relationship-Features- Interpersonal Behaviour

Unit – III Thinking ahead- Significance of thinking ahead

Unit – IV Developing Personality-Meaning -Need- Factors influencing personality, Ways of developing personality -Building positive personality

Unit – V Self-concept-Self-esteem-Meaning-Importance - Self- efficacy-Self-acceptance-Meaning-Importance - Etiquette-Meaning-Etiquettes in using mobile, telephones-Dais Etiquette

Unit – VI Goal-setting Skills-Meaning-Types-Importance-

Unit – VII Decision-making skills-Meaning-Types-Steps in decision-making

Unit – VIII Negotiating Skills-Styles-Structure-Creating negotiation-Competitive Negotiation

Unit – IX Attitudes-Meaning-Types-Importance-Developing positive attitudes

Unit – X **C**oping with Change-Meaning-Characteristics-Importance of change Resistance to change-Dealing with change

Unit – XI Leadership-Meaning-Importance-Characteristics-Styles-

Unit – XII Human Relations Skill-Need-Canons of good human relations

Unit – XIII **C**ounselling-Meaning-Importance-Forms- Conflicts-Meaning-Types-Causes-Effects-Managements of conflicts

Unit – XIV Stress-Meaning-Types-Causes-Effects-Managing the stress - Anger-Meaning-Causes-Consequences-Anger Management

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

Course Code	Title of the Course
10132/ 12732	PART II : ENGLISH – III

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, One Act Plays, Grammar and Composition.

Short Stories

Unit – I	A Hero	- R.K. Narayanan
Unit – II	The Diamond Necklace	- Guy de Maupassant
Unit – III	The Verger	- Somerset Maugham
Unit – IV	The Postmaster	- Rabindranath Tagore

One Act Plays

Unit – V	The Proposal	- Anton Chekhou
Unit – VI	The Boy Comes Home	- A.A. Milne
Unit – VII	The Silver Idol	- James R. Waugh
Unit – VIII	Progress	- St. John Ervine
Unit – IX	The Pie and the Tart	- Huge Chesterman

Unit – X Reunion - W.st. Joh Tayleur
Unit – XI A kind of Justice - Margaret Wood
Unit – XII The Refugee - Asif Currimbhoy

Grammar

Unit – VIII Parts of speech-Noun- Pronoun- Adjective
Degrees of Comparison- Verb- Adverb

Composition

Unit – XIV Agenda- Minutes- Notice- Descriptive Writing

References:

1. *Aroma*, Ed. by the Board of Editors, Publishers- New Century Book House, Chennai.
2. *Six Short Stories*, Ed. by the Board of Editors, Harrows Publications, Chennai.
2. *One Act Plays*, Ed. by the Board of Editors, Harrows Publications, Chennai.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.
4. *English for Communication*, Ed. by the Board of Editors, Harrows Publications, Chennai.

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Course Code	Title of the Course
10133/ 12733	RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

Course Objectives:

- To understand the fundamentals of data models
- To make a study of SQL and relational database design.
- To know about data storage techniques an query processing.
- To impart knowledge in transaction processing, concurrency control techniques and External storage

Course Requirements:

- Knowledge about the basic concepts of the database.

Course Outcome:

- Design a database using ER diagrams and map ER into Relations and normalize the relations
- Acquire the knowledge of query evaluation to monitor the performance of the DBMS.
- Develop a simple database applications using normalization.

Unit No	Contents
	BLOCK 1 INTRODUCTION
1	**Data base System Applications**, data base System VS file System – View of Data – Data Abstraction –Instances and Schemas – data Models – the ER

	Model
2	**Model :**Relational Model – Other Models – Database Languages – DDL – DML – database Access for applications Programs – data base Users and Administrator – Transaction Management – data base System Structure – Storage Manager – the Query Processor.
3	**History of Data base Systems** - Data base design and ER diagrams – Beyond ER Design Entities, Attributes and Entity sets – Relationships and Relationship sets – Additional features of ER Model – Concept Design with the ER Model – Conceptual Design for Large enterprises.
	BLOCK 2 : RELATIONAL MODEL
4	**Introduction**– Integrity Constraint Over relations – Enforcing Integrity constraints – Querying relational data – Logical data base Design – Introduction to Views – Destroying / altering Tables and Views.
5	**Relational Algebra** – Selection and projection set operations – renaming – Joins – Division – Examples of Algebra overviews –
6	**Relational calculus** – Tuple relational Calculus – Domain relational calculus – Expressive Power of Algebra and calculus.
	BLOCK 3 : SQL QUERY
7	**Form of Basic SQL Query** – Examples of Basic SQL Queries – Introduction to Nested Queries – Correlated Nested Queries Set – Comparison Operators – Aggregative Operators – NULL values – Comparison using Null values – Logical connectivity's – AND, OR and NOT – Impact on SQL Constructs – Outer Joins – Disallowing NULL values – Complex Integrity Constraints in SQL Triggers and Active Data bases. Schema refinement
8	**Normal forms :**Problems Caused by redundancy – Decompositions – Problem related to decomposition – reasoning about FDS – FIRST, SECOND, THIRD Normal forms – BCNF–
9	**Join:** Lossless join Decomposition – Dependency preserving Decomposition – Schema refinement in Data base Design – Multi valued Dependencies – FORTH Normal Form.
	BLOCK 4 TRANSACTION
10	**Introduction :**Transaction Concept- Transaction State- Implementation of Atomicity and Durability – Concurrent – Executions – Serializability- Recoverability – Implementation of Isolation – Testing for serializability
11	**Protocols :** Lock Based Protocols – Timestamp Based Protocols- Validation- Based Protocols – Multiple Granularity.
12	**Recovery and Atomicity** – Log – Based Recovery – Recovery with Concurrent Transactions – Buffer Management – Failure with loss of nonvolatile storage-Advance Recovery systems- Remote Backup systems
	BLOCK 5 STORAGE
13	**Data on External Storage** – File Organization and Indexing – Cluster Indexes, Primary and Secondary Indexes – Index data Structures – Hash Based Indexing – Tree base Indexing – Comparison of File Organizations – Indexes and
14	**Performance Tuning-** Intuitions for tree Indexes – Indexed Sequential Access Methods (ISAM) – B+ Trees: A Dynamic Index Structure.

Text Books:

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.

Reference Books:

1. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
2. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach,Firewall media, 2006
3. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
4. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

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Course Code	Title of the Course
10134/ 12734	RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS) - LAB

Course Objectives:

Use the concepts like data normalization, link between table by means of foreign keys and other relevant database concepts for the following applications. The implementation of each should have necessary input screen (forms) Menu-driven query processing and reports. Necessary validations should be made for each table;

Unit No.	Contents
	BLOCK 1 : TABLE MANIPULATION
1	**Table** creation, Renaming a Table, Copying another table, Dropping a Table
2	**Table Description:** Describing Table Definitions, Modifying Tables, Joining tables, Number and Date functions.
	BLOCK 2 : SQL QUERIES AND SUB QUERIES
3	**SQL Queries:** Queries, Sub Queries, and Aggregate functions
4	**DDL:** Experiments using database DDL SQL statements
5	**DML:** Experiment using database DML SQL statements
6	**DCL:** Experiment using database DCL SQL statements
	BLOCK 3 : INDEX AND VIEW
7	**Index :** Experiment using database index creation, Renaming a index, Copying another index, Dropping a index
8	**Views:** Create Views, Partition and locks
	BLOCK 4 : EXCEPTION HANDLING AND PL/SQL
9	**Exception Handling:** PL/SQL Procedure for application using exception handling
10	**Cursor:** PL/SQL Procedure for application using cursors
11	**Trigger:** PL/SQL Procedure for application using triggers
12	**Package:** PL/SQL Procedure for application using package
13	**Reports:** DBMS programs to prepare report using functions

	BLOCK 5 : APPLICATION DEVELOPMENT
14	**Design and Develop Application:** Library information system, Students mark sheet processing, Telephone directory maintenance, Gas booking and delivering, Electricity bill processing, Bank Transaction, Pay roll processing. Personal information system, Question database and conducting Quiz and Personal diary

Reference Books:

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.
3. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
4. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach,Firewall media, 2006
5. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
6. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

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SEMESTER IV

Course Code	Title of the Course
10141A/ 12741A	PART 1 : TAMIL – PAPER IV

இளங்கலை இரண்டாமாண்டு
நான்காம் பருவம்
10141 / 12741- பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்
கூறு 1 : செய்யுள் உறுப்புகள் - யாப்பு -எழுத்து,அசை,சீர்,
கூறு 2 :செய்யுள் உறுப்புகள் - யாப்பு -தளை,அடி,தொடை
கூறு 3 :வெண்பா,ஆசிரியப்பா,கலிப்பா,வஞ்சிப்பா,
கூறு 4 :புதியயாப்புவடிவங்கள் - சிந்து,கண்ணி,கீர்த்தனை
கூறு 5 :புதுக்கவிதையில் குறியீடு–படிமம்.
கூறு 6 :அகப்பொருள் - புறப்பொருள் - ஐந்திணைவிளக்கம்
கூறு 7 :அகப்பொருள் துறைகள் - வரைவுகடாதல்,அறத்தொடுநிற்றல்,
உடன்போக்கு
கூறு 8 :புறப்பொருள் துறைகள் - வஞ்சினக்காஞ்சி,கையறுநிலை,செவியறிவுறூஉ
கூறு 9 :அணி இலக்கணம் - உவமை,உருவகம்,வேற்றுமை,பிறிதுமொழிதல்,
தற்குறிப்பேற்றம்,சிலேடை,பின்வருநிலை
கூறு 10 :நிறுத்தல் குறிகள்
கூறு 11 : தொல்காப்பியம் - சங்கஇலக்கியம் - எட்டுத்தொகை,பத்துப்பாட்டு,
கூறு 12 :பதினெண்கீழ்க்கணக்கு ஐம்பெருங்காப்பியங்கள் - பிற்காலக் காப்பியங்கள் -
கம்பராமாயணம் - பெரியபுராணம்
கூறு 13 :இக்காலக் காப்பியங்கள் - பாரதியின் பாஞ்சாலிசபதம் -
பாரதிதாசனின் பாண்டியன் பரிசு
கூறு 14. :கண்ணதாசனின் இயேசுகாவியம் ,சிற்பியின் -மௌனமயக்கங்கள்.

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Course Code	Title of the Course
10141B/ 12741B	PART 1 : HUMAN SKILL DEVELOPMENT- II

Learning objective:

1. To Make the Students develop human skills.

Unit – I Guidance & Counselling – Role of Counsellor - Importance and Techniques of counselling
Unit – II Managerial skill- Need – Importance
Unit – III Human relational skills-Communication-Attention
Unit – IV Conceptual skills-Meaning-Importance
Unit – V Technical skills-Techniques-Practices-Tools-Procedures
Unit – VI Presentation skills-Planning-Preparation-Delivery
Unit – VII Organization skills-Meaning-Nature-Importance-Types
Unit – VIII Multi-Tasking skills Responsibilities-Causes
Unit – IX Leader- Qualities of a good leader
Unit – X Understanding Skills -Human systems: Individual, Group, organization, and their major interactions
Unit – XI Understanding Skills -Human systems: Community and Society, and their major interactions
Unit – XII Problem solving skills – Handling –Facing - Importance
Unit – XIII Cooperative Learning Skills
Unit – XIV Making Social Responsibilities-Causes

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

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Course Code	Title of the Course
10142 / 12742	PART II : ENGLISH – IV

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, Drama, Fiction, Tales from Shakespeare, Biographies, Grammar and Composition.

Short Stories

Unit – I Lalajee - Jim Corbelt
Unit – II A Day's Wait - Hemmingway

Unit – III Two old Men - Leo Tolstoy
Unit –IV Little Girls wiser than - Men Tolstoy
Unit – V Boy who Wanted more Cheese - William Elliot Griffir

Drama

Unit – VI Pygmalion - G.B. Shaw

Fiction

Unit – VII Swami and Friends - R.K. Narayanan

Tales from Shakespeare

Unit – VIII - The Merchant of Venice
Unit – IX - Romeo and Juliet
Unit – X - The Winter's Tale

Biographies

Unit – XI - Martin-Luther king - R.N. Roy
Unit – XII - Nehru - A.J. Toynbee

Grammar

Unit – XIII - Concord- Phrases and Clauses-Question Tag

Composition

Unit – XIV - Expansion of Proverbs
- Group Discussion
- Conversation (Apologizing, Requesting, Thanking)

References:

1. *Sizzlers*, by the Board of Editors, Publishers-:Manimekala Publishing House, Madurai.
2. *Pygmalion* – G.B. Shaw
3. *Swami and Friends* – R.K. Narayan
4. *Tales from Shakespeare* Ed. by the Board of Editors, Harrows Publications, Chennai.
5. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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Course Code	Title of the Course
10143 / 12743	INTERNET AND JAVA PROGRAMMING

Course Objectives:

To provide an overview of working principles of internet, web related functionalities
To understand and apply the fundamentals core java, packages, database connectivity for computing

Course Requirements:

- Basic knowledge of internet and programming principles

Course Outcome:

- Able to understand the internet standards and recent web Technologies

- Able to implement, compile, test and run Java program,
- Able to make use of hierarchy of Java classes to provide a solution to a given set of requirements found in the Java API

Unit No.	Contents
	BLOCK 1 : INTRODUCTION
1	**Basic Internet Concepts:** Connecting to the Internet – Domain Name System – E-mail
2	**The World Wide Web** – Internet Search Engines – Web Browsers – Chatting and conferencing on the Internet
3	**Online Chatting** –Messaging – Usenet Newsgroup – Internet Relay chat (IRC) – FTP – Telnet.
	BLOCK 2 : FUNDAMENTALS OF OBJECT-ORIENTED PROGRAMMING
4	**Basic concepts** of OOP – Benefits – Applications . Java Evolution: Features – how java differs from C and C++ - java and internet- java support system – java environment
5	**Overview of Java Language** –Introduction – Simple Java Program – Comments – Java Program Structure – Tokens – Java Statements – Implementing a Java Program – JVM – Command Line Arguments. Constants – Variables – Data Types – Type Casting..
6	**Operators and Expressions:** Arithmetic Operators – Relational, Logical, Assignment, Increment and Decrement, Conditional, Bitwise, Special Operators – Arithmetic Expressions, Evaluation of Expression – Precedence of Arithmetic Operators – Type Conversions – Operator Precedence and associativity – Mathematical Functions. **Decision Making and Branching:** If –if…..else –Nesting of if……. Else – else if–switch. Decision Making and Looping: While – do – for – jump in loops – labeled loops.
	BLOCK 3 : CLASSES, OBJECTS AND METHODS
7	**class:** Defining a class –fields –methods –creating objects – accessing class members – constructors – methods overloading –static members –nesting of methods – Inheritance –overriding methods –final variables-classes – methods
8	**Arrays, Strings and Vectors** :One dimensional Arrays –creating of array – Two dimensional arrays- strings –vectors –Wrapper classes – Enumerated Types - Interfaces: Multiple Inheritance
9	**Packages:** Defining interface –Extending interfaces – Implementing Interfaces -Putting Classes Together
	BLOCK 4: MULTITHEREADING , EXCEPTION AND APPLETS
10	**Multithreaded Programming** – Creating Threads –Extending the thread class –Stopping and Blocking a thread –Life cycle of a thread –using thread methods –Thread Exceptions –Priority –Synchronization – Implementing the 'Runnable' Interface
11	**Managing Error and Exceptions:** Types of errors –Exceptions –Syntax of Exception Handling code – Multiple Catch statements –using finally statement – Throwing our own Exceptions – using exceptions for Debugging - Graphics Programming: The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons –

	Line Graphs – Using Control Loops in Applets – Drawing Bar Charts.
12	**Applet Programming:** How applets differ from Applications – preparing to write applets – Building Applet Code – Applet life cycle – creating an Executable Applet – Designing a Web Page – Applet Tag – Adding Applet to HTML file – Running the Applet – Passing parameters to Applets – Displaying Numerical values – Getting input from the user
	BLOCK 5 : MANAGING INPUT/OUTPUT FILES IN JAVA
13	**Introduction** – concept of streams –stream classes – byte stream classes – character Stream
14	**I/O classes**: –using stream –using the file class –Input / output Exceptions – creation of files – Reading / writing characters – reading writing bytes Random access files- Interactive input and output –Other stream classes

Text Books:

1. R. Krishnamoorthy and S. Prabhu, Internet and Java Programming, New Age International Publishers, 2004 (Unit I).
2. Programming with Java, 4e, E. Balagurusamy, Tata McGraw-Hill, 2010.

Reference books:

1. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
2. Naughton and H.Schildt, Java 2 - The complete reference, Tata McGraw-Hill, Fourth edition, 2006.
3. Elliotte Rusty Harold, Java Network Programming, O'Reilly Publishers, 2000.
4. B.Mohamal Ibrahim , Java : J2SE – A Practical Approach, Firewall media, 2006.
5. Cay S. Horstmann, Gary Cornell, Core Java, Volume I and II, 5th Edition, Pearson Education, 2003.
6. Topley, J2ME in A Nutshell, O'Reilly Publishers, 2002.
7. Hunt, Guide to J2EE Enterprise Java, Springer Publications, 2004.
8. Ed Roman, Enterprise Java Beans, Wiley Publishers, 1998.

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Course Code	Title of the Course
10144 / 12744	**INTERNET AND JAVA PROGRAMMING - LAB**

Course Objective:

- To understand and practice markup languages
- To understand and practice embedded dynamic scripting on client side Internet Programming
- To understand and practice web development techniques on client-side

Course Requirement:

- Basic concepts of Web and Java programming

Course Outcome:

- Explore markup languages features and create interactive web pages using them
- Learn and design Client side validation using scripting languages
- Acquire knowledge about Open source JavaScript libraries
- Able to design front end web page and connect to the back end databases.

Experiments based on Internet Programming Theory

Unit No.	Contents
	BLOCK 1 : JAVA FUNDAMENTAL PROBLEMS:
1	Simple Java Problems
2	class and objects
3	Conditional control using java
4	Looping using java
	BLOCK 2 : OOP CONCEPTS
5	Function overloading programs
6	Operator overloading programs
7	Inheritance programs, Packages
8	Polymorphism programs Message passing programs
	BLOCK 3 : THREAD & VIRTUAL FUNCTION
9	Threads
10	Virtual function programs
	BLOCK 4 : I/O AND EXCEPTION HANDLING
11	Exception handling programs
12	I/O manipulation programs,
	BLOCK 4 :NETWORK PROGRAMMING
13	Applet programs
14	Implementation of simple network programs using java

Reference books:

1. R. Krishnamoorthy and S. Prabhu, Internet and Java Programming, New Age International Publishers, 2004 (Unit I).
2. Programming with Java, 4e, E. Balagurusamy, Tata McGraw-Hill, 2010.
3. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
4. Naughton and H.Schildt, Java 2 - The complete reference, Tata McGraw-Hill, Fourth edition, 2006.
5. Elliotte Rusty Harold, Java Network Programming, O'Reilly Publishers, 2000.
6. B.Mohamal Ibrahim , Java : J2SE – A Practical Approach, Firewall media, 2006.
7. Cay S. Horstmann, Gary Cornell, Core Java, Volume I and II, 5th Edition, Pearson Education, 2003.
8. Topley, J2ME in A Nutshell, O'Reilly Publishers, 2002.
9. Hunt, Guide to J2EE Enterprise Java, Springer Publications, 2004.
10. Ed Roman, Enterprise Java Beans, Wiley Publishers, 1998.

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THIRD YEAR
SEMESTER V

Course Code	Title of the Course
10151 / 12751	ACCOUNTING FUNDAMENTALS

Course Objectives:

- To understand the process of estimating the cost of a particular product.
- To Prepare the estimate for various business activities such as purchase, sale, production and cash budgets

Course Requirements:

- Basic principles of Accounting
-

Course Outcome:

- Able to do balance sheet preparation and do analysis
- Able to do the budget preparation, ratio analysis and control of a company.

Unit No.	Contents
	BLOCK 1 : ACCOUNTING FUNDAMENTALS
1	**Introduction:** Accounting - Definition - Accounting for historical function and managerial function
2	**Scope of accounting** - Financial accounting - Cost accounting and management accounting
3	Managerial uses - Differences.
	BLOCK 2 : FINANCIAL ACCOUNTING:
4	**Accounting concepts** - Conventions - Principles
5	**Accounting standards** - International Accounting standards.
	BLOCK 3 : DOUBLE ENTRY SYSTEM OF ACCOUNTING
6	Double entry system of accounting - Accounting Books - Preparation of Journal and Ledger
7	Subsidiary books Errors and rectification
8	Preparation of a Trial balance and Final accounts
	BLOCK 4 : ACCOUNTING FROM INCOMPLETE RECORDS
9	**Introduction:** Accounting from incomplete records – Statement of affairs methods – Conversion method
10	Preparation of Trading, Profit and Loss Account from incomplete records.
11	Balance Sheet from incomplete records.
	BLOCK 5 : RATIO ANALYSIS
12	Ratio Analysis - Types - Profitability ratios - turnover ratios - liquidity ratios - propriety ratios - Market Earnings Ratios

13	Factors affecting efficiency of ratios - How to make effective use of ratio analysis - Uses and limitation of ratios.
14	Construction of Profit & Loss account and Balance sheet with ratios and relevant figures - Inter-firm, Intra-firm comparisons.

REFERENCE BOOKS:

1. M.A.Arulanandam & K.S.Raman - Advanced Accounting
2. R.C.Gupta & Radaswamy - Advanced Accounting
3. M.C.Shukla & T.S.Grewal - Advanced Accounting
4. Jain & Narang - Advanced Cost Accounting
5. P. Das Gupta - Advanced Studies in Cost Accounting
6. S.N.Maheswari - Management Accounting & Financial Control
7. Manmohan & Goyal - Principles of Management Accounting
8. N.K.Prasad - Advanced Cost Accounting

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Course Code	Title of the Course
10152 / 12752	**COMPUTER GRAPHICS**

Course Objectives:

- To understand computational development of graphics
- To provide in-depth knowledge of display systems, image synthesis, shape modeling of 3D application.

Course Outcome:

- Enhance the perspective of modern computer system with modeling, analysis and interpretation of 2D and 3D visual information.
- Able to develop interactive animations.

Unit No.	Contents
	BLOCK 1 : INTRODUCTION
1	**Introduction** Application areas of Computer Graphics, overview of graphics systems, video-display devices, raster-scan systems, random scan systems, graphics monitors and work stations and input devices.
2	**Output primitives:** Points and lines, line drawing algorithms, mid-point circle and ellipse algorithms.
3	**Filled area primitives:** Scan line polygon fill algorithm, boundary-fill and flood-fill algorithms.
	BLOCK 2 : 2 D TRANSFORM AND CLIPPING
4	**2-D geometrical transform:** Translation, scaling, rotation, reflection and

	shear transformations
5	**2D Matrix representations:** homogeneous coordinates, composite transforms, transformations between coordinate systems.
6	**2-D viewing:** The viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions,
7	**Clipping Algorithms:** Cohen-Sutherland and Cyrus-beck line clipping algorithms, Sutherland –Hodgeman polygon clipping algorithm.
	BLOCK 3 : 3D OBJECT REPRESENTATION
8	**Introduction:** Polygon surfaces, quadric surfaces, spline representation,
9	**Curve and surfaces:** Hermite curve, Bezier curve and B-Spline curves, Bezier and B-Spline surfaces. Basic illumination models, polygon rendering methods.
	BLOCK 4 : 3D GEMETRIC TRANSFORMATION
10	**3-D Geometric transformations:** Translation, rotation, scaling, reflection and shear transformations, composite transformations.
11	**3-D viewing:** Viewing pipeline, viewing coordinates, view volume and general projection transforms and clipping.
	BLOCK 5 : VISIBLE SURFACE DETECTION METHODS AND ANIMATION
12	**Classification**, back-face detection, depth-buffer, scan-line, depth sorting, BSP-tree methods, area sub-division and octree methods.
13	**Computer animation:** Design of animation sequence, general computer animation functions, raster animation,
14	**Other Animation Techniques:** Computer animation languages, key frame systems, motion specifications.

Text Books

1. Donald Hearn and M.Pauline Baker, Computer Graphics C version, Pearson Education, 2007.

Reference Books:

1. M. Newman and F. Sproull, Interactive Computer Graphics, McGraw Hill 2004
2. Foley, VanDam, Feiner and Hughes, Computer Graphics Principles and Practice, 2nd Edition in C, Pearson Education, 2004.
3. Plastok and Gordon Kalley, Computer, McGraw Hill 2000.

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Course Code	Title of the Course
10153 / 12753	**OPERATING SYSTEMS**

Course Objective

- Able to understand the operating system principles
- Able to know the Principles of Deadlock, processor scheduling and memory management.

Course Requirements:

- To be aware of the evolution and fundamental principles of operating system, processes and their communication

Course Outcome

- Students have acquired the knowledge about the types of operating systems
- Students have acquired the knowledge about the functions of operating system

Unit No.	Contents
	BLOCK 1 : INTRODUCTION
1	**Introduction:** Definition of Operating Systems – Computer System Organization
2	**Computer System Architecture** – Operating System Structure – Operating System Operations
3	**System Structures:** Operating System Services – System Calls – System Programs – Operating System Design and Implementation.
	BLOCK 2 : PROCESS CONCEPT
4	**Process Concept:** Process Scheduling – Operations on Processes – Inter Process Communication
5	**Process Scheduling:** Scheduling Concepts – Scheduling Criteria – Scheduling Algorithms – Multiple Processor Scheduling
	BLOCK 3 : SYNCHRONIZATION
6	**Synchronization:** The Critical Section Problem – Synchronization Hardware – Semaphores – Classic Problems of Synchronization – Monitors
7	**Deadlocks:** Deadlocks Characterization – Methods for Handling Deadlocks
8	**Deadlock** Prevention – Avoidance – Detection –Recovery from Deadlock.
	BLOCK 4 : MEMORY MANAGEMENT
9	**Memory Management Strategies:** Swapping – Contiguous Memory Allocation – Paging – Segmentation
	BLOCK 5 : FILE SYSTEM
10	**File Concept** – Access Methods – Directory
11	**Structure** – File System Mounting – File Sharing – Protection.
12	**Implementing File Systems:** File System Structure – File System Implementation
13	**Directory Implementation** – Allocation Methods – Free Space Management
14	**Secondary Storage Structure:** Overview of Mass Storage Structure – Disk Structure – Disk Attachment – Disk Scheduling – Disk Management.

TEXT BOOK:

1. Abraham Silberschatz, Peter Baer Galvin and Greg Gagne, "Operating System Principles", 7th Edition, Wiley India Edition, 2008.

REFERENCE BOOKS:

1. Andrew S.Tanenbaum, Operating Systems Design and Implementation, 3rd edition, Prentice Hall, 2006.
2. Harvey M. Deitel, An Introduction to Operating Systems, 3rd Edition, Addison Wesley 2007.

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Course Code	Title of the Course
10154 / 12754	UNIX & SHELL PROGRAMMING LAB

Syllabi based on operating system theory
Objective of the course

- To learn and get familiar with unix/ubundo operating system
- To understand the functions unix/ubundo operating system through basic commands

Course outcome
On completion of the course

- Students will attain hands on experience in linux operating system.
- Basic unix commands their syntax and purpose can be well understood by the students
- Shell commands and their syntax and purpose can be well understood by the students

Unit No.	Contents
	BLOCK 1 INTRODUCTION
1	**Introduction** Operating system ,objective, History, Features of Unix
2	**Kernal and shell**
3	**Unix file system:** File and common commands-Shell-More about files-Directories-Unix system-Basics of file-Directories and filenames-
	BLOCK 2 : UNIX PERMISSIONS
4	**Permissions**- Inodes-Directory hierarchy-Devices-the grep family-Other filters
5	**Stream editor** sed - awk pattern scanning and processing language-files and good filters.
6	**Wild card characters**
	BLOCK 3 : UNIX COMMANDS
7	**Unix commands with syntax:** Syntax and unix commands
8	**Unix shells:** History of unix shells
9	**Deciding on a shell**
	BLOCK 4 : SHELL COMMADS - FILES
10	**Shell Command files**
11	**Bourne shell**: Bourne shell programming
12	**Shell programming files:** Shell programming on files
	BLOCK 5 : MENU DRIVEN SHELL PROGRAM:
13	**Menu Driven File handling**
14	**Menu Driven shell program – file:** edit, create and delete file using menu

REFERENCE BOOKS:

1. Abraham Silberschatz, Peter Baer Galvin and Greg Gagne, "Operating System Principles", 7th Edition, Wiley India Edition, 2008.
2. Andrew S.Tanenbaum, Operating Systems Design and Implementation, 3rd edition, Prentice Hall, 2006.
3. Harvey M. Deitel, An Introduction to Operating Systems, 3rd Edition, Addison Wesley 2007.

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SEMESTER VI

Course Code	Title of the Course
10161 / 12761	**MANAGEMENT PRINCIPLES AND TECHNIQUES**

Course Objectives

To learn about the concept of management
To understand the Linear Programming problems
To know about PERT/CPM and replacement theory

Course Outcome

Can solve the liner programming and PERT/CPM problems

Unit No.	Contents
	BLOCK 1 : INTRODUCTION TO MANAGEMENT
1	**Introduction :** Concept and Definition of Management - Management Functions
2	**Planning :** Principles - Planning - Planning Process - Decision-making
3	**Organising** - Structure - Delegation - Staffing - Direction - communication - Motivation - Leadership - Control.
	BLOCK 2 : LINEAR PROGRAMMING
4	**Introduction** - History of OR - Meaning of OR - Principles of Modelling - Application of OR
5	Formulation of LP models - Graphical solution in Maximization problem and Minimization Problem - Algebraic solutions
6	**Simplex method** - Feasibility - Optimality - Artificial variables - Duality - Dual - simplex Algorithm
7	**Transportation problem** - finding Optimal solution - Assignment problem - Least Time Transportation problems.
	BLOCK 3 : PERT / CPM
8	PERT/CPM : Arrow (network) diagram representations - Time estimates - critical path - Floats
9	Construction of Time chart and Resource Levelling

10	Probability and cost considerations in project scheduling - Shortest Route Problem - Project control.
	BLOCK 4 : REPLACEMENT THEORY
11	**Replacement Theory : Introduction** - Various replacement situations
12	**Replacement policy** - Variable maintenance costs and fixed money value - Variable maintenance costs and Variable money value
	BLOCK 5 ; REPLACEMENT POLICY
13	Individual replacement policy - Group replacement policy
14	Reliability - Applications of Replacement problems in real life problem.

REFERENCE BOOKS:

1. Hamdy A Taha, Operations Research An Introduction, Macmillan Publishing Company (1982)
2. Don.T.Philps, A.Ravindran, James.J.Solberg, Operations Research - Principles and Practice, John Wiley & Sons (1976).
3. Richard I Lenin, Charles A.Kirkpatrick, David S Rubin, Quantitative Approach to Management.

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Course Code	Title of the Course
10162 / 12762	**SYSTEM ANALYSIS AND DESIGN**

Course Objectives

To understand about the system and its Development life cycle
To be able to analyze, design, develop, implement and maintain software system.

Course Outcome

On Successful completion of the course the students should have:

- Understood the life cycle of the software development.
- Able to prepare software system documentation

Unit No.	Contents
	BLOCK 1 : SYSTEM CONCEPTS AND SYSTEM DEVELOPMENT LIFE CYCLE
1	**System Concepts** - Characteristics - Elements of a system - Types of Systems: Abstract, Physical, Open, Closed and Man-made Information system - Computer Based Information Systems: MIS, DSS, TPS and OAS
2	**System Development Life Cycle** - Problem Definition - Feasibility Study - Analysis - Design - Development - Implementation - Post Implementation and Maintenance
3	**System Analyst :** Interpersonal Skills - Technical Skill - Communication Skills - Role of Systems Analyst.
	BLOCK 2 : SYSTEM ANALYSIS
4	**System Analysis :** Bases for planning in System Analysis - Preliminary Investigation - Determining the User's information requirements, Case Scenario, Problem Definition and Project Initiation, Background Analysis

5	**Fact Finding Techniques :** Interview - Questionnaire - Record Review - Observation. Systems Analysis: Analysing Systems data - Feasibility Study: Technical, Economical and Operational - Steps in Feasibility Analysis, Feasibility Report, Oral Presentation
6	**Systems Costs & Benefits:** Categories of Cost - Benefits - Cost Benefit Analysis: Break Even, Present Value, Pay Back and Cash Flow. **Analysis Tools :** Data flow concept - Data Flow Diagram - Data Dictionary - Decision Table - Decision Tree - Structured English.
	BLOCK 3 : SYSTEM DESIGN
7	**System Design :** Process and stages of System Design : Logical and Physical Design. Design Methodologies: Structured design - Form Driven Methodology - Major Development Activities
8	**Input Output and Form Design:** Input Design : Capturing Data for input - Input Validation - Input Design of on-line systems. Output Design - Printed, Display and Audio.
9	**Forms Design :** Definition - Classification of Forms, Requirements of Forms Design - Types of Forms - Forms Control.
	BLOCK 4 : FILE AND DATABASE DESIGN:
10	**File concepts** - Types of Files - Methods of File Organization - Sequential - Direct - Indexed - Database Design: Database concept
11	**Types of Databases :** Hierarchical, Network and Relational.
12	**System Development**: Software Design - Top Down Approach - Flow Chart: System Flow Chart - Program Flow Chart - HIPO - IPO - VTOC - Warnier Orr Diagram - Structured Walkthrough - Quality Assurance - Levels of Assurance - System Testing - Special Systems Tests
	BLOCK 4 : SYSTEM EVALUATION,IMPLEMENTATION AND MAINTENANCE
13	**System Evaluation and Implementation** Training Personnel - Training Methods - Conversion: Conversion Methods - Parallel, Direct, Pilot and Phase-in. Conversion Plan - Site Preparation - Data and File Preparation - Post Implementation Review -
14	**System Maintenance :** Corrective - Adaptive - Hardware and Software Selection : Computer Industry - Software Industry - Procedure of Hardware and Software Selection: Major phases in Hardware and Software selection - Evaluation Process - Financial considerations.

Text Book

Elias M.Awad, Systems Analysis and Design, 1990, Galgotia Publication Pvt. Ltd.

Reference Book:

1. James A. Sen, Analysis and Design of Information System, 1985, McGraw Hill.

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COURSE CODE	TITLE OF THE COURSE
10163 / 12763	VISUAL BASIC PROGRAMMING

Course objectives

- To be able to understand the fundamentals of windows GUI

- To be able to run variable applications on windows
- To be able to understand visual Basic Programming concepts

Course outcome

- Students can develop GUI based applications using VB

Unit No	Concepts
	BLOCK 1: VISUAL BASIC CONCEPTS
1	**Introduction to GUI** - Visual Basic : Starting and Exiting Visual Basic Project Explorer Working with Forms Properties Window
2	**Using the Toolbox** Toolbars Working with Projects Programming Structure of Visual Basic applications Event and Event driven Procedures
3	**Program Design** - Form and Controls - Writing the Code - Saving, Running and Testing - Making EXE File - Printouts
	BLOCK 2 : VISUAL BASIC CODE,EVENTS AND CONTROLS
4	**Adding code and using events**: Using literals data types - declaring and using variables using the operator subroutines and functions
5	**Looping and decision control structures:** if then else ,structure select structure , for next , do.. loop and while.. wend.
6	**Using intrinsic Visual basic Controls with methods and Properties:** Label ,Text box, Command button, Frame, Checkbox, option button, List box, Combo box, Drive List box, directory List box and file list box Formatting controls control arrays, Tab order
	BLOCK 3 : VISUAL BASIC PROCEDURES, FUNCTIONS AND ARRAYS
7	**Creating Procedures, functions** - String functions, date and Time function , numeric functions- Recursive Functions
8	**Multiple Forms** - Startup Forms - SubMain Procedure
9	**Arrays** - Control Arrays - Indexing and Event Handling - Graphics
	BLOCK 4 : MENUS AND MDI FORMS
10	**Menus:** creating menus, adding code to menus
11	**Using MDI forms** - MDI form basic building MDI form creating MDI Child Forms
	BLOCK 5: DATABASE OBJECT (DAO) AND PROPERTIES
12	Database object (DAO) and properties -accessing Recordset objects- Move first, MoveLast, MovePrevious and MoveNext methods Begin , Commit and Rollback transaction accessing Microsoft Access files.
13	Active Data Objects (ADO) ADO and OLE DB and ADO Primer What are OLE DB and ADO? ADO object Model Converting DAO Code to Use ADO.
14	Connecting to the database Retrieving a recordset Creating a query dynamically Using a parameterized query using action queries - Adding records Editing records closing the database connection**.**

Text Books

1. Gary Cornwell Visual basic 6 , Tata McGraw Hill

Reference Books:

1. Scott warner Teach yourself Visual basic 6 , Tata McGraw-Hill
2. Noel Jerke The Complete Reference , Tata McGraw-Hill
3. Eric A. Smith, Valar Whisler, and Hank Marquis Visual Basic 6 programming

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COURSE CODE	TITLE OF THE COURSE
10164 / 12764	VISUAL BASIC PROGRAMMING LAB

Course objectives

- To be able to understand the fundamentals of windows GUI
- To be able to run variable applications on windows
- To be able to understand visual Basic Programming concepts

Course outcome

- Students can develop GUI based applications using VB

Unit No.	Contents
1	Building simple applications
2	Working with intrinsic controls ,Control Arrays
3	Application with multiple forms
4	Application with dialogs
5	Application with Menus
6	Application using data controls
7	Application using Common Dialogs
8	Drag and Drop Events
9	Database Management
10	Creating ActiveX Controls
11	Database object (DAO) and properties
12	Active Data Objects (ADO) ADO and OLE DB
13	Connecting to the database ,Retrieving a recordset Creating a query dynamically Using a parameterized query using action queries - Adding records Editing records closing the database connection
14	**Simple Application development:** 1. Library information system 2. Students mark sheet processing 3. Telephone directory maintenance 4. Gas booking and delivering 5. Electricity bill processing 6. Bank Transaction 7. Pay roll processing 8. Personal information system 9. Question database and conducting Quiz 10. Personal diary

Text Books

1. Gary Cornwell Visual basic 6 , Tata McGraw Hill

Reference Books:

2. Scott warner Teach yourself Visual basic 6 , Tata McGraw-Hill

3. Noel Jerke The Complete Reference , Tata McGraw-Hill

4. Eric A. Smith, Valar Whisler, and Hank Marquis Visual Basic 6 programming

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MINUTES OF THE MEETING OF THE BOARD OF STUDIES FOR BACHELOR OF COMPUTER APPLICATIONS (B.C.A) PROGRAMME

Minutes of the Meeting of the Board of Studies in Computer Science for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc. (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) Programmes to be offered through Open Distance Learning (ODL) Mode held at The Directorate of Distance Education, Alagappa University, Karaikudi – 630 003, on 04.09.2017, (11.00 A.M).

Members Present

1.	Dr. V. Palanisamy	-	Chairman
2.	Dr. E.Ramaraj	-	Member
3.	Dr. K.Kuppusamy	-	Member
4.	Dr. T.Meyyappan	-	Member
5.	Dr. S.S.Dhenakaran	-	Member
6.	Dr. K.Mahesh	-	Special Invitee
7.	Dr. A. Padmapriya	-	Special Invitee
8.	Dr. P. Prabhu	-	Member
9.	Mr.S.Balasubramanian	-	Member

After the deliberation and discussion the board resolved the following:

1. The Board considered the curriculum design and detailed syllabi of Computer Science programmes, prepared as per the norms and the Board scrutinized and necessary modifications are specified.

2. The Board resolved to approve curriculum design, detailed syllabi and other regulations for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) programmes to be offered from 2018-2019 academic year onwards by the Directorate of Distance Education of Alagappa University, Karaikudi.

Dr. V. Palanisamy

Dr. E.Ramaraj

Dr. K.Kuppusamy

Dr. T.Meyyappan

Dr. S.S.Dhenakaran

Dr. K.Mahesh

Dr. A. Padmapriya

Dr. P. Prabhu

Mr.S.Balasubramanian

PROGRAMME PROJECT REPORT FOR BACHELOR OF EDUCATION (B. Ed.)

a) PROGRAMME MISSION AND OBJECTIVES

Mission

Teaching is a profession for which aspirants have to be prepared through rigorous education and training. It is often emphasized that the teachers need to be prepared through effective pre-service, followed by periodical in- service teacher education, to develop and update them in the necessary knowledge, skills, attitudes and values. Being an in service teachers having experience in this profession for some time. You must have experienced many problems and questions must have risen in your mind. This programme will help to solve those problems in a better manner and try to answer those questions. Besides, this programme will strive to confirm your ideas, provide coherence to your thinking, ratify your practices and further sharpen your perspective in education.

Programme Objectives

- To understand the importance of philosophical sociological and cultural aspects of Education.
- To apply the principles of learning and teaching in Education.
- To foster all- round growth and development of the students.
- To organize the Skills of teaching experiences on teaching different school subjects.
- To develop problem solving behaviors in Education.
- To understand the role of home, school and community in shaping the personality of the learner, and develop an amicable home-school relationship for mutual benefit.
- To undertake investigatory projects and action research to improve the system.

b) RELEVANCE OF THE PROGRAMME WITH HEI'S MISSION AND GOALS

In parallel with technological advances in today's world of education activities can be conducted without the constraints of time and space. One of the most important of these activities is distance education. The B.Ed. programme through Distance Mode of Alagappa University is offered by the Directorate of Distance Education. This programme is designed specifically for in- service teachers who wish to enhance their teaching skills and techniques.

The Directorate of Distance Education of the University has a team of well qualified and experienced teachers. They are available for academic counseling, guidance and help. Thus the introduction of B.Ed. Programme in the Directorate of Distance Education will contribute substantially in fulfilling the mission of Alagappa University.

c) NATURE OF PROSPECTIVE TARGET GROUP OF LEARNERS

This programme is meant to systematize and give a method and structure to learner experiences. Specifically, this programme aims at enhancing the professional competencies and skills of the teachers working in elementary, secondary and higher secondary schools. The target groups are trained in-service teachers.

d) APPROPRIATENESS OF PROGRAMME

B.Ed. Distance Education Programme provides opportunities for the 'in-service' teachers to understand the latest trends in teaching and learning process. It also helps to understand the psychological principles of growth and development, individual differences and cognitive, psychomotor and attitudinal learning. It enables the in-service teachers to develop their skills in identifying, selecting, innovating and organizing learning experiences for teaching school subjects.

e) INSTRUCTIONAL DESIGN

Curriculum Design

S. No	Code No.	Title of the paper	Int. Marks	Ext. Marks	Total Marks	Credits
First Semester						
01	**70111**	Contemporary India and Education	25	75	100	4
02	**70112**	Educational Psychology	25	75	100	4
03	**70113 A/B**	**Optional – I** Tamil/ English	25	75	100	4
04	**70114**	**Practical – I** Enhancing Professional Capacities	--	200	200	8
Total			**75**	**425**	**500**	**20**
Second Semester						
05	**70121**	Educational Evaluation	25	75	100	4
06	**70122**	Curriculum and instruction	25	75	100	4
07	**70123 A/B/ C/D/E/F/G**	**Optional-II** Tamil/ English/ Mathematics/Science/Social Studies/Commerce/Economics	25	75	100	4
08	**70124**	**Practical – II** General Practicum Components	--	200	200	8
Total			**75**	**425**	**500**	**20**
Third Semester						
09	**70131**	Critical Understanding of ICT	25	75	100	4
10	**70132**	Guidance and Counselling	25	75	100	4
11	**70133**	Environmental Education	25	75	100	4
12	**70134**	**Practical – III** School based Learning activities	--	200	200	8
Total			**75**	**425**	**500**	**20**
Fourth Semester						
13	**70141**	Educational Technology	25	75	100	4
14	**70142**	**Practical – IV** School Internship/ practice Teaching	--	400	400	16
Total			**25**	**475**	**500**	**20**
No. of credits per semester- 20						
Total No. of credits programme – 4 X 20= 80						
Total Marks- 2000						

B.Ed. - Distance Education 2015-2016 onwards –Practicum Component

70114 Practical – I Enhancing Professional Capacities -200 Marks (8 credits)

S. No.	Activity	Maximum Marks	Credits
1.	Reading and reflecting on text	50	2
2.	Drama and Arts in Education	50	2
3.	Understanding Self	50	2
4.	Application of ICT	50	2

70124 Practical – II General Practicum Components -200 Marks (8 credits)

S. No.	Subjects	Maximum Marks	Credits
1.	Yoga Education	50	2
2.	Language Across the curriculum	50	2
3.	Inclusive Education	50	2
4.	Gender Studies	50	2

70134 Practical – III School based Learning Activities-200 Marks (8 credits)

S. No.	Activity	Maximum Marks	Credits
1.	Addressing School Assembly on different themes	50	2
2.	Preparation of school time table	50	2
3.	Organizing Quiz/Debate/Parent teacher Association	50	2
4.	Maintenance of a school Register	50	2

70142 Practical – IV School Internship/ Practice teaching – 400 marks (16 credits)

S. No.	Subjects/Records	Maximum Marks	Total	Credits
1.	Pedagogy Optional I Preparation and utilization of teaching aids Teaching competence	25 75	100	4
2.	Pedagogy-Optional II Teaching Competence Preparation and utilization of teaching Aids	75 25	100	4
3.	**Observation** Pedagogy –Optional I Pedagogy –Optional II	 25 25	50	2
4.	**Lesson Plan** Pedagogy Optional –I Pedagogy Optional -II	 25 25	50	2
5.	**Micro Teaching** Pedagogy Optional –I Pedagogy Optional -II	 25 25	50	2
6.	**Test and Measurement** Pedagogy Optional –I Pedagogy Optional -II	 25 25	50	2

Practicum –Total Marks: 1000, Total Credits: 40.

DETAILED SYLLABI: (Annexure- I)

Duration of the Programme & Structure

The course shall consist of two academic years divided into four semesters. In any case, the programme will have to be completed by the student within a maximum period of 5 years after enrolment. Otherwise the candidate's registration/ enrolment will get cancelled automatically.

The programme consists of Compulsory Core Courses, Content Methodology Courses and Elective Courses. The practical course will be School- Based practical & Practice Teaching.

Faculty and Support Staff Requirements

Staff Category	Required
Professor	**1**
Associate Professor	**2**
Assistant Professor	**4**
Clerical Assistant	**1**

Instructional Delivery Mechanism

- **Medium of Instruction**

  The medium of instruction will be English. However students will be allowed to write the term – end examinations both in English and Tamil.

- **Self Instructional Written Materials**

  The printed self-instructional material of the programme is supplied to the learners**.**

- **Personal Contact Programmes and Workshop (As per NCTE Norms)**

  There are 12 days of compulsory workshop spreading 6 days each for first year and the second year of the study. In addition, there is another 28 days of optional PCPs /counseling classes spreading 14 days in the first year and 14 days in the second year of study. Practicum related to teaching competency, micro-teaching, preparation and use of teaching aids, and test and assessment related to both the optional I and II will be conducted in the first year workshop, while remaining practicum activities will be conducted in the second year. The content subjects of the course will be dealt during the PCPs/counseling classes of first and second years.

f) PROCEDURE FOR ADMISSION, CURRICULUM TRANSACTION AND EVALUATION

Eligibility for admission to the course

a. Trained in-service Teachers in any Government recognized school within Tamil Nadu state who have completed NCTE recognized Teacher Education Programme through face-to-face mode / Trained In-service teacher with D.T.Ed. In any Government recognized school within Tamil Nadu state.

b. Candidates must be presently working as a teacher in a Government recognized school/ Private School in Tamil Nadu.

c. Candidate should have successfully undergone the 10+2+3 or 11+1+3 pattern of examination in the following discipline from a recognized University Tamil (B.A/B.Litt.)/English/Mathematics/Physics/AppliedPhysics/Chemistry/Applied.Chemistry/Biochemistry/Zoology/Botany/Microbiology/Biotechnology/Environmental Science / History / Geography/ Applied Geography/Computer Science/Computer Applications/ Information Technology.

d. In case of Economics, Commerce and Home Science, the candidates should have studied the same subjects in UG and PG levels

Intake duration and admission procedure

As per the direction of NCTE (SRC) Bangalore, in B.Ed. (Distance mode) the total strength of seats for admission is 500. The programme is for a period of 2 years. In any case, the course will have to be completed by the student within a maximum period of 5 years after enrollment. The procedure of admission is as per the norms of the university. Admission is based on the reservation policy of the Government of Tamilnadu.

Fee Structure- Per year

Nature of fee	Amount in Rs.	
	First Year	Second Year
Application Processing Fee	**500**	**--**
Course Fee	**20000**	**20000**
ICT	**150**	**150**
Total	**20650**	**20150**

The above mentioned fee structure is exclusive of Exam fees.

Examinations

Eligibility for admission to the examination

As attending the workshop is compulsory, a list of attended students of the workshop is to be sent to the examination section from the Department of Education (DDE) and they alone are eligible to write the examinations. Those who are not attended the workshop are not eligible to write the examinations.

Question paper design

Each theory subject question will be designed for 3 hours in three sections Part-I, Part-II and Part-III with the number of questions and allotments of Marks as described below:

Part	Type of Questions	Marks	Total
Part –I	Very Short Answer	10x2	20
Part –II	Short Answer (Five questions out of Eight)	5 x5	25
Part –III	Two Essay type with Internal Choice	2x15	30
	Total Marks		**75**

Scheme of evaluation for theory papers

The scheme of evaluation of CIA and TEE is as follows:

Scheme of Evaluation

For each Theory Course	Maximum Marks	Minimum Marks
Continuous Internal Assessment	25	16 *
Term-End Examinations	75	34
Total	**100**	**50**

***** If minimum marks not achieved, the student may re-submit the Practicum oriented and theory oriented assignments by paying assignment submission fee prescribed by the University time to time

Scheme of evaluation for practicum

The student has to secure 50% in each and every category of practicum examinations.

Classification of Result

Marks	Grade Point	CGPA	Letter Grade	Description
96 and above 91-95	10 9.5	9.51 and above 9.01-9.50	S+ S	First Class – Exemplary
86-90 81-85 76-80	9.0 8.5 8.0	8.51-9.00 8.01-8.50 7.51-8.00	D++ D+ D	First Class Distinction
71-75 66-70 61-65	7.5 7.0 6.5	7.01-7.50 6.51-7.00 6.01-6.50	A++ A+ A	First Class
56-60 50-55	6.0 5.5	5.51-6.00 5.00-5.50	B C	Second Class
Below 50	-	Below5.00	RA	Re-appear
			A	Absent

Passing Minimum 50% P: Pass, ESE: End Semester Examination, CIA: Continuous Internal Assessment

$$GPA = \frac{\Sigma (CDT \times GPT)}{\Sigma CDT}$$

Where: CDT – No. of credits of core, optional and elective courses

GPT= Grade Point (obtained by dividing the percentage of marks scored by 10)

g) REQUIREMENT OF THE LABORATROY SUPPORT AND LIBRARY RESOURCES

The Central Library is one of the important central facilities of Alagappa University. It has text book, reference books, conference proceedings, back volumes, standards, and non-book material such as CD-ROMs and audios. The central library procured several e-books in different areas. The library also subscribes to about 250 current periodicals.

All routine functions of the library are automated with the help of an integrated library software package, SOUL, developed and distributed by UGC INFLIPNET. The database for the entire collection has been created and available through online Public Access

Catalogue (OPAC) to the users via campus network. Now this facility is also available through Institute's Intranet as a web enabled OPAC.

h) COST ESTIMATE OF THE PROGRAMME AND THE PROVISIONS

The cost estimate of the programme and the provisions will be followed as per the direction of University norms for the respective programmes.

Cost estimate of the programme and the provisions:

S. No.	Head Wise Expenditure	Amount Rs.
01	Pay & Allowances (One Professor+ Two Associate Professors+ Four Assistant professors)	79,50,864
02	CPS Contribution	28,325
03	Lesson Writing Remuneration	2,23,270
04	Personal contact programme	11,91,000
05	Induction programmes	85,000
06	Printing of course Materials	2,27,105
07	Courier Charges	50,000
08	Hospitality	1,60,000
09	Board of Studies	20,000
10	Advertisement Charges	36,260
11	Stationary Charges	5,000
12	Printing of Prospectus	9250
Total Expenditure		99,86,074

i) QUALITY ASSURANCE MECHANISM AND EXPECTED PROGRAMME OUTCOMES

The University Moto is 'Excellence is Action' and the University Vision statement is - Achieving Excellence in all spheres of Education, with particular emphasis on **"PEARL"**– Pedagogy, Extension, Administration, Research and Learning. The University Quality Policy is to attain Benchmark Quality in every domain of **'PEARL'** to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution. The University Quality Quote is Quality Unleashes Opportunities towards Excellence (QUOTE).

From the beginning, i.e. even from the Pre-admission phase the students will be taken cared in terms of guidance by our academic and administrative members. At most care and support will be provided during the study period. Before and after examination proper guidance and counseling will be provided. The feedback from students on teaching will be collected every semester using appropriate feedback formats. Experience with the curriculum will be collected based on the discussion along with students and teachers.

The Expected Programme Outcomes are;

- Attainment of knowledge about learning and learners through the history, philosophies, sociology and current issues and practices of education.
- Understanding the physical, social and emotional dimensions of learners and learning.
- Appreciating the importance of various teaching and learning strategies.
- Development of knowledge and understanding of education policies, appropriate curricula, learning theory and practice, Indigenous Indian and other cultures.
- Knowledge of education theory and practice from a global perspective.
- Understanding the discipline and the profession.
- Enrichment of knowledge in their field of education and/or teaching discipline(s) and the learning theory and practice relevant in that field or discipline.
- Applying the principles and concepts of a broad range of fundamental areas in teaching and learning process.
- Development of skill of teaching.
- Realizing the importance of ICT, Environmental Education and Educational Technology.

ANNEXURE- I

Detailed Syllabi

70111 - CONTEMPORARY INDIA AND EDUCATION

OBJECTIVES

At the end of the course, the student-teachers will be able to

- ❖ know the meaning, definition and nature of Education and Philosophy
- ❖ understand the relationship between education and philosophy and different Indian and Western philosophies
- ❖ apprise the principles of education advocated by great Indian and Western philosophers
- ❖ develop an understanding of Sociology and Education
- ❖ understand the role of family, community, school and mass media in education
- ❖ get exposed to social and educational problems
- ❖ appreciate the social values and personal values of teachers
- ❖ acquire the knowledge about the educational provisions in the constitution of India
- ❖ explain the role and functions of various regulatory bodies in Education
- ❖ acquaint with the knowledge about health and nutrition

UNIT I Philosophy and Education

Education: Meaning, Definition, Nature and Scope – Philosophy: Meaning, Definition and Scope – Educational Philosophy: Meaning, Definition and Need – Relationship between education and philosophy.

UNIT II Contribution of Indian Philosophy in Education

Major Schools of Indian Philosophy:

(i) Hinduism

(ii) Buddhism

(iii) Jainism.

UNIT III Contribution of Indian Thinkers to Education

Educational thoughts of Indian thinkers:

(i) Vivekananda

(ii) Mahatma Gandhi

(iii) Tagore

(iv) Aurobindo.

UNIT IV Contribution of Western Philosophy in Education

Contribution of Western Philosophy in Education

(i) Naturalism

(ii) Idealism

(iii) Pragmatism

(iv) Realism

(v) Eclectism.

UNIT V Contribution of Western Thinkers to Education

Educational Thoughts of Western thinkers:

(i) Rousseau

(ii) Frobel

(iii) Montessori

(iv) John Dewey.

UNIT VI Sociology and Education

Concept of Sociology

Relationship between Sociology and Education

Socialization – Culture

Social mobility – Social-stratification

Social change – Modernization.

UNIT VII Agencies of Education

Educational influence of family, community, religion, school and Mass media

Formal and non-formal systems of education

Open University system

Distance Education.

UNITVIII Problems in Indian Society and Education- I

Population explosion – Unemployment – Under employment – Illiteracy – Child labour – Communal violence – Terrorism – Universalisation of primary education.

UNIT IX Problems in Indian Society and Education- II

Stagnation

Wastage

Special education for differentially abled and gifted

Women education

Brain Drain.

UNIT X Value Education and the Teacher

Value: Definition, classification – Value education in schools – Teachers personal values and code of ethics – Personal and professional development of teachers.

UNIT XI Indian Constitution and Education

Directive Principles – Article 45 – Responsibilities of Central and State Governments – Amendments related to education

UNIT XII University Education Commission

University Education Commission – Indian Education Commission – Secondary Education Commission – Ishwarbhai Patel Committee – NPE 1986.

UNIT XIII Regulatory Bodies of Education

MHRD – UGC–NIEPA –NCERT – NCTE– NAAC– TANSCHE – DTERT– DIET– CABE–CBSE.

UNIT XIV Health and Nutrition Education

The concept of health – School health programmes – Common ailments of children – First aid – Nutritional deficiencies – Balanced diet – Healthy food habit.

REFERENCE BOOKS

1. Agarwal, J.C. (1999). Theory and Principles of Education. New Delhi: Vikas Publications House Pvt. Ltd.
2. Biswal, U.N. (2005). Philosophy of Education. New Delhi: Dominant Publishers and Distributors.
3. Chandra, S.S. (1996). Principles of Education. New Delhi: Atlantic Publishers.

4. Ghanta, R. and Dash, B.N. (2005). Foundations of Education. Hyderabad: Neelkamal Publications.
5. Mathur, S.S. (1997). Sociological and Philosophical Foundations of Education. Agra: Vinod Pustak Mandir.
6. Patel, M.S. (1953). The Educational Philosophy of Mahatma Gandhi. Ahmedabad: Navjeevan Pub. House.
7. Sharma, R.A. (2008). Development of Educational System in India. Meerut: R.Lall books depot.
8. Sharma, R.N. (2008). Education in the Emerging Indian Society. Delhi: Surjeet Publications.
9. Saraswathi, T.S. (1999). Culture, Socialisation and Human Development. New Delhi: Sage Publications.

70112- EDUCATIONAL PSYCHOLOGY

OBJECTIVES

At the end of the course, the student-teachers will be able to

- ❖ acquire knowledge of nature and scope of Educational Psychology
- ❖ understand the human growth and development
- ❖ apply psychology in classroom situations
- ❖ comprehend the concept of cognitive development
- ❖ acquaint the theories of learning
- ❖ acquire knowledge about individual differences and skill provide suitable learning situations
- ❖ understand the significance of motivation
- ❖ acquire knowledge about personality intelligence and creativity
- ❖ know the importance of mental health

UNIT I Introduction to Psychology

Definition of Psychology- Schools of Psychology – Behavioural, Cognitive, Psychoanalysts, Methods of Psychology – Branches of Psychology – Educational Psychology – Concepts, Nature and Scope – Importance of Educational Psychology for the Teacher.

UNIT II Human Growth and Development

Concept of Growth and Development – Distinction between Growth and Development – Maturation and Development – Nature versus Nurture, general principles of Growth and Development.

UNIT III Dimensions of Development

Dimensions of development: Physical, cognitive, emotional, and moral – Stages of Development – Childhood to adolescence problems and Education of Adolescents – Developmental tasks and its Educational implications.

UNIT IV Cognitive Development- I

Cognitive process – Attention Factors relating to Attention – Span of Attention – Inattention and Distraction – Sensation and Perception – Factors relating to perception – Imagery.

UNIT V Cognitive Development- II

Concept Maps.

Piaget's Stages of Cognitive Development

Reasoning and problem Solving

Meta cognition – Implications for the teacher.

UNIT VI Learning

Nature and Importance of Learning – Types of Learning – Theories of Learning: Thorndike, Pavlov, Skinner, Kohler and Gagne – Learning Curve – Transfer of Learning Facilitating Transfer – Remembering and Forgetting – Improving memory.

UNIT VII Individual Differences

Nature and causes of Individual differences – Educational programme to suit individual differences – Classroom instruction – Concept of exceptional children: gifted, backward, physically mentally and socially challenged and Educational provisions.

UNIT VIII Motivation-I

Motivation: Functions of Motives – Kinds of Motives – Theories of Motivation – Maslow's Hierarchy of Needs – Achievement motivation – Components – Fear of Failure and Hope of Success.

UNIT IX Motivation-II

Motivation in the classroom context motivational functions of teacher - Praise and Blame, Rewards and Punishments – Feedback / Knowledge of results – Level of Aspiration – Characteristics of a motivated learner.

UNIT X Intelligence

Theories of Intelligence – Single, Two Factor and Multi Factor theories – Multiple Intelligence, Guilford's Structure of the Intellect – Emotional Intelligence – Individual differences in distribution of Intelligence – Test and their uses.

UNIT XI Creativity

Creativity – Relationship and differences between intelligence and creativity – Convergent and Divergent Thinking – The Process of Creativity – Guiding for Creativity – Measuring Creativity.

UNIT XII Personality

Meaning and Definitions of Personality

Determinants of Personality

Theories of personality – Psychoanalytic, humanistic.

UNIT XIII Assessment of Personality

Assessment of Personality

Important Tools and techniques

Integrated Personality.

UNIT XIV Mental Health

Conflict and Frustration – Concept of Adjustment – Adjustment Barriers – Adjustment mechanisms – Causes of maladjustment – Symptoms of Maladjustment – Defense Mechanisms – Problem children, Juvenile Delinquency – Concepts of Mental Health.

REFERENCE BOOKS

1. Judith J. (2008) Learners, learning and educational activity London Routledge
2. Graham R. (2008) Psychology: The key concepts, London, Routledge
3. Chobra, RK.(2006) Elements of educational Psychology, New Delhi Arise Publishers
4. Thomas M.H (2005) A student's guide to studying psychology, London Psychology Press.
5. Cara .F (1998) Practical for Psychology. A student workbook London, Routledge
6. Coleman, D. (1998) Working with emotional intelligence New York: Bantan Books
7. Adams J.A (1992) Learning and Memory: An Introduction Illions Dorsey Press.
8. Mangal, S.K (1981) Psychological Foundations of Education Ludhiana Parkash Bros.
9. Kokila Thangasamy.S (2007) Educational Psychology Maa Nila Pathipagam Madurai.
10. Nagarajan.K & Seetharaman (2009) Psychology of Learning & Human Development Ram Publishers, Chennai

70113A- பொதுத் தமிழ

நோக்கங்கள்

மாணவ ஆசிரியர்கள்

- ❖ தாய்மொழி கற்றலின் நோக்கங்களை அறிதல்
- ❖ தமிழ்மொழியின் பல்வேறு பயிற்று முறைகளை அறிதல்
- ❖ பாடத்திட்டம் அமைத்தலில் அமைந்துள்ள கோட்பாடுகளை அறிதல்
- ❖ கற்பித்தல் திறன்களை அறிதல்
- ❖ கேட்டுணர்தல் திறனையும் பொருளுணர்தல் திறனையும் அறிதல்
- ❖ சிறந்த படிக்கும் பழக்கங்களை வளர்த்தல்
- ❖ சிறந்த எழுத்தாற்றலை வளர்த்தல்
- ❖ செய்யுள் உரைநடைப் பாடங்களைக் கற்பித்தலின் வேறுபாடுகளை அறிதல்
- ❖ வினாத்தாள் அமைத்தலில் உள்ள பல்வேறு திறன்களை வளர்த்தல்
- ❖ தேர்வு குறித்த சிந்தனை பெறுதல்
- ❖ தமிழ் கற்பித்தலில் தகவல் நுட்பவியலைப் பயன்படுத்துதல்

அலகு- 1 தாய்மொழிக்கல்வி

தாய்மொழி – தாய்மொழி கற்பித்தலின் நோக்கங்கள் – பயன்கள் – தனிச்சிறப்பு – எண்ணத்தை வெளியிடும் கருவி – திருத்தமாகப் பேச, கேட்க, படிக்க, எழுதப் பயிற்சி அளித்தல்.

அலகு- 2 தமிழைப் பயிற்றும் முறைகள்- I

தமிழ் மொழியினைப்பயிற்றும் முறை

பண்டையோர் கண்ட பயிற்று முறை

சங்ககாலம் முதல் தற்காலம் வரையில்

விளையாட்டு முறை

நடிப்பு முறை.

அலகு- 3 தமிழைப் பயிற்றும் முறைகள்- II

செயல்திட்ட முறை

தனிப் பயிற்சி முறை

மேற்பார்வைப் படிப்பு முறை

திட்டமிட்டுக்கற்றல்

இம்முறைகளைப் பல்வேறு நிலைகளில் பயன்படுத்துதல்.

அலகு- 4 பயிற்சி ஆயத்தம்

உற்று நோக்கல் பதிவு – நோக்க அடிப்படையில் கற்பித்தல் – மொழிக்கற்பித்தல் நோக்கங்களும், நோக்கக் கூறுகளும் – பாடத் திட்டம் தயாரித்தலின் இன்றியமையாமை – நன்மைகள், தீமைகள் – ஆசிரியர் மனதிற் கொள்ளத்தக்கன – புளூமின் கற்பித்தல் கோட்பாடுகள்.

அலகு- 5 நுண்ணிலைக் கற்பித்தல்

நுண்ணிலைக் கற்பித்தல் திறன்களில் பயிற்சி – பல்வகைத் தூண்டல்களைப் பயன்படுத்தும் திறன், கிளர் வினாத்திறன், வலுவூட்டிகளைப் பயன்படுத்தும் திறன், கரும்பலகையைப் பயன்படுத்தும் திறன், உதாரணங்களைப் பயன்படுத்தும் திறன் மற்றும் இணைப்புப் பயிற்சி.

அலகு- 6 துணைக்கருவிகளைப் பயன்படுத்துதல்

துணைக்கருவிகள்

துணைக்கருவி வகைகள்

காட்சிக் கருவிகள்

கேள்விக்கருவிகள்

காட்சி-கேள்விக் கருவிகள்

உருவாக்கம் பயன்படுத்துதல்.

அலகு- 7 மொழித்திறன்களைக் கற்பித்தல்

பேசுதல் திறன் – நோக்கம் –முறைகள் – பயிற்சி – பயன்கள்

கேட்டல்திறன் – நோக்கம் – முறைகள் – பயிற்சி – பயன்கள்

அலகு- 8 மொழித்திறன்களைக் கற்பித்தல்

படித்தல் திறன் –நோக்கம் –முறைகள் – பயிற்சி – பயன்கள்

எழுதுதல் திறன் – நோக்கம் – முறைகள் – பயிற்சி – பயன்கள்.

அலகு- 9 பாடநூல்

பாடநூல் –அமைப்பு முறை – உள்ளடக்கம் – வல்லுநர்களின் வழிகாட்டல் – தொடக்கநிலை, நடுநிலை, உயர்நிலை, மேல்நிலை வகுப்புகளில் மொழிப்பாடத் திட்ட நோக்கங்கள் – அவற்றின் மொழிப்பாடங்கள் – அமைப்பு முறை பற்றிய கருத்துக்கள் – உள்ளடக்கப்பகுப்பாய்வு – பயிற்சிச் சிக்கல்கள் – தீர்வுகள்.

அலகு- 10 கற்பித்தல் பொது முறை

செய்யுள் பயிற்று முறை – உரைநடை பயிற்று முறை – இலக்கணம் பயிற்று முறை – துணைப்பாடம் பயிற்று முறை – (மாதிரி வகுப்புகள் வழி பயிற்சி ஆசிரியர்களுக்கு விளக்கம் அளித்தல்) – மொழிப்பயிற்சியும் – கட்டுரை வரைதலும்.

அலகு-11 தகவல் நுட்பவியலும் தமிழ் கற்பித்தலும் -I

மொழிக் கற்பித்தலில் மக்கள் தொடர்புச்சாதனங்கள் (Mass media in Language Teaching) கணினி அடிப்படையில் கல்வி (Computer Based Education) – கணினி துணையுடன் கற்பித்தல் (Computer Assisted Instruction) - கணினி மேலாண்மையில் கற்பித்தல் (Computer Managed Instruction)

அலகு-12 தகவல் நுட்பவியலும் தமிழ் கற்பித்தலும் -II

கணினி ஊடகக் கற்பித்தல் (Computer Mediated Communication)

கணினியில் தமிழ்

மின் தமிழ்

இணையத்தில் இணைந்த தமிழ்.

அலகு-13 மதிப்பீடு- I

தமிழ் கற்பித்தலின் விளைவுகளை மதிப்பிடல் – மதிப்பிடுதலின் நோக்கமும் பயனும் – பண்புகள் – நல்ல தேர்வின் இன்றியமையாத கூறுகள் – தேர்வு வகைகள் – வினா வங்கியின் பயன் – வினாத்தாள் வடிவமைப்பு – வினா வகைகள் – தொடர் மற்றும் முழுமையான மதிப்பீடு (CCE) – பயன்கள் – நோக்கம்.

அலகு-14 மதிப்பீடு- II

மையப் போக்கு அளவைகள்: கூட்டுச்சராசரிஇ இடைநிலை, முகடு சிதறல் அளவைகள் : வீச்சு, திட்ட விலக்கம், கால்மான விலக்கம் ˙ ஒட்டுறவு பொருளும் பயன்களும் – தர ஒட்டுறவுக் கெழு விளக்கம்.

செய்முறைப் பயிற்சிகள்

- ❖ கருத்தரங்கு நடத்துதல்
- ❖ கற்பித்தல் பொருள் தயாரித்தல் தொடர்பான துணைக்கருவிகள் தயாரித்தல்
- ❖ வானொலி அல்லது தொலைக்காட்சிப் பேச்சைக் கேட்டுக் குறிப்பெடுத்தல்
- ❖ வினாவங்கி தயாரித்தல்
- ❖ குறையறி சோதனையும் குறைதீர் பயிற்சியும்

பார்வை நூல்கள்

1. கணபதி வி. (1989) "தமிழ் ஐவகைப் பாடங்களும் கற்பித்தல்" சாந்தா பதிப்பகம் சென்னை -14
2. கோவிந்தராஜன் மு. (1990) "நற்றமிழ் பயிற்றழின் நோக்கமும் முறையும்"இ சரஸ்வதி பதிப்பகம் சென்னை.
3. புலவர் செந்துார் பாண்டியன் (1979) "நுண்ணிலைப்பயிற்சி " மீனாட்சி பதிப்பகம் புதுக்கோட்டை
4. வேணுகோபால் இ.பா (1991) "பைந்தமிழ் கற்பிக்கும் முறைகள் சகுந்தலா வெளியீட்கம் வேலூர்.
5. முனைவர் பழனிவேலு ஞா. "தமிழ் கற்பித்தழில் புதுமைப்போக்குகள்".கபிலன் பதிப்பகம் 93
6. கோவிந்தராஜன் மு. (1980) "மொழித்திறன்களும் சில சிக்கல்களும்" தேன்மொழிப்பதிப்பகம் சென்னை
7. கணபதி வி. (2005) "நற்றமிழ் கற்பிக்கும் முறைகள்" சாந்தா பதிப்பகம் சென்னை -14
8. இலக்குவன் (2008) : தமிழ்ப்பாடநூலும் ஆசிரியரும், சென்னை : சாரதா பதிப்பகம்

70113B- TEACHING OF ENGLISH

OBJECTIVES

At the end of the course, the student-teachers will be able to

- realize the role of English in India in the right perspective and the rationale for learning English as a second language
- get familiarized with the various aspects of the B.Ed. programme with special reference to the nature of the language skills to be developed and evaluation
- acquire knowledge of the current trends in the teaching of English
- get familiarized with techniques of oral preparation and practice of language items.

UNIT I Role of English in Indian Classroom- I

The status of English in India today – The rationale for learning English – Aims of teaching English at the Primary level, Secondary level and Higher Secondary level - Objectives of teaching English as a second language.

UNIT II Role of English in Indian Classroom- II

Teaching English as a skill rather than a knowledge subject – The scope of the B.Ed. English course – Recommendations of Indian commissions and Committees on English Language Education – Qualities of a Good English Teacher.

UNIT III Teaching of Different Skills in English

Bloom's Taxonomy of Educational Objectives – Cognitive – Affective – Psychomotor domains – General and Specific Instructional Objectives – Micro teaching – Macro teaching – Use of different drills in Teaching Oral English.

UNIT IV Technology Assisted Language Learning (TALL) - I

Teacher made aids – Flash cards, Pictures, Charts, Models, Blackboard sketches - Mechanical aids – Overhead projector, Tape recorder, Lingua phone records, Radio, Television.

UNIT V Technology Assisted Language Learning (TALL) – II

Programmed learning – Language laboratory – Computer assisted language learning – Power point presentation – Related websites in language learning.

UNIT VI Approaches and Methods of Teaching English

Method – Approach – Technique – Design – Method – Grammar Translation Method – Bilingual method – Direct Method – Dr.West's new method – Merits and Demerits – Approaches – Structural Approach – Types of Structures – Selection and Grading of Structures – Principles of Situational – Oral Approach – Communicative approach- Eclectic approach – Recent trends in the teaching of English.

UNIT VII Types of Evaluation

Difference between measurement and evaluation - Characteristics of a good English test –Concept of Evaluation – Types of evaluation – formative and summative- Different types of tests – Achievement tests – Aptitude tests – Proficiency tests – Diagnostic tests - Construction of a good test – Preparation of blue print.

UNIT VIII Role of Mother-Tongue in Teaching English

Use of the Mother-Tongue in the English Class – Difference between Learning the Mother-Tongue and the other tongue – Arguments against the use of Mother-Tongue – When to use the Mother-Tongue.

UNIT IX Listening Comprehension - I

Sub skills of listening – listening for perception – listening for comprehension – The three phases of listening – Listening material – listening to specific information, for general understanding, to deduce meaning.

UNIT X Listening Comprehension - II

Listening activities – dictation, following a route, listening to a telephone call, listening to commentaries, listening to instructions, Jigsaw listening.

UNIT XI Speaking Skills- I

Techniques in teaching speaking – Tasks for developing speaking skill – Individual, pair and group work – Improving oral fluency – Dialogue – Role play – Dramatization – Play Reading – Group Discussion.

UNIT XII Speaking Skills- II

Narration – Description – Communication Game – Debate – Interview – Extempore Speech – Barriers for Effective Communication – Testing Speaking.

UNIT XIII Reading Skills

Aims of teaching reading - Process involved in reading – Symbol, sound, sense- Types of reading – reading aloud – silent reading – skimming – scanning – intensive reading – extensive reading – Methods of teaching reading to beginners – Alphabet method – Phonetic method – Word method – Phrase method – Sentence method – Strategies to develop reading.

UNIT XIV Writing Skills

Mechanics of Writing – Sub skills in writing – visual perception – syntax – organization – grammar – content purpose – relevance – Writing skills – Mechanical skills – Grammatical skills – Judgment skills – Discourse skills – Characteristics of good Handwriting – distinctiveness – legibility – simplicity – uniformity – spacing – capitalization – punctuation – speed – Developing good handwriting.

REFERENCE BOOKS

1. Aggarwal, J. C. (2008). Essentials of Educational Technology. UP: Vikas Publishing House Pvt Ltd.
2. Aggarwal. J. C. (2008). Principles, Methods & Techniques of Teaching. UP: Vikas Publishing House Pvt Ltd.
3. Chauhan, S. S. (2008). Innovations in Teaching Learning Process. UP: Vikas Publishing House Pvt.Ltd.
4. Dhand, H. (2009). Techniques of Teaching. New Delhi: APH Publishing Corporation
5. Palmer, H. E. (2008). Oral Method of Teaching Language. Delhi: Surjeet Publications.
6. Rao, P. (2005). Method of teaching English. Hyderabad: Neelkamal Publications.
7. Sharma, R. N. (2008). Principles and Techniques of Education. Delhi: Surjeet Publications.
8. Sharma, R. N. (2008). Contemporary Teaching of English. Delhi: Surjeet Publications.
9. Sharma, R. A. (2008). Technological foundation of education. Meerut: R.Lall Books Depot.
10. Siddiqui, M.H. (2009). Techniques of Classroom Teaching. New Delhi: APH Publishing Corporation.
11. Venkateswaran, S. (2008). Principles of Teaching English. UP: Vikas Publishing House Pvt.Ltd.

70114 Practical – I Enhancing Professional Capacities

200 Marks (8 credits)

S. No.	Activity	Maximum Marks	Credits
1.	Reading and reflecting on text	50	2
2.	Drama and Arts in Education	50	2
3.	Understanding Self	50	2
4.	Application of ICT	50	2

70121- EDUCATIONAL EVALUATION

OBJECTIVES

The student-teacher will be able to

- understand the concept of Assessment, measurement and evaluation
- apply measurement and evaluation in their teaching field
- understand the different approaches to evaluation
- understand and adopt CCE in their teaching and learning
- develop knowledge about techniques and tools of evaluation
- appreciate the new trends in evaluation
- implement the new examination system
- understand the need, importance and meaning of statistics
- prepare scholastic achievement test

COURSE CONTENT

Unit I – Concept of Assessment, Measurement and Evaluation

1.1 Concept and Meaning of assessment, measurement and evaluation.

1.2 Relationship and difference between measurement and evaluation.

1.3 Need and Importance of Evaluation.

1.4 Purpose of Evaluation

1.5 Place of Evaluation

Unit II – Approaches to Evaluation

2.1 Test and different types - Placement, Formative, Summative, diagnostic, Prognostic.

2.2 Distinction between Formative and Summative Evaluation

2.3 Continuous and Comprehensive evaluation: Meaning, need and relevance, procedures of Evaluation, Criteria of Evaluation

Unit III – Techniques of Evaluation - I

3.1 General Techniques of Evaluation

3.2 Quantitative technique and Qualitative technique

3.3 Self-reporting techniques

Unit IV – Techniques of Evaluation - II

4.1 Observation techniques

4.2 Projective Techniques

4.3 Sociometric Techniques.

Unit V – Tools of Evaluation

4.1 Tools of Evaluation – Rating Scales and Types – Aptitude Tests – Anecdotal Records- Inventories - Teacher made and Standardized tests.

4.2 New Trends in Evaluation -·Grading system – Computer based Examination – Choice Based Credit System-other New Trends

Unit VI – Instructional Objectives and Evaluation

6.1 Instructional Objectives and Specifications.

6.2 Cognitive Domain, Affective Domain, Psycho-motor Domain –Evaluation Pattern.

Unit VII – Bloom's Approach

7.1 Bloom's Evaluation Approach-Meaning and Definition-Techniques for evaluation of behavioural Modification.

7.2 Coordination of Teaching and Testing Activities.

Unit VIII - Scholastic Achievement Test (SAT).

8.1 Purpose of Scholastic Achievement Test

8.2 Preparation of scholastic Achievement test- planning, preparation, designing the test items, review and editing, arranging the test items, providing directions, preparing scoring key and marking scheme, administering test and scoring, Evaluating the test.

8.3 Characteristics of good measuring instrument- Validity, Reliability, Objectivity, Adequacy, Practicability, Discrimination Index.

Unit IX – Examination System - I

9.1 Examination: Meaning, Types, Objectives of Examination, Test and Examination

9.2 Present Examination System, Examination Reforms, NCERT and Examination Reforms

Unit X – Examination System - II

10.1 On-Line Examination: Meaning, Advantages, Limitations, Requirements for on-line Exam.

10.2 Open Book Examination (OBE): Meaning, Types, Objectives, Advantages, and Limitations.

Unit XI – Construction of Objective Type test Items

11.1 Objective Test Items –Meaning –Standardized-Teacher Made Objective Test Items Objective Test Items –Comparison between Teacher made objective Test and Standard Objective Test Items

11.2 Steps of Construction of Objective Type Tests. Planning, Preparation, Try-out, Evaluation of Test.

11 .3 Types of Items of an Objective Test- Recall type-Recognition Type-Advantages and limitations

Unit XII - Analysis and Interpretation of Scores I

12.1 Importance and essentials of interpretation of scores.

12.2 Measures of central tendency- Arithmetic Mean, Median and Mode

Unit XIII - Analysis and Interpretation of Scores II

13.1 Measures of Variability- Range, Quartile Deviation, Standard Deviation, and Mean Deviation

13.2 Coefficient of Correlation –Spearman Brown's Rank Difference Method.

Unit XIV - Analysis and Interpretation of Scores III

14.1 Normal Probability Curve- Properties and Uses

14.2 Skewness and Kurtosis.

14.3 Graphical representation of data – Importance of Graphical representation of data-Types of Graphical representation, Limitations

14.4 Histogram, Frequency Polygon, Cumulative frequency Curve

REFERENCES

All India Council for Secondary Education (AICSE) (1956). **Report of the Bhopal Seminar on Examination Reform.** New Delhi.

DDE (1997). **Research Methodology and Educational Technology.** Pondicherry University.

Henry E. Garret. (1926). **Statistics in Psychology and Education**. Bombay: Vakils, Feffer and Simons Ltd.

IGNOU. (2000). **Educational Evaluation**. New Delhi

Nagarajan K. (1996). **Handbook of Statistics**. Madras: Ram Publishers.

Srivastava, H.S (2010). **Conducting Tests and Examinations.** New Delhi: S. Chand & Company Ltd.

UGC (1991). **Examination Reform – A Plan of Action**, New Delhi.

70122- CURRICULUM AND INSTRUCTION

OBJECTIVES

At the end of the course, the student teachers will be able to

- Acquire knowledge about the basic principles of Curriculum development
- Understand the importance of Instructional objectives
- Develop skill in Instructional management
- Realise the need for innovation in Teaching-learning Process
- Understand the concept of evaluation
- Familiarise various Evaluation Techniques
- Acquire knowledge in Recent Trends
- Understand the way of Curriculum Transaction

UNIT I Curriculum

Meaning of Curriculum

Curriculum and Education

Curriculum and syllabus

Need and importance of Curriculum

Co-curricular and extracurricular activities.

UNIT II Types of Curriculum

Types of Curriculum- linear type, spiral type, concentric type, pyramidal – Patterns of Curriculum – Subject –centred Activity – centred, Experience – centred.

UNIT III Curriculum Development

Determinants of Curriculum – Philosophical, sociological, Psychological , Religious, Cultural, Economical, Political - Principles of Curriculum Development Relevance, variety, Utility, Flexibility – NCERT's recommendations with reference to School Education – Steps in Curriculum Development.

UNIT IV Instructional Objectives

Instructional Objectives - Meaning of Instructional Objectives –learning Experience and Evaluation – Bloom's Taxonomy of Instructional Objectives – Cognitive, Affective and Psychomotor domains – Revised version of Bloom's Taxonomy – Anderson.

UNIT V Innovations in Teaching-Learning Process- I

Individual Instruction

programmed Instruction

personalized system of Instruction

Computer Assisted Instruction.

UNIT VI Innovations in Teaching-Learning Process- II

Team teaching

Co-operative Learning

Seminar

Symposium

Panel Discussion

Workshop.

UNIT VII Instructional Management

Need for Instructional planning – Preparation of Annual plan- Time table –Classroom Management – Role of headmaster – Qualities of Teacher – Job satisfaction of teachers – Teacher Welfare measures.

UNIT VIII Evaluation

Concept and Purpose of Evaluation – basic Principles – tools and techniques of Evaluation – Tests as Tools –Classification of tests – Characteristics of a Good Tool – Validity, Reliability, Objectivity and Usability. Preparation, Administration and Interpretation of Results of Achievement and Diagnostic test.

UNIT IX Evaluation Techniques

Evaluation – its importance – semester vs Non-Semester Patterns – External Examination: merits and limitations –Continuous Internal assessment: merits and demerits –Criterion referenced and norm referenced Tests- formative and summative Education.

UNIT X Student Support Services

Meaning of Co-curricular and extracurricular activities – Organisation of co-curricular and extracurricular activities - Discipline and freedom – School health programme - Physical Education programme – Guidance and counseling – Principles of guidance and counseling.

UNIT XI Curriculum Transaction- I

Teaching – Definition – Meaning – Principles of Teaching – Functions of Teaching – Role of a Teacher – Models of Teaching – Characteristics features of Models of teaching – Components of Models of Teaching.

UNIT XII Curriculum Transaction- II

Glaser's Basic model of teaching

Herbert's model of teaching

Carroll's models of teaching

Classification of model of teaching based on Joyce and Weil.

UNIT XIII Recent Trends - I

National Policy on Education – Special focus on Teacher education – DTERT, DIETs, BRC – Activity Based Learning (ABL) – Active Learning Methodology (ALM), Advanced Active Learning Methodology (AALM) : Overview, Benefits.

UNIT XIV Recent Trends – II

Trimester system in School Education – Continuous Comprehensive Evaluation in School education (CCE) – Justice Verma Commission on Teacher Education (2012) – SSA, RMSA, Rashtriya Ucchatar Shiksha Abhiyan (RUSA)

REFERENCE BOOKS

1. Benett, bill J. and Martin, Kenneth (1980). The practice of teaching: A positive start New York: Harper and Row International.
2. Bigge, Morris L (1982). Learning Theories for teachers.
3. Diana Lapp, Hilay Bender, Stephan Ellewood and Martha John (1975). Teaching and Learning New York. Mac Millan ub.co.Inc.
4. Glan Gene V.et.al (1982). School class, size research and policy sage.
5. Goodson Iyer (Ed) (1985). curriculum Development and Educational Technology New York: Sterling publication
6. Harms Alan Lawn Martin and Roscott William (1975). Curriculum Innovation New York: John willey and sons.
7. Haukins J.P Curriculum Development: programme Planning Improvement Chicago: Merrill, Columbus.
8. Heywood John (1984). Considering the curriculum during student teaching New York Nicholas Publishing Co.
9. Huebner Dwayna (1964). Assessment of the Curriculum New York Bureau of Publication Coloumbia University, teachers College.
10. JacobgenD.Etal (1985). Methods of etachingA skilsl approach Toronoto Charles and Meril Publication Company
11. Kalra, R.M and Rishi Ram Singh (1987). Curriculum Construction and youth development New Delhi: Sterling

70123A - சிறப்புத் தமிழ்

நோக்கங்கள்:

மாணவ ஆசிரியர்கள்

- மொழியின் தோற்றமும் வளர்ச்சியும் பற்றி அறிதல்
- கலைத்திட்டத்தில் மொழியின் இடத்தினை அறிதல்
- தமிழ்மொழியின் ஒலி அமைப்பு முறையை அறிதல்
- இலக்கியக் கழகங்கள் பற்றி அறிதல்
- தேசியக் கல்விக் குறிக்கோள்களை அறிதல்
- பள்ளியிதழ்களின் முக்கியத்துவத்தை அறிதல்
- கவிதை பற்றிய கொள்கைகளை அறிதல்
- முத்தமிழின் வளர்ச்சியினை முறையோடறிதல்
- இலக்கியத் திறனாய்வு பற்றி அறிதல்
- மொழிபெயர்ப்பு மொழிவளர்ச்சிக்குத் துணையாதலையுணர்தல்

அலகு-1 மொழியின் தோற்றம் - I

மொழியின் பண்புகள்

மொழியின் தோற்றக்கொள்கை

மொழியின் வளர்ச்சி - தமிழ்மொழி வரலாறு

தமிழ் மொழியின் கிளை மொழிக் கொள்கைகள்.

அலகு-2 மொழியின் தோற்றம் - II

பேச்சு மொழியும் எழுத்து மொழியும்

சிறப்பு மொழி

பண்பு மொழிக்கொள்கை

தமிழ்மொழியின் தனித்தன்மைகள்.

அலகு-3 கலைத்திட்டத்தில் தாய்மொழி - I

கலைத்திட்டத்தில் தாய்மொழி

தேசிய இலக்குகளுக்கும் கல்வியின் நோக்கங்களுக்குமுள்ள தொடர்பினைக் காணல்

கலைத்திட்டததில் தாய்மொழி பெறுமிடம்.

அலகு-4 கலைத்திட்டத்தில் தாய்மொழி – II

தேசியக் கல்விக் கொள்கையில் கலைக்கல்வி – கலைத்திட்டத்தின் கோட்பாடுகள் – ஆரம்ப, இடை, உயர்நிலைகளில் தேசியக் கல்வியின் நோக்கம் மற்றும் குறிக்கோள்.

அலகு- 5 தமிழ் மொழியியல் அமைப்பு

மொழியியல் –ஒலி மொழியாதல் - ஒலிகளின் பிறப்பு – பேச்சுறுப்புகளும் அவற்றின் செயல்பாடுகளும் – தமிழ் மொழியின் அமைப்பு – அடைப்பொலி, உரசொலி, மூக்கொலி, ஆடொலி, மருங்கொலி, ஒலியனியல் – ஒலியன்களை கண்டறியும் கொள்கைகள்.

அலகு- 6 இலக்கியக் கழகங்கள்

இலக்கியக் கழகங்கள் – இன்றியமையாமை – அமைக்கும் முறை – பணிகள் – திறன் வளர்ச்சி – செயல்முறை - இடம் பெறத்தக்கவை – நடத்துதல் பயன்.

அலகு- 7 பள்ளியிதழ்கள்

பள்ளியிதழ்கள் – கையெழுத்துப் பிரதிகள் – அமைப்பு – முறை – பயன் – இதழாசிரியர்கள் – ஆசிரியர் குழு – செயற்குழு – அளவும் அமைப்பும் – நடைமுறை.

அலகு-8 இயல் தமிழ்

இலக்கிய வகைகள் – கவிதை – மேனாட்டார் மற்றும் தமிழறிஞர் விளக்கம் – கற்பனை – உணர்ச்சி, வடிவம், பாடுபொருள் – உள்ளுறை உவமம் – அணி, இறைச்சி மற்றும் சிறப்பியல்புகள் – புதுக்கவிதை.

அலகு-9 இசைத்தமிழ்

இசையும் தமிழும் – மொழிக்கல்வியில் இசை – தொல்காப்பியத்தில் இசைக் கூறுகள் – பக்திப் பாடல்கள், நாட்டுப்புறப் பாடல்கள் – தற்காலக ˙கவிதை வளர்ச்சிக்கு இசையின் பங்களிப்பு.

அலகு-10 நாடகத்தமிழ்

நாடகம்: தோற்றம் – சங்ககாலம் முதல் இக்காலம் வரை அமைப்பு –வகைப்பாடு – எழுத்து, வானொலி, வட்டார மொழி, செய்யுள் நாடகங்கள் – நாடக உத்திகள்.

அலகு-11 இலக்கியத் திறனாய்வு- I

திறனாய்வின் தோற்றம் – இன்றைய திறனாய்வின் நிலை – திறனாய்வின் வகைகள் – படைப்பு வழித் திறனாய்வு – மரபு வழித் திறனாய்வு – முருகியல் திறனாய்வு.

அலகு-12 இலக்கியத் திறனாய்வு- II

விளக்க முறைத் திறனாய்வு – மதிப்பீட்டு முறைத் திறனாய்வு – வரலாற்று முறைத் திறனாய்வு – ஒப்பீட்டு முறைத் திறனாய்வு – பாராட்டு முறைத் திறனாய்வு – திறனாய்வாளரின் தகுதிகள்.

அலகு-13 தமிழ் மொழியின் வளர்ச்சி நிலை - I

கணிப்பொறியும் தமிழும் – பல்லூடகமும் தமிழ் கற்பித்தலும் –மொழிபெயர்ப்பு – மொழி வளர்ச்சியில் மொழிபெயர்ப்பின் பங்கு..

அலகு-14 தமிழ் மொழியின் வளர்ச்சி நிலை - II

தமிழ் இணையம் – தமிழ் ஆட்சிமொழியாவதில் ஏற்படும் சிக்கல்கள் – நீக்கும் வழிமுறைகள் – செம்மொழித்தமிழ்

செயல்முறைப் பயிற்சிகள்

- முன்னறிவிப்பில்லாச் சொற்பொழிவுகள்
- கற்பித்தல் பொருள் தொடர்பான துணைக்கருவிகளைத் தயாரித்தல்
- கையெழுத்து இதழ் தயாரித்தல்
- வினாவங்கி தயாரித்தல்
- கருத்தரங்கம் நடத்துதல்

பார்வை நூல்கள்:

1. கணபதி .வி. (2005) "நற்றமிழ் கற்பிக்கும் முறைகள் " பகுதி –II சென்னை சாந்தா பப்ளி'ர்ஸ்.
2. கணபதி.வி. (2005) "நற்றமிழ் கற்பிக்கும் முறைகள் " பகுதி –I சென்னை சாந்தா பப்ளி'ர்ஸ்.
3. முனைவர் முத்துசண்முகம் (1988), "இக்கால மொழியியல்" கழக வெளியீடு
4. முனைவர் முவ. (1988) "மொழிவரலாறு" கழக வெளியீடு
5. முனைவர் எஸ் ஸ்ரீகுமார் (2002) "மொழியும் சமூகமும்" செண்பகா பதிப்பகம் தி.நகர் சென்னை -17.
6. முனைவர் சேதுமணியன் (1990) "மொழிபெயர்ப்புக் கோட்பாடுகளும் உத்திகளும்" செண்பகம் வெளியீடு மதுரை
7. முனைவர் ந. சுப்பு ரெட்டியர் (2005) "தமிழ் பயிற்றுமுறை" மாணிக்கவாசகர் பதிப்பகம் சிதம்பரம்
8. கணபதி .வி. (2005) "நற்றமிழ் கற்பிக்கும் முறைகள் "சென்னை. சாந்தா பப்ளி'ர்ஸ்.

9. முனைவர் மு.வ (1996) “தமிழ் இலக்கிய வரலாறு” சாகித்திய அகாடமி புதுதில்லி
10. முனைவர் இ.பா வேணுகோபால் (2006) பைந்தமிழ் கற்பிக்கும் முறை சாரதா பதிப்பகம் சென்னை.
11. முனைவர் சு. சக்திவேல் (1996) “தமிழ் மொழிவரலாறு” மணிவாகர் பதிப்பகம் சென்னை
12. முனைவர் மு. கோவிந்தராஜன் “மொழித்திறன்களும் சில சிக்கல்களும” தேன்மொழிபதிப்பகம் சென்னை
13. முனைவர் வி. கருணாகரன் “மொழிவளர்ச்சி”

70123 B- TEACHING OF SPECIAL ENGLISH

OBJECTIVES

At the end of the course, the student-teachers will be able to

- ❖ acquire knowledge of the sound system of English and to familiarize them with the appropriate terminology, to describe the sounds in English.
- ❖ understand the connections of English speech and to acquire good pronunciation and fluency of speech
- ❖ get familiarized with the syllabi related to High School and Higher Secondary classes.
- ❖ acquire a working knowledge of the grammatical terminology and grammatical system in English

UNIT I Phonetics of English- I

Elements of English language

Phonology

Morphology,

Lexis grammar

The individual sounds – Place of articulation.

UNIT II Phonetics of English- II

The concept of the Phoneme and the Allophone

Strong and weak forms

Word Stress

Phonetic Transcription.

UNIT III Fluency

Use of conventional formulae – Describing and interpreting picture, tables, graphs, maps, etc – Various concepts and ways in which they are expressed – construction – suggestion – prohibition – permission – probability – likelihood – possibility – obligation – necessity for fluency – concession – Oral drills – Repetition drills – Mechanical drills – Substitution drills.

UNIT IV Advanced Grammar- I

The Noun phrase

The Verb phrase

Tense forms

Auxiliaries

Types of Sentence

Clauses – Sentence pattern – Active and Passive voice.

UNIT V Advanced Grammar- II

Direct and Indirect speech

Question forms

Analysis and classification of grammatical errors.

UNIT VI Lexis

Word formation – Affixation – Conversion – Compounding – Clipping – Port Manteau – Onomatopoeia – Loan words – other minor devices – Patterns of spelling – Phrasal verbs and prepositional phrases – Sentence connectors – Devices for cohesion and coherence.

UNIT VII Language Acquisition Research- I

First Language acquisition – Behaviourism and Second Language Learning – Errors and Learning Strategies – Causes for difference amoung learners.

UNIT VIII Language Acquisition Research- II

Models of second language learning – As Creative Construction – As Acculturation – As Elaboration of a Simple Code – As a form of Skill Learning – As a form of Social Learning – Subconscious and Conscious aspects of Language Learning.

UNIT IX Teaching Vocabulary

Nature of words – Types of vocabulary – Active vocabulary – Passive vocabulary – Expansion of vocabulary – Selection and grading of vocabulary – Strategies to develop vocabulary.

UNIT X Types of Courses and Stylistics

English for Global Purpose – English for Specific Purpose – Remedial English course – The English Reader – Intensive, Extensive and Supplementary – Types of Deviation – Redundancy in Poetry – Rhetorical Question – Apostrophe – Simile and Metaphor.

UNIT XI Reference and Study Skills

Practice in the Intensive and Extensive Reading – Practice in the Efficient use of the Text Books and Library books – Study skills – note-taking, note-making, summarizing and paraphrasing – Reference skills – library – dictionaries – thesaurus – encyclopedia – bibliography – Annotated Bibliography.

UNIT XII Composition- I

Types of Composition – Controlled – Guided – Free – Kinds of composition – Letter writing – Formal – Informal – Business letters – Paragraph writing – Essay writing – Précis writing – Expansion of proverb.

UNIT XIII Composition- II

Developing stories from outline – Summarizing Abstracting – Translation – Comprehension – Oral composition – Pair work – Mixed ability grouping – Correction of Composition exercise – correction symbols.

UNIT XIV Language Curriculum

Principles of Curriculum construction – Limitations in the existing school English language curriculum – Qualities of a good English language text book – Unity in Writing – Language as Creative Construction – Language as a form of Social Learning.

REFERENCE BOOKS

1. Francis Soundararaj, F. (1995). Teaching Spoken English and Communication Skills.Chennai:
2. Joyce., & Well., (2004). Models of Teaching. U.K: Prentice hall of India.
3. Kohli, A. L. (2006). Techniques of Teaching English. New Delhi: Dhanpat Rai pub.co
4. Mangal, S. k., & Mangal, S. (2005). Essentials of Educational Technology and Management. Meerut: loyal book depot.
5. Sachdeva, M. S.(2003). A new approach to teaching of English in India. New Delhi: Tandon Publications.

70123 C - TEACHING OF MATHEMATICS

OBJECTIVES

At the end of the course, the student-teachers will be able to

- Understand the nature of Mathematics
- Analyse the objectives, aims and values of Teaching Mathematics
- Comprehend the steps in Curriculum designing
- Maths the mathematic concepts in the school level
- Become aware of and acquire expertise in production of materials
- Acquire skill in teaching mathematics through several teaching methods and techniques
- Practice various steps in teaching for problem solving
- Gain competence in assessing the performance of students through formative and summative evaluation.
- Acquire knowledge of several learning resources in Mathematics
- Acquire skill in planning for Teaching Mathematics
- Gain knowledge of several mathematical organisation for professional advancement

UNIT I Nature of Mathematics

Definition of Mathematics – Objectivity, symbolism, Abstractness, logical structure, structuralism and formalism. History of Mathematics – Its importance for a teacher.

UNIT II Aims and Objectives

Aims of teaching Mathematics – practical, disciplinary, cultural, social –values of Mathematics for a common and advanced learner taxonomy of Objectives – Bloom & Anderson.

UNIT III Mathematics Curriculum

Principles of Curriculum

Designing curriculum

Modern trends

Comparison of different curricula in Mathematics of Various steams.

UNIT IV Methods and Strategies - I

Developing a Mathematical concept

Expository and discovery teaching Group

Cooperative and collaborative strategies.

UNIT V Methods and Strategies - II

Provisions for heterogeneous classroom

Special children and teaching of Mathematics

Active learning

Tiger methods

Constructivism.

UNIT VI Teaching for Problem Solving

Definition of Problem

Polya's steps in problem solving

Various kinds of proof

Inductive and deductive method

Creative learning and teaching.

UNIT VII Learning Resources and Material Production - I

Classroom

Library

Laboratory

Low- cost teaching materials.

UNIT VIII Learning Resources and Material Production - II

Technology

Web based learning

Interactive board,

Gco board Sketchpad etc.

UNIT IX Planning for Teaching- I

Lesson Plan – importance of Lesson plan

Preparation of lessons

Characteristics features of lesson plan

Model lesson plan.

UNIT X Planning for Teaching- II

Unit plan- importance of unit plan

Characteristics features of unit plan

Worksheets Unit plan

Preparation of resource units.

UNIT XI Assessment and Evaluation -I

Purpose and programmes

NRT & CRT

Teacher made achievement test

Preparation of blueprint.

UNIT XII Assessment and Evaluation -II

Writing items

Preparing key & marking scheme

Diagnostics tests

Preparation suggesting remedial teaching.

UNIT XIII Teaching for Permanence

Drill

Review and Revision

Motivation Rationalization

Concretization, correlation,

Individualized Programmes, Home assignments.

UNIT XIV Teachers and Professional Development

Mathematics teachers, participations in organizational activities – seminars –Affiliating to AMTI, NCTM – How to play a role in Mathematical Olympiads –Contribution to journals and Magazines.

REFERENCE BOOKS

1. Ball W.W.K A short History of Mathematics
2. Bertrand Russell, Principles of Mathematics George and Allen
3. Bhimsankaran C.V Mathematics Education Book field Centre Bombay
4. Bulter and Wren Teaching of Secondary Mathematics Mc Graw Hill Company NewYork.

5. Cooney, Davis, Hendenar Dynamics of teaching Secondary School Mathematics Houghton Mifflin Company Boston.
6. Courant and Robins What is mathematics? OUP
7. Cundy, Martyn H and RollettA.P Mathematical Models Oxford, London.
8. Devies R. Teaching of Mathematics Addison Wesley Press Cambridge.
9. E.T Bell Mathematics, Queen and Servant of science, Mc Grahill Book Company , NewYork.
10. Fletcher F.G Some lessions in mathematics OUP.
11. Hogben Lancelot, Mathematics for the Million George Allen and Unwin Ltd., London.
12. Joseph Crescimbeni teaching of New Mathematics Parker publishing Co. New York.
13. NCERT Brochure on themes relating to Mathematics Education.
14. NCTMS year Books
15. Siddhu R.S teaching of Secondary Mathematics Sterling publishers 21 S.M.S.G Books Yale University

70123 D -TEACHING OF SCIENCE

OBJECTIVES

At the end of the course, the student-teachers will be able to

- understand the nature and scope of Science
- know the aims and objectives of teaching science
- understand the various teaching strategies in science
- develop a theoretical and practical understanding of the various methods and techniques of teaching science and the importance of self-learning devices
- acquiring skills relating to planning their lessons and presenting them effectively
- understand the criteria in selecting a good textbook and to evaluate a Science textbook.
- understand the ICT and give them practice in the use of Audio-visual aids
- understand the principles of curriculum construction and the organization of subject matter
- understand the techniques of evaluating science teaching and to construct achievement test
- acquire knowledge to understand the pupil's individual differences
- be aware of the recent trends in science education

UNIT I Nature and Scope of Science

Nature and Scope of Science-Science as a product and a process – a body of knowledge (Empirical knowledge, Theoretical knowledge-facts, concepts, hypotheses, theory, principle, law)-a way of investigation-a way of thinking-Inter disciplinary approach-New developments-Implications- Globalization and science

UNIT II Aims and Objectives of Teaching Science

Aims and Objectives of teaching Science-General and Specific Objectives of teaching Sciences-Bloom's Taxonomy of Educational Objectives (Cognitive, Affective and Psychomotor)-Aims and Objectives of teaching Science at different levels-Primary, Secondary, Higher Secondary.

UNIT III Strategies for Teaching Science - I

Criteria for selecting a method of teaching Science: Level of the class, size of the class, time availability and subject matter-Methods of Teaching Science-General Methods: Heuristic Approach, Historical and Biographical Approaches.

UNIT IV Strategies for Teaching Science - II

Lecture method, Lecture cum Demonstration Method, Individual Practical Method, Analytic and Synthetic Method, Scientific Method, Project Method.

UNIT V Micro Teaching / Unit Planning / Lesson Planning

Microteaching and its scope-microteaching cycle-Relevant skills in Micro teaching-Content analysis-developing Unit Plan-steps in Unit Planning-characteristics of a good Unit Plan-Lesson Planning-Essential features of Lesson Planning and their importance-Steps in Lesson Planning (Herbartian steps)-Preparing Lesson Plans-Distinguishing Lesson Plan and Unit Plan

UNIT VI Learning Resource in Science-I

Science Laboratory-Structure and Design-Organization and Maintenance of Science Laboratory-maintenance of Registers-Storage of Chemicals-Organization of Practical Work.

UNIT VII Learning Resource in Science-II

Accidents and First Aids-Improvisation of Apparatus. Qualities of a good Science textbook-use of textbooks inside and outside the classroom-Criteria for evaluation of Science textbooks.

UNIT VIII Information and Communication Technology in Science Education

Classification of Audio Visual Aids (Projected and Non-projected)-their importance-Principles and use of Hardware: Film strip cum Slide Projector, Overhead Projector, Motion Picture Projector, Radio, TV, CCTV, Tape Recorder, principles and use of Software: Objects, specimens, slides, transparencies, CD, Audio and Video Tapes-Educational Broadcasts: Radio and T.V. lessons-Programmed Learning-Power Point-use of Internet in teaching Science -E-learning.

UNIT IX Curriculum Reforms in School Science

Curriculum-Principles of curriculum construction-Organization of content matter-Critical evaluation of Tamil Nadu higher secondary school Science Curriculum-Curriculum Improvement Projects in India-NCERT and Abroad-CHEM Study, PSSC, Biological Science Curriculum Study(BSCS), Nuffield-recent trends in Science curriculum.

UNIT X Assessment in Science Learning

Tests and its types-Achievement tests–Qualities of a good test- Evaluating outcome of Science teaching-Principles of test construction-Blue Print and Question Paper-Item Analysis-Standardizing a test-Diagnostic testing and Remedial teaching.

UNIT XI Science Teacher and Teacher Perspectives- I

Science Teacher - Academic and Professional qualification-Special qualities-In-service training-Classroom Climate: Autocratic, Democratic and Laisez faire pattern.

UNIT XII Science Teacher and Teacher Perspectives- II

Flander's Classroom Interaction Analysis. Problems of Science teaching – Individualized instruction- catering to individual differences – Identification of the gifted and enrichment programs for the Gifted.

UNIT XIII Recent Trends in Science Education- I

Nano science – Bio-technology – Bio-sensor – Micro biology – Micro-electronics – Environmental Engineering - Equitable Education in Tamil Nadu.

UNIT XIV Recent Trends in Science Education- II

Activity Based Learning (ABL) – Advanced Learning Methodology (ALM) – Continuous Comprehensive Evaluation (CCE)-Trimester System in Tamil Nadu School Education.

REFERENCE BOOKS

1. Carin & Robert Sund, (1989). Teaching Modern Science (Fifth Edition), Merill Publishing Co., U.S.A.
2. Edgar Dale, Audio-Visual Methods in Teaching, Revised Edition, Thy Dryden Press, Newyork.
3. Jenkins, E.W. (Ed.) (1997). Innovations in Science and Technology Education, Vol. VI, UNESCO, Paris.
4. Heiss, Obourn & Hoffman (1985). Modern Science in Secondary Schools, Sterling.
5. Nair, C.P.S. (1971). Teaching of Science in our Schools, Sulthan Chand & Co. (Pvt.) Limited.
6. Pandey, (2003). Major Issues in Science Teaching, Sumit Publications, New Delhi.
7. Patton, M.Q. (1980). Qualitative Evaluation Methods, Sage Publications, India.
8. Sharma, P.C. (2006). Modern Science Teaching, Dhanpat Rai Publications, New Delhi.
9. Sharma, R.C. (1985). Modern Science Teaching, Dhanpat Rai and Sons.
10. Siddifit Siddiqi, (1985). Teaching of Science Today and Tomorrow, Doals House.
11. Yadav, M.S. (2003). Teaching of Science, Amol Publications.

70123 E - TEACHING OF SOCIAL STUDIES

OBJECTIVES

At the end of the course, the student-teachers will be able to

- understand all topics that he has to teach in Social Studies
- know the meaning, aims, objectives and values of Social Studies
- understand the curricular activities pertinent to the teaching of Social Studies
- apply the modern techniques of teaching for effective teaching
- evaluate their students' performance effectively

UNIT I Nature and Structure of Social Studies

Social Studies – meaning, definition, nature, purpose and characteristics of Social Studies - Different concepts of Social Studies – History – Geography – civics - Scope of Social Studies - Social Studies in daily life - Correlation with other subjects and life.

UNIT II Aims and Values of Teaching Social Studies

Aims, Goals, Objectives of Social Studies at different level Values – practical, cultural, ethical and disciplinary values of Social Studies.

UNIT III Unit Planning and Lesson Planning - I

Instructional objectives in behaviour form

Bloom's Taxonomy of Objectives

Cognitive Domain

Affective Domain

Psychomotor Domain.

UNIT IV Unit Planning and Lesson Planning - II

Advantages of planning a lesson – Steps involved in lesson planning – Specimen lesson plan – Learning Experiences - Evaluation of objectives and learning experiences – Unit planning – Advantages of unit planning – Specimen unit plans – Resource units.

UNIT V Instructional Methods - I

Lecture Method – Discussion Method – Problem Method – Morison's method of teaching for understanding – Source Method – Oral – Recitation, Review, Dill, Story Telling – Inductive and Deductive.

UNIT VI Instructional Methods – II

Laboratory Method – Role – play and Dramatization – socialized method, small group, panel discussion, buzz session, seminar, symposia and work shop – Team Teaching, supervised study in teaching Social Studies, stories and legends, biography – Dalton plan.

UNIT VII Audio-Visual Aids in the Teaching of Social Studies

Importance of Audio visual Aids – Classification of Audio Visual Aids – Chalk Board – Bulletin Board – Charts – pictures – Graphs – Maps and Globes – Stereo scopes – Motion pictures (silent) of objects, Specimens and Models, auditory Aids, Radio – Audio visual Aids – Television – Sound motion pictures – Dramatization – Field Trips and School journeys – OHP – Epidiascope – Improvised Aids – Computer, LCD.

UNIT VIII Social Studies Curriculum

Present Social Studies curriculum – modern concept of Social Studies curriculum – principles involved in curriculum construction – Basis for the selection of the content – Chronological Method – Spiral Method – Concentric Method – Topical Method – Individual, Social and National Heads – Theories influencing selection of materials – Doctrine of Natural Tastes – Cultural epoch Theory – Proceeding from the Near to the Remote.

UNIT IX Human Relationship and Social Studies Teaching- I

National integration and Social Studies Teaching – Meaning or National integration – Factors and Forces standing in the way of national integration – Role of Social Studies in fostering national integration. Need for International Understanding.

UNIT X Human Relationship and Social Studies Teaching- II

Causes of International Dissensions and Conflicts – Nationalism Vs Internationalism – Role of Social Studies in International understanding – Role of UNESCO – Struggle for Tolerance and Peace.

UNIT XI Learning Strategies -I

Assignment – Oral – Written – Map Drawing – Preparation of Charts – Models, Albums and Specimens. Visits to related fields – Temples, Museums, Art Galleries, Exhibitions, collection of specimens – Stamps, coins, etc.

UNIT XII Learning Strategies –II

Reading of books, historical novels, magazines, newspapers and learning from other media. Self – learning materials and using instructional materials. Motion picture, video tapes, radio, software and hardware.

UNIT XIII Evaluation in Social Studies

Meaning of Evaluation – Importance of Evaluation or Examination – Purpose of Evaluation – Special Objectives of Evaluation in Social Studies – Criteria of Good Examination – Evaluating the Results of Social Studies Instruction.

UNIT XIV Utilizing Current Affairs

Importance of Current Affairs – Purpose of teaching current affairs – Criteria of selecting Current Events – Programme of current affairs – Restriction – Use of Various Learning Activities in Current Affairs programme – Specimen Current Affairs for High classes.

REFERENCE BOOKS

1. Aggarwal, J.C. (1982). *Teaching of Social Studies*. New Delhi : Vikas Publishing House Pvt.Ltd.
2. Bining and Bining (1972). *Teaching of Social Studies in Secondary Schools*. New York : McGraw Hill Book Co.
3. Heller, F. (1986). *The use and abuse of Social Sciences*. London : Sage Publications.
4. James Fleming: *The Teaching of Social Studies in Secondary School*. Longman Green and Co., London.
5. Joyce, B. & Weil, M. (1979). *Models of Teaching*. Prentice Hall Inc., New Jersey.
6. Kochhar, S.K. (1988). *The Teaching of Social Studies*. New Delhi : Sterling Publishers Pvt.Ltd.
7. Kochhar, S.K. (1986). *Methods and Techniques of Teaching*. New Delhi: Sterling Publishers Pvt. Ltd.
8. Marsh, D.A. (Ed.) (1965). *The Social Sciences*. London: Roultedge and Kegan Paul.

70123 F -TEACHING OF COMMERCE

OBJECTIVES

At the end of the course, the student-teachers will be able to

- acquire knowledge of meaning, definition, nature and scope of Commerce and Accountancy
- understand the aims and objectives of teaching Commerce and Accountancy
- develop skills in the preparation of lesson plan
- understand the principles of curriculum construction and organization of the subject matter
- find out the resources available for learning Commerce and Accountancy
- apply the knowledge in analyzing, selecting and adopting the suitable methods and aids for the purpose of teaching Commerce and Accountancy
- understand the classroom management techniques
- develop competency in evaluation techniques applicable to Commerce

UNIT I Commerce and Accountancy

Commerce and Accountancy – Meaning – Definition – Nature – Scope – Branches of Commerce: Trade, Transport, Banking, Insurance, Warehousing, Advertising, Communication – e-commerce – Correlation of Commerce and Accountancy with other subjects – Need for Commerce and Accountancy education – Commerce Education in developing and developed countries – Significance of Commerce in Indian schools.

UNIT II Aims and Objectives of Commerce Education

Definition of Aims and Objectives – Difference between aims and objectives – Criteria for the selection of aims and objectives – Aims and Objectives of Commerce education – Values of teaching Commerce and Accountancy.

UNIT III Bloom's Taxonomy

Bloom's Taxonomy of educational objectives: Cognitive, Affective and Psychomotor domains – Writing objectives in Behavioural terms.

UNIT IV Curriculum Designing - I

Meaning of curriculum – Relationship between syllabus and curriculum – Characteristics of curriculum – Types of curriculum – Principles for the determination of Commerce curriculum – Organization of subject matter – unit – topical – concentric – logical and psychological.

UNIT V Curriculum Designing – II

Secondary Education Commission on Curriculum – Defects of the present Commerce Curriculum– Suggestions for removing the defects of curriculum. Critical study of the curriculum in Commerce and Accountancy at higher secondary school level in Tamilnadu

UNIT VI Lesson Planning and Unit Planning

Definition of Lesson Plan – Types of Lesson Plan – Steps of Lesson Planning – Advantages of Lesson Planning – Limitations of Lesson Planning – Precautions while preparing Lesson Planning – Model Lesson Plan – Various approaches to Lesson Planning – Evaluation criteria of Lesson Plan – Unit Plan – Steps in Unit Plan – Advantages – Model Unit Plan.

UNIT VII Resources of Learning

Textbook – Meaning of text book – Definition of text book – Qualities of a text book – Need and importance of text books – Use of text books – Criteria for the evaluation of text books – Suggestions for improvement in text books – Reference books – Business journals – News papers – Research journals and reports – e-resources – Community resources in the teaching and learning of Commerce and Accountancy.

UNIT VIII Methods of Teaching Commerce and Accountancy - I

Lecture method – Demonstration method – Discussion method – Problem solving method – Project method – Inductive method – Deductive method – case study –Socialized recitation methods – Team Teaching – Seminar – Symposium – Workshop – Debate. Panel discussion – Group discussion – Tutorial method – Assignment method –Students motivated technique – Supervised study – Programmed learning – Computer Aided Instruction (CAI) – Brainstorming – Heuristic method-simulation and role playing.

UNIT IX Methods of Teaching Commerce and Accountancy –II

Panel discussion – Group discussion – Tutorial method – Assignment method –Students motivated technique – Supervised study – Programmed learning – Computer Aided Instruction (CAI) – Brainstorming – Heuristic method-simulation and role playing.

UNIT X Aids for Teaching Commerce

Teaching aids – Meaning – Definition – Importance – classifications – Characteristics of Audio-Visual aids – Difficulties in the use of Audio-Visual aids – Precautions to be taken while selecting A-V aids – Important teaching equipments and materials for commerce teaching : Text-book – Pictures – Charts – Map – Graph – Periodicals and Journals – Black board – Bulletin board – Flannel board – Slide and film strip – Model – Specimen copy – Over-head Projector – Radio – Television – Computer.

UNIT XI Commerce Teacher- I

Commerce teacher – Qualities of a Commerce teacher : Individual qualities, Professional qualities and Social qualities – Professional growth of commerce – pre- service and in-service programme – Responsibilities of a commerce teacher – Problems faced by commerce teachers.

UNIT XII Commerce Teacher- II

Teacher's diary – Records and registers to be maintained by commerce teacher – Micro-Teaching : Meaning, Definition – Micro-Teaching cycle – Advantages – Skill of Stimulus Variation – Skill of Reinforcement – Skill of Questioning.

UNIT XIII Classroom Management

Classroom management – Factors influencing classroom management – Class room interaction analysis – Class room climate – Types of teachers based on leadership styles: Teacher dominated pattern – Laissez faire pattern – Democratically planned pattern – Significance of the classroom climate – Flanders Interaction Analysis Category system.

UNIT XIV Evaluation Approach in Commerce

Evaluation: Meaning – Aim – Difference among: Test, Measurement and Evaluation – Difference between examination and Evaluation – Difference between Evaluation and Measurement – Types of evaluation : Formative, Summative, Norm –referenced and Criterion referenced – Tests : Achievement and Diagnostic – Forms of test items – Characteristics of a good test – Blue print – Test Construction – Item analysis.

REFERENCE BOOKS

1. Chauhan, S. S. (2008). *Innovations in Teaching Learning Process*. UP: Vikas Publishing House Pvt Ltd.
2. Dhand, H. (2009). *Techniques of Teaching*. New Delhi: APH Publishing Corporation.
3. Kochhar S. K. (1992). *Methods and techniques of teaching*. New Delhi: Sterling Publishers Private Limited.
4. Kumar, K. L. (1996). *Educational technology*. New Delhi: New Age International Publishers.
5. Muthumanickam, R. (2004). *Educational objectives for effective planning and teaching*. Chidambaram: Cyber land Publisher.
6. Passi, B. K. (1976). *Becoming a better teacher : Micro teaching approach*. Ahemedabad: Sahitya Mudranalaya.
7. Rao, Seema. (2007). *Teaching of Commerce*. NewDelhi: Anmol Publication.
8. Sanjeev Tomar. (2008). Teaching of Commerce. Agra: Vinod Pustak Mandir.
9. Sharma, R. N. (2008). *Principles and Techniques of Education*. Delhi: Surjeet Publications.
10. Sharma, R. A. (2008). *Technological foundation of education*. Meerut: R.Lall Books Depot.
11. Siddiqui, M.H. (2009). *Techniques of Classroom Teaching*. New Delhi: APH Publishing Corporation.
12. Singh,Y. K. (2009). *Teaching of Commerce*. New Delhi: APH Publishing Corporation.

70123 G - TEACHING OF ECONOMICS

OBJECTIVES

At the end of the course, the student-teachers will be able to

- acquire knowledge of the nature and scope of Economics
- understand the aims, objectives and value of discipline of Economics
- acquire skills to write lesson plan for lessons in Economics
- understand the principles of curriculum construction and organization of subject matter in Economics
- know the sources available for teaching Economics
- develop effective instructional skills for effective delivery of the subject matter
- develop the ability in preparing and use of A.V. aids
- understand the evaluation techniques and interpretation of scores
- realize the qualities of Economics teacher and importance of in-service programme
- understand the recent research trends in Economics education

UNIT I Economics Education

Economic education – Meaning – Scope of Economics education – Significance of learning and teaching Economics – Nature of Economics – Correlation of Economics with other subjects : Commerce, Civics, Mathematics, Statistics – New Economic Policy aspects globalization, liberalization and privatization.

UNIT II Aims and Objectives of Economics Education - I

Definition of Aims and Objectives – Difference between aims and objectives – Criteria for the selection of aims and objectives – Aims and Objectives of Economics education – Values of teaching Economics.

UNIT III Aims and Objectives of Economics Education – II

Objectives of teaching economics based on Bloom's taxonomy : Cognitive, Affective and Psychomotor domains – Writing objectives in Behavioral terms.

UNIT IV Lesson Planning

Lesson Plan: Definition – Advantages of Lesson Planning – Writing instructional objectives – Developing lesson plans – Steps involved in Lesson Planning – Principles of lesson planning – Model lesson plan.

UNIT V Unit Planning

Unit plan

Steps involved in Unit Plan

Advantages of Unit Plan

Model Unit Plan.

UNIT VI Curriculum Design - I

Meaning of curriculum – Difference between syllabus and curriculum – Characteristics of curriculum – Curriculum construction in Economics – Principles of curriculum construction – Criteria of selection of content matter..

UNIT VII Curriculum Design – II

Organization of subject matter – unit – topical – concentric – logical and psychological. Critical Study of the Curriculum in Economics at higher secondary school level in Tamilnadu.

UNIT VIII Resources for Teaching Economics

Textbook – Meaning of text book – Definition of text book – Qualities of a text book – Reference books – News papers – Information and Communication Technology (ICT) resources in teaching economics – Community resources – Excursions- Field trips – Library.

UNIT IX Methods of Teaching Economics

Lecture method – Demonstration method – Discussion method – Problem solving method – Project method – Inductive method – Deductive method – Micro teaching technique – Use of modern techniques in teaching Economics – Seminar – Symposium –Workshop – Team Teaching – Brain storming – Supervised study and Tutorial system – Programmed learning – techniques : Linear and branching – Computer Aided Instruction (CAI).

UNIT X Instructional Aids for Economics

Instructional aids – Meaning – Definition – Importance of instructional media in relation to teaching economics – Criteria for the selection of instructional media – e-learning – Epidiascope – Overhead projector-blackboard – Bulletin board – Flannel board – charts – Maps – Graphs – Diagrams – Pictures – Power point presentation – Slide and film strip – Model – Specimen copy –Radio – Television – Computer.

UNIT XI Evaluation Approach in Economics

Evaluation – Nature and scope – Difference between Measurement and Evaluation – Characteristics of a good test in Economics: Reliability, Validity and Objectivity – Item analysis – Different types of objective tests – Types of evaluation: Formative, Summative, Norm –referenced and Criterion referenced – Achievement Test – Blue Print – Test Construction.

UNIT XII Economics Teacher

Economics teacher – academic, professional qualification and professional growth – Qualities of a good Economic teacher – in-service education – Problems of Economics teaching in urban and rural areas.

UNIT XIII Micro Teaching

Micro-Teaching: Meaning, Definition – Micro-Teaching cycle – Advantages – Skill of Stimulus Variation – Skill of Reinforcement – Skill of Questioning.

UNIT XIV Research in Economics Education

Research – Meaning – Definition – Research in Economics Education – Characteristics features of research in Economics Education – Problem selection – Survey method – Experimental method – Importance of review of related literature in Economics – Recent trends in Research in Economics Education – Utilization ICT resources in research.

REFERENCE BOOKS

1. Aggarwal, J. C. (2005). Essentials of education technology: Teaching learning innovations in education. New Delhi: Vikas Publishers.
2. Aggarwal, J. C. (2005). Teaching of economics. Agra: Vinod Pustak Mandir.
3. Chauhan, S. S. (2008). Innovations in Teaching Learning Process. UP: Vikas Publishing House Pvt Ltd.
4. Dhand, H. (2009). Techniques of Teaching. New Delhi: APH Publishing Corporation.
5. Joyce., & Well., (2004). Models of teaching. U.K: Prentice hall of India.
6. Karthick, G. S. (2004). Teaching of economics. New Delhi: Discovery publication house.
7. Kumar, J. J. (2001). Encyclopedia of teaching of economics.(Vol.1-3). New Delhi: Anmol Publishers.
8. Kumar, K. L. (1997). Educational technologies. New Delhi: New Age Publishers.
9. Mangal, S. k., & Mangal, S. (2005). Essentials of educational technology and management. Meerut: Loyal Book Depot.
10. Passi, B. K. (1976). Becoming a better teacher : Micro teaching approach. Ahemedabad: Sahitya Mudranalaya.
11. Patil, V. T. (2005). Virtual education: Dimension of educational resources. New Delhi: Authors press.
12. Singh,Y. K. (2009). Teaching Practice. New Delhi: APH Publishing Corporation.
13. Sharma, R. N. (2008). Principles and Techniques of Education. Delhi: Surjeet Publications.
14. Krishnamurthy, R. (1997). Library management. New Delhi : Common Wealth Publishers.
15. Sharma, K., & Tuteja, T. (1995). Teaching of economics. New Delhi: Common Wealth Publishers.
12. NCERT (1978). Effective Science of School Curriculum: An Introduction New Delhi: NCERT.
13. NCERT (1986). National Curriculum for Primary and Secondary Education: a Framework New Delhi NCERT.
14. NCERT (1980). School Curriculum Some problems and Issues Report of the 1st meeting of the Advisory committee for School curriculum (April 22-23, 1980). New Delhi: NCERT.
15. NCERT(1984). Curriculum Load at the school level–A quick appraisal New Delhi:NCERT

70124 Practical – II General Practicum Components

200 Marks (8 credits)

S. No.	Subjects	Maximum Marks	Credits
1.	Yoga Education	50	2
2.	Language Across the curriculum	50	2
3.	Inclusive Education	50	2
4.	Gender Studies	50	2

70131- CRITICAL UNDERSTANDING OF ICT

OBJECTIVES

At the end of the course, the student-teachers will be able to

- understand the meaning of the term ‘ ICT ‘
- acquire knowledge and skills necessary for adapting ICT in teaching-learning
- be familiar with application of ICT in teaching and learning
- appreciate the role of Information and Communication Technology in Education
- utilising the techniques in designing classroom teaching
- develop positive attitude towards the application of Information and Communication Technology

UNIT –I ICT and School Education- I

ICT-Meaning

Definition-Need for ICT in Education

Evolution of Information Technology

Information and Communication Technology in School Education.

UNIT –II ICT and School Education- II

Impact of ICT on educational System

Impact of ICT on Curriculum

Impact of ICT on Teaching and Learning

ICT as a tool for individualized learning.

Unit-III Communication and Network

Communication –Meaning –elements of Communication-Barriers of Communication – Effective communication –Types of Communication-Media of Communication-Computer network concept –Definition- Types –LAN, WAN –History of Internet –Use of Search engine -social Network –Concept , definition –Educational use of social network like face book, blog, whatsapp**.**

UNIT-IV Computer and Learning

Computer as a tutor-Computer as a Tutee-Computer as a teaching Resource –Different forms of Learning through Computers: computer Assisted Instruction (CAI); Modes of CAI: Drill and Practice, Tutorial Instructional games –Computer simulations advantages and limitations of CAI –Computer Managed Instruction (CMI) Computer as a tool for teacher and students.

UNIT-V E- Learning- I

E-Learning –Definition

Importance of E-Learning

E-Learning Modalities

Preconditions of E-Learning

Strategic foundation for E-Learning

Integrating E-learning and Classroom Learning.

UNIT-VI E- Learning- II

Creating your E-learning strategy; Analyzing your current situation, describe your direct situation, set you vision and mission, Gap Analysis, and Building an action plan-limitation of E- learning.

UNIT –VII Multimedia and Learning

Multimedia –Meaning-Definition-Applications of Multimedia –Multimedia classroom environment for learners at school level –Features of Multimedia; Sound effects –Images effect –Animation effect –Video effect.

UNIT –VIII Hypermedia

Hypermedia

Development of Multimedia Courseware for learners at school level

Steps involved in the development

Advantages and limitation of multimedia based courseware

UNIT –IX Interactive Multimedia and Learning

Interactive multimedia – Meaning-Definition –factors influencing learning with interactive multimedia – Principles of Instructional design for multimedia and interactive Multimedia; Split Attention principle , Modality Principle- The Redundancy Principle , the Spatial contiguity Principle, Temporal contiguity principle –Coherence principle – Advantages and limitations of Interactive Multimedia

UNIT-X Computer Simulation and Learning

Computer simulation –Definition –Characteristics features of computer simulation – Importance – Interactive computer simulation –Objectives of Interactive Computer simulation - Virtual Science lab at school level – objectives of the Virtual science lab – Advantages and limitations of the virtual science lab.

UNIT –XI Web Based Learning

Web based Learning-Concept –Definition –Online learning for school Learners – Principles of Web based learning -Categories of Web based learning; Asynchronous Format, Synchronous Format, Small Group collaboration –Virtual Campus –Merits and limitations of Web based learning.

UNIT –XII Electronic Portfolios for Teachers and Learners

Electronic Portfolio –Meaning –Definition –Characteristic features basic equipments of creating E-portfolio –E –Portfolio for teachers and learners –Features of E-Portfolio – Developing an E-portfolio –Advantages of limitations of E-Portfolio.

UNIT-XIII Current Trends in ICT Based Learning

Virtual classrooms

Meaning- Importance of Virtual classrooms –Role of the teacher

Smart classroom; Concept, Advantages and limitations of Smart classroom – Role of the teacher

UNIT- XIV Blog based Learning

Blogs- concept, Advantages and limitations

Online learning resources

E-Books

E library

MOOC (massive open online courses).

REFERENCE BOOKS

- Arulsamy.s and Sivakumar.P 2000 'Applications of ICT in Education', Neelkamal publication, Hyderabad.
- Brown, J.W., R.B. and Hercheroad: A.V. Instruction Technology Media and Method. New York: McGraw Hill Book Company, 1977.Chand, Tara: Educational Technology. New Delhi: Anmol Publication, 2002.
- Davis, I.K.: The Management of Learning. London: McGraw Hill Book Company, 1971.
- Dececo, John, P.: Educational Technology: Readings in Programmed Instruction. London: Holt Rinehert and Winston, 1964.
- Jerone, P. L. and Clarence, M. W.: A Guide to Programmed Instruction. J. Wiley and Sons, New York,1975.
- Kumar, K.L.: Educational Technology and Conceptual Understanding. New Delhi: New Age Publication, 2001.
- Mangal, S.K.: Fundamentals of Educational Technology. Ludhiana: Prakash Brothers,1988.
- Mukhopadhyay, M.: Educational Technology – Challenging Issue. New Delhi: Sterling Publishers Private Limited, 1980.
- National Policy on ICT in Education; Ministry of HRD, Government of India.
- Wadi Haddad and Sonia Jurich, "ICT for Education: Potential and Potency," in Technologies for Education: Potentials, Parameters, and Prospects, eds. Wadi Haddad and A. Drexler (Washington, D.C.: Academy for Educational Development), 28-40.

70132 - GUIDANCE AND COUNSELLING

OBJECTIVES

At the end of the course, the student-teachers will be able to

- understand the meaning, characteristics, need and principles of guidance and counselling
- describe various types of guidance
- understand the history of guidance in India
- describe various approaches to counselling
- know the qualities required for a good counsellor
- develop skills in administering and interpreting testing and non-testing devices in guidance
- develop the counselling skills
- improve the method of study and remove the weakness in particular subject
- explain the purpose of guidance at primary, middle, secondary and higher secondary school level
- discuss the special needs of exceptional children

UNIT I Concept of Guidance

Guidance: Meaning, Definition, Characteristics of guidance, Need of guidance, Objectives of guidance – Principles of guidance – Types of Guidance: Educational, Vocational, Personal, Social, Avocational and Health – Guidance and Teaching – Merits and Limitations of guidance.

UNIT II Concept of Counselling

Counselling : Meaning, Definition, Characteristics of counselling, Need of Counselling – Principles of counselling – Techniques of counseling – Organisation of counseling in schools – Difference between guidance and counselling – Difference between counseling and teaching.

UNIT III Guidance Movement in India

Origin of guidance – Guidance in India: British period – After independence – Secondary Education Commission – Kothari Commission – Development of vocational guidance – Factors for the development of guidance – Present position of guidance service.

UNIT IV Major Approaches to Counselling - I

Group counselling : Purpose of group counselling – Goals of group counselling – Advantages of group counseling – Directive Counselling – Non-directive counseling : Procedures – Characteristics – Advantages and limitations.

UNIT V Major Approaches to Counselling – II

Individual Counselling : Meaning, Characteristics – Advantages and limitations – Eclectic counselling – Meaning, Nature, Steps, Merits and Limitations.

UNIT VI Qualities and Functions of a Counsellor

Counsellor: Meaning – Qualities of a good counsellor : Personality traits, Training and Development, Academic qualifications, Experience – Role of counselor – Functions of a counsellor – Professional ethics – Counsellor and Teacher – Counsellor and Counsellee relationship.

UNIT VII Testing Devices in Guidance

Testing devices in guidance

Intelligence test

Aptitude test

Achievement test

Attitude scales

Interest inventory

Personality test

Creativity tests.

UNIT VIII Non -Testing Devices in Guidance

Non-testing devices in guidance: Questionnaire – Observation – Sociometry – Autobiography – Rating Scales – Anecdotal Record – Case study – Cumulative Record – Role of Information and Communication Technology (ICT) in Testing and Non-Testing devices in Guidance.

UNIT IX Theories of Vocational Guidance

Theories of Vocational Guidance – Ginzberg Theory, Holland's Theory, Super's vocational choice theory – Havighurst theory of vocational choice – Structural theory – Essential aspects of an occupation – Various sources of vocational information.

UNIT X Educational Guidance -I

Meaning of Educational Guidance – Definition – Characteristics – Need – Objectives of Educational Guidance – Guidance for improvement in the method of study – Removal of weakness in particular subjects.

UNIT XI Educational Guidance –II

Curricular guidance –Definition- Meaning of Curricular guidance- Method of developing good study habits – Recommendation of Education Commission on Educational Guidance.

UNIT XII Guidance Services in Schools - I

Meaning of school guidance services – Significance – Types of guidance services offered in schools: Orientation service to students – Methods of providing orientation service – Student information service.

UNIT XIII Guidance Services in Schools – II

Counselling service – Placement services – Follow-up services – Persons working in school guidance: Headmaster – Class teacher – School counseller – School Doctor – Planning of Guidance service – Activates at Primary school level, Middle school level, Secondary level and Higher secondary level

UNIT XIV Guidance for Exceptional Children

Guidance for Exceptional Children: Meaning and Types. Guidance for gifted, Backward, Mentally retarded, Orthopaedically handicapped, Visually impaired, Deaf and dumb and Problematic children.

REFERENCE BOOKS

1. Aggarwal, J. C. (1991). *Educational, vocational guidance and counselling*. New Delhi: Doabai House.
2. Bernad, H. W. and Fullmer, D. F. (1977). *Principles of Guidance* (Second Edition). New York: Crowell.
3. Bhatnagar, R. P., and Seema, R. (2003). *Guidance and Counselling in education* and psychology. Meerut: R. Lall Book Depot.
4. Chauhan, S.S. (2008). *Principles and Techniques of Guidance*. UP: Vikas Publishing House Pvt. Ltd.
5. Cormier, Sherilyn, L. and Hacney, Harold. (1987). *The Professional Counsellor*. New Delhi: Prentice Hall of India Limited.
6. Crow, L.D., & Crow, A. (2008). *An Introduction to guidance*. Delhi:Surjeet Publications.
7. Jones, A. J (2008). *Principles of guidance*. (5 ed) Delhi: Surjeet Publications.
8. Kochhar, S. K. (1984). *Guidance and counseling in colleges and universities*. New Delhi: Sterling Publishing Private Limited.
9. Meenakshisundaram, A. (2012). *Guidance and counseling* Dindigul: Kavyamala Publishers.
10. Nagarajan, K. and Natarajan, S (2012). *Guidance and counselling* Chennai: Ram Publishers.
11. Sharma, R.A. (2012). *Fundamentals of guidance and counselling*. Meerut: R. Lal Book Depot.
12. Sharma, R.N. (2008).*Vocational Guidance & Counselling*. Delhi: Surjeet Publications.

70133 - ENVIRONMENTAL EDUCATION

OBJECTIVES

At the end of the course, the student-teachers will be able to

- understand the concept of Environmental Education
- analyse various Environmental issues
- establish relationship between man and environment
- develop positive attitude towards Environmental protection
- understand the Environmental hazards
- develop the skill of managing the environment
- understand the concept of evaluation in Environmental Education

UNIT I Environment

Environment-Definition –classification of Environment; i) Physical Environment ii)Biological Environment iii) Social Environment and iv)Psychological Environment – Heredity and Environment – Ecology: Meaning and Definition – Branches of Ecology – Ecosystem – Components of Eco system.

UNIT II Environmental Education

Environmental Education – Definition –characteristic features of Environmental Education – Objectives of Environmental Education – Need for Environmental Education- Scope of Environmental Education- Environmental Science and Environment Education.

UNIT III Environmental Awareness

Environmental Awareness

Environmental Education for Teacher Education Programmes

Environmental Education in School Curriculum.

UNIT IV Environmental Hazards- I

Meaning of Environmental Hazards – Categories of Environmental Hazards; i) Natural Hazards – Endogenous hazards and Exogenous hazards ii)Man Induced Hazards – Environmental degradation – Environmental pollution – Types of Pollution – Air Pollution - Sources of Air Pollution – Adverse effects of Air Pollution – Control and Prevention of Air Pollution.

UNIT V Environmental Hazards- II

Water Pollution – Sources and Adverse effect of Water Pollution – prevention measures – Land and Noise Pollution – Effects of Land and Noise Pollution – Prevention and Control of Land Noise Pollution.

UNIT VI Environmental Issues

Global Warming – meaning – issues related Global Warming – Green House Effect – Green House gases – Acid Rain – Problems related to Acid Rain – Ozone layer depletion – Effect of depletion of Ozone layer – Bio-diversity – Meaning –Threats to bio-diversity.

UNIT VII Environmental Issues in India

Major Environmental problems of India – Environmental conservation Act –Wild life (protection) Act – Environmental Movements in India – Chipko Movement – Silent Valley Movement , Narmada Project.

UNIT VIII Environmental Education and Teacher Education

Need for Environmental Education in teacher Education Programme – NCERT and Environmental Education – teaching strategies for Environmental Education - Group discussion – Project Work –Field Trips – Co curricular activities in Environmental Education – Advantages and limitations of different strategies for teaching Environmental Education.

UNIT IX Man and Environment

Interaction between man and Environment – Human adaptation to Environment –Human Population and Environment – Population Education – Population and its effects on Environment-Impact of Science and Technology on Environment – Industrial growth and its environmental impacts.

UNIT X ICT and Environmental Education - I

ICT- Meaning –Role of ICT on Environmental Education – Instructional Media for Environmental Education – Educational Radio Programme in Environmental Education – Community radio.

UNIT XI ICT and Environmental Education – II

Educational T.V-Satellite Instructional Television Experiment (SITE)-Satellite based communication – Utilization of E-resources in Environmental Education –CDs-E books E-Journals –E- learning.

UNIT XII Environmental Management

Environmental Management – meaning for Environmental Management – Characteristics of Environmental Management – Approaches of Environmental Management; i) preservative approaches ii. Conservative approaches – social forest – Water Management – Rain water Harvest – surface water management.

UNIT XIII Evaluation of Environmental Education -I

Concept of Evaluation-Definition of Evaluation- Importance of Evaluation-Measurement and Evaluation in Environmental Education –Measurement in Physical Science and in Behavioural Science.

UNIT XIV Evaluation of Environmental Education –II

Techniques of Evaluation: Estimation of Awareness in Environmental Education, Achievement test in Environmental Education – Attitude Scale and Value Scale: Construction, Advantages and Limitations

REFERENCE BOOKS

1. Begon, WD and Mortimer, M (1981): Population Ecology, Blackwell Oxford
2. Botkin, DB and Keller, E.A (1982): Environmental Studies, C.E Merrill Company.
3. Dassaman R.D (1976): Environmental Conservation, Wiley, new York.
4. Deshbandhu and G.Berberet (1987) Environmental Education for Conservation and Development Indian Env Society , New Delhi.
5. Det Wyler T.R (1971) Man's Impact Environmental , Mc Graw –Hill New York.
6. Kendeigh S.C (1974) : Ecology with Special Reference to Animal and Man, prentice –Hall New Jersey
7. Komondy E.J (1969) Concept of Ecology, prentice Hall New Serscy
8. Krishnamacharyulu and Reddy GS. (2005): Environmental Education, Neelkamal Publication, Hyderabad.
9. LohaniB.N (1984) Environmental Quality Control, South Asian Publishers, New Delhi.
10. Nagarajan K and Sivakumar .P , Environmental Education Ram Publishers, Chennai.
11. Odum, E.P (1979) Fundamentals of Ecology, Saunders, Philadelphia
12. Odum, EP (1983): Basic Ecology, Holt Saunders Intle ed., Japan.
13. Rao M.Sitaram (1987) Introduction to Social Foresty, oxford & IBH, pp.87.

14. Sexena A.B (1986) Environmental Education, national Psychological Corporation Agra pp.191.
15. Sharma PD (1990) Ecology and Environment, Rastogi Publishers, meerut (U.P)
16. Sharma R.A (2002) Environmental Education: surya Publication, near Govt. Inter College, Meerut – 250001

70134 Practical – III School based Learning Activities

200 Marks (8 credits)

S. No.	Activity	Maximum Marks	Credits
1.	Addressing School Assembly on different themes	50	2
2.	Preparation of school time table	50	2
3.	Organizing Quiz/Debate/Parent teacher Association	50	2
4.	Maintenance of a school Register	50	2

70141- EDUCATIONAL TECHNOLOGY

OBJECTIVES

At the end of the course, the student-teachers will be able to

- understand the meaning of the term 'Educational Technology'
- be familiar with application of Educational Technology
- appreciate the role of technology in education
- use the concept in designing classroom teaching
- acquire knowledge and skills necessary for using media in teaching-learning
- have a positive attitude towards Educational Technology

UNIT I Concept of Educational Technology

Meaning, Need and Scope of Educational Technology – Difference between "Technology of Education" and "Technology in Education" – Definition of Educational Technology – Major approaches of Educational Technology – Hardware Approach – Software Approach – Objectives of Educational Technology – Educational Technology as a System.

UNIT II Teaching Learning Process and Educational Technology

Concept of Teaching – learning Process – Condition of Teaching Learning Process – Relationship between Teaching and Learning – Variables of Teaching – Principles of Teaching – Role of Educational Technology in teaching – Learning Process.

UNIT III System Approach

Definition of a System – Components of an Instructional System – Flow Diagram for Designing a System – Steps in System Approach – Advantages of System Approach – Role of the Teacher in System Approach.

UNIT IV Mass Media in Education –I

Mass Media – Meaning and Significance – School Broadcast Programmes – Merits of School Broadcasting – Limitation and shortcomings – Suggestion for Effective School Broadcasting Programmes.

UNIT V Mass Media in Education -II

ETV (Educational Television)

Merits and Limitations of ETV

CCTV

Role of Teacher in School TV Programme.

UNIT VI Information Technology in Education- I

Information Technology – Definition – Meaning

Importance of Information Technology

Information Technology Revolution

History of Information Technology.

UNIT VII Information Technology in Education- II

Cybernetics – meaning

Cybernetics and Education

E- Learning

Internet

Role of Internet in teaching and learning.

UNIT VIII Media Selection and Integration

Introduction – Media and Instructional process – Need of Media Selection – Factors affecting media Selection – How to select media – media Integration – Multiple media and multimedia.

UNIT IX Application to Computer Programmes - I

Introduction – Approaches to the use of computers in education – Computer based Training (CBT) – Computer Managed Learning (CMC) – Computer Assistance Learning (CAL).

UNIT X Application to Computer Programmes – II

Computer Assistance Instruction (CAI) – Modes of CAL – Advantages of CAL – Limitations of CAL – Problems related to the use of CAL approach – Steps.

UNIT XI Experiential Learning

Introduction – Nature of Experience – Learning from experience – Experiential learning – Objectives – experiences leading to learning – Teaching strategies for experiential learning – Teacher determined methods.

UNIT XII Developing Learning Skills- I

Introduction – Stages in the process of learning

Learning styles

Types of learning styles

Importance of learning style

Learning strategies

Meta memory.

UNIT XIII Developing Learning Skills- II

Meta cognition

Meta comprehension study skills

Note Taking

Underlining – marginal comments and coding systems

Problem solving strategies.

UNIT XIV Evaluation and Managing Educational Technology

Introduction – purpose – types – different approaches – model of evaluation of educational technology – Quality – steps – different context of evaluation and educational technology management – concept – functions – system approach – steps.

REFERENCE BOOKS

1. Agrawal, J.C.: Educational Technology and Management. Agra: Vinod Pustak Mandir. 2003.
2. Agrawal, Rashmi: Educational Technology and Conceptual Understanding.
3. New Delhi: Prabhat Prakashan, 2001.
4. Brown, J.W., R.B. and Hercheroad: A.V. Instruction Technology Media and Method.New York: McGraw Hill Book Company, 1977.
5. Chand, Tara: Educational Technology. New Delhi: Anmol Publication, 2002.
6. Davis, I.K.: The Management of Learning. London: McGraw Hill Book Company, 1971.
7. Dececo, John, P.: Educational Technology: Readings in Programmed Instruction.
8. London: Holt Rinehert and Winston, 1964.
9. Jerone, P. L. and Clarence, M. W.: A Guide to Programmed Instruction. J. Wiley and Sons, New York,1975.
10. Kumar, K.L.: Educational Technology and Conceptual Understanding. New Delhi: New Age Publication, 2001.
11. Mangal, S.K.: Fundamentals of Educational Technology. Ludhiana: Prakash Brothers,1988.
12. Mukhopadhyay, M.: Educational Technology – Challenging Issue. New Delhi: Sterling Publishers Private Limited, 1980.

70142 Practical – IV School Internship/ Practice teaching

400 marks (16 credits)

S. No.	Subjects/Records	Maximum Marks	Total	Credits
1.	Pedagogy Optional I Preparation and utilization of teaching aids Teaching competence	25 75	100	4
2.	Pedagogy-Optional II Teaching Competence Preparation and utilization of teaching Aids	75 25	100	4
3.	**Observation** Pedagogy –Optional I Pedagogy –Optional II	 25 25	50	2
4.	**Lesson Plan** Pedagogy Optional –I Pedagogy Optional -II	 25 25	50	2
5.	**Micro Teaching** Pedagogy Optional –I Pedagogy Optional -II	 25 25	50	2
6.	**Test and Measurement** Pedagogy Optional –I Pedagogy Optional -II	 25 25	50	2

Directorate of Distance Education

Alagappa University, karaikudi

Minutes of the Meeting of the Board of Studies in Education for B.Ed, M.A.(Child Care & Education), M.A.(Education) Programmes (ODL Mode) held at the Directorate of Distance Education, Alagappa University, Karaikudi – 630 003, on 04.09.2017 at 10.00 am.

Members Present

1.	Dr. P.Sivakumar	-	Chairman
2.	Dr. E.Ramganesh	-	Member
3.	Dr. G.Kalaiyarasan	-	Member
4.	Dr. A.Balu	-	Member

The revised curriculum for B.Ed, M.A.(Child Care & Education), M.A.(Education) programmes was scrutinized and discussed in the meeting. The board has resolved the following:

1. The necessary suggestions offered by the members be carried out in the B.Ed, M.A (Child Care & Education), M.A.(Education) curriculum .
2. The curriculum of B.Ed, M.A.(Child Care & Education), M.A.(Education) be approved.
3. The Approved Syllabi be provided in the Annexure.

04.09.17.

(A.BALU)

4/9/17

(G.KALAIYARASAN)

(E.RAMGANESH)

04/09/17

(P.SIVAKUMAR)

PROGRAM PROJECT REPORT

BACHELOR OF LIBRARY AND INFORMATION SCIENCE (B.Lib.I.Sc)

Directorate of Distance Education

Alagappa University

Karaikudi

a) Programme Mission and Objectives

- To create awareness of the evolution of knowledge society and its role in the social transformation and economic prosperity of the nation
- To analyse the complex issues of the access and use of knowledge and its productive utility in the social development
- Special coaching classes are arranged periodically for the benefit of rural students
- To create an understanding about the methods, techniques, skills as well as approaches in the information processing and management
- To give the students an understanding of the basic principles of fundamental laws of Library and Information Science and to enable them to understand, appreciate and develop professionalism to work in contemporary "Information Age".
- to impart the students a thorough understanding of patterns of knowledge development and its organization;
- to train the students in the basics of professional skills for information or knowledge management, so that they serve the society through an institution of library and information centre
- to train the students in the analysis, repackaging, marketing, planning and management of the systems of library and information centers;
- to provide the students thorough understanding of I T applications in information environment including networks and communication systems;
- to make students fully aware of various sources of information and to train them in techniques of dissemination of information in the context of different user groups.
- to train the students in the advanced skills of information/ knowledge, gathering, processing, organization and retrieval;
- to train students in the techniques of Information Management and equip them with the application of Information Technologies (IT) in libraries and information centers
- to provide an understanding of research methods and activities of research organizations.
- to acquaint the students with the development of the Universe of knowledge and methods of its organization in a library system

(b) Relevance of the Programme with HEI's Mission and Goals

The Vision of the HEI is "Achieving Excellence in all spheres of Education, with particular emphasis on PEARL - Pedagogy, Extension, Administration, Research and Learning". This course B.Lib.I.Sc is offered in relation to the Vision.

Also, the Mission, namely, "Affording a High Quality Higher Education to the learners so that they are transformed into intellectually competent human resources that will help in the uplift of the nation to Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM)", is adhered to in the course.

(c) Nature of Prospective target group of learners

A Candidate with any degree from a recognised University shall be eligible for B.L.I.Sc.

(d) Appropriateness of programme to be conducted in Open and Distance Learning modeto acquire specific skills and competence

It makes the students fully aware of various sources of information and trains them in techniques of dissemination of information in the context of different user groups.

It gives the students an understanding of the basic principles of fundamental laws of Library and Information Science and enables them to understand, appreciate and develop professionalism to work in contemporary "Information Age".

It trains the students in the analysis, planning and management of the systems of library and information centers.

It provides the students thorough understanding of IT applications in information environment including networks and communication systems.

(e) Instructional Design

i. Curriculum Design

The Open University system is more learner-oriented, and is geared to cater to the needs of motivated students assuming that the student is an active participant in the teaching-learning process.
Face to Face Contact Programme by University Professors/ experienced professionals.

Sl. No.	Course Code	Title of the Course	CIA Max.	ESE Max.	TOT Max.	C Max.
FIRST YEAR						
I Semester						
1.	**10911**	Library and Society	25	75	100	4
2.	**10912**	Information Sources, Systems and Service	25	75	100	4
3.	**10913**	Information Processing-I: Classification Theory	25	75	100	4
4.	**10914**	Information Processing-III: Classification Practice	25	75	100	4
		Total	**100**	**300**	**400**	**16**

II Semester						
5.	**10921**	ICT in Libraries	25	75	100	4
6.	**10922**	Management of Libraries and Information Centres	25	75	100	4
7.	**10923**	Information Processing-II: Cataloguing Theory	25	75	100	4
8.	**10924**	Information Processing-IV: Cataloguing Practice	25	75	100	4
		Total	**100**	**300**	**400**	**16**
		Grand Total	**200**	**600**	**800**	**32**

CIA: Continuous Internal Assessment, ESE: End Semester Examination, TOT: Total, C: Credit Points, Max.: Maximum

No. of Credits per Course (Theory) -4

No. of Credits per Course (Practical) - 4

Total No. of Credits per Semester- 16

Total No. of Credits per Programme- 16 X 2 = 32

ii. Detailed Syllabi

Paper 1:LIBRARY AND SOCIETY

UNIT I

Libraries and Information Centres – Definition, Need and Importance, Emerging Trends – The impact of Social, Cultural, Educational, Economic and Technological changes in library & information services.

UNIT II

Five Laws of Library Science – Their relevance – Library extension activities – Outreach programmers.

UNIT III

History of Libraries in USA, UK and India – growth and development of Library and Information Science

UNIT IV

Types of Libraries – National, Public, Academic, and Special – Their functions –

UNIT V

National Libraries - India, USA, UK and Russia– Functions.

UNIT VI

Library Legislation – Model State and Central Library Act in India — Delivery of Books and Newspapers Act – Copyright Act - IPR

UNIT VII

Public Libraries Act in India - current status - Tamilnadu – Karnataka, Andhra Pradesh

UNIT VIII

Library Cooperation - Resource Sharing and Library Consortia – Definition, need and purpose –

UNIT IX

Networking of Libraries india – types of Networks – DELNET, INFLIBNET, UGC – INFONET, DAE Consortium, CSIR - E-Journals Consortium.

UNIT X

Networking of Libraries - International level - International Librarians Network - International Nuclear Library Network (INLN) - International School Libraries Network (ISLN)

UNIT XI

Library and Librarianship – Qualities of good librarian – Professional Ethics

UNIT XII

Professional associations – International Role of ALA, ASLIB, IFLA,CILIP, UNESCO

UNIT XIII

Professional associations – National ILA, IASLIC, IATLIS, MALA –RRLF

UNIT XIV

Ethical dilemmas (eg. censorship, privacy); Professional standards, Personal responsibility and odes of Conduct; Liability and information quality

SUGGESTED READINGS:

1. Bhatt (R K). History and development of libraries in India. 1995. Mittal Publications, New Delhi.
2. Chapman (E A) and Lynden (F C). Advances in librarianship. 2000. Academic Press, San Diego.
3. Chowdhury (G G), Burton (P F) and McMenemy (D). Librarianship: the complete introduction. 2008. Neal-Schuman Publishers, New York.
4. Feather (J). The information society: a study of continuity and change. Ed. 5. 2008. Facet Publishing, London.

5. Khanna (J K). Library and society. 1955. Research Publication, Kurukshetra.
6. Krishan Kumar. Library organisation. 1993. Vikas, New Delhi.
7. Martin (W J). The information society. 1988. Aslib, London.
8. Ranganathan (S R). Five laws of library science. Ed. 2. 1989. SaradaRanganathan Endowment for Library Science, Bangalore.
9. Singh (S P). Special libraries in the electronic environment. 2005. Bookwell, New Delhi.
10. Venktappaiah (V) and Madhusudhan (M). Public library legislation in the new millennium. 2006. Bookwell, New Delhi.

Paper 2: INFORMATION SOURCES, SYSTEMS AND SERVICES

Unit I

Information, Information explosion & information environment – Nature and characteristics of information.

Unit II

Information transfer – Means & methods – Formal & informal- Barriers to Communication.

Unit III

Sources of Information – Documentary – Non-documentary – Published and unpublished – Types of information sources – Primary, Secondary, Tertiary sources.

Unit IV

Categories of information sources – Encyclopedias – Dictionaries, Directories, Handbooks& Manuals – Biographical sources – Geographical sources- Bibliographies, Almanacs, Year Books.

Unit V

General evaluation of information sources – Authority scope, arrangement, treatment, etc – Abstracting and indexing periodicals.

Unit VI

Information Systems – National level - Need Purpose and Functions – NISCAIR, DESIDOC

Unit VII

Information Systems – International National level - NASSDOC, AGRIS, MEDLARS, INIS.

Unit VIII

Information services – Reference service – Definition, need and types –Ready reference service – Long range reference service

Unit IX

User needs – User Education. Documentation services – Current awareness service, SDI.

Unit X

Bibliographical services – Types of Bibliographies – INB and BNB – Planning, Compilation of Bibliography.

Unit XI

Electronic resources – Types of Electronic resources – advantages and disadvantages

Unit XII

Web based resources and services – Evaluation criteria.

Unit XIII

Reference Librarian: Role, Skills, & Competencies.

Unit XIV

Reference Interview & Search Techniques - Literature search

SUGGESTED READINGS:

1. Cheney (FN) and williams (w j). Fundamental reference sources. Ed.3. 2000. ALA, Chicago.
2. Farmer (LSJ), Ed. The human side of reference and information services in academic libraries: adding value in the digital world.2007. Chandos Publishing, Oxford.
3. Fourie (D) and Dowell (D). Libraries in the information age.2002. Libraries Unlimited, New York.
4. Kakabadse, Nada K and Kakabadse, Andrew K. Creating future: Leading change through information systems. Ashgate, USA, 2000.
5. Ranganathan (S R). Reference service. Ed 2. 1989. Ranganthan Endowment for Library Science, Bangalore.
6. Gale Group: Information industry association. Information sources, The association, 1988, pp300.
7. Lea, Peter W**:** Printed Reference Materials. Ed.3 London, Library Association, 1990.
8. Parker , CC & Purely: Information sources in science and Technology ,Ed.2. 1986.
9. Sharma J.S. and Grower D.: Reference service and sources of information, New Delhi, ESS, 1987.
10. Bell, Simon. Learning with information systems: Learning cycles in information systems development. London, Routledge, 1996

Paper 3: INFORMATION PROCESSING-I CLASSIFICATION THEORY

Unit I

Classification: Need and Purpose of classification – Basic concepts and terminologies – Species of Classification Schemes

Unit II

Knowledge classification – Universe of subjects – Development and modes of formation of subjects.

Unit III

Knowledge Classification and document classification – Physical arrangement of documents – Notation – Functions – arrays

Unit IV

Theory and Development - General Theory: Normative Principles

Unit V

Fundamental categories – Facet analysis – Principles of inversion and facet sequence – Principles of helpful sequence.

Unit VI

Canons of Classification – Postulates and Postulation Approaches – Zone analysis, Systems and Specials Phase analysis

Unit VII

Notation and Construction of Classification Number - Need, Purpose, Types and Qualities

Unit VIII

Common Isolates – Standard Sub Division - Devices in Library Classification

Unit IX

Schemes of library classification – Historical development – DDC, UDC, CC

Unit X

Enumerative and Analytico Synthetic schemes – Comparative study of DDC & CC.

Unit XI

Call Number: Class Number, Book Number and Collection Number - Construction of Class Numbers

Unit XII

Major Contributions by S.R. Ranganathan to classification Theory and

UNIT XIV

Trends in Library Classification: KOS in the Internet world, Ontology, Folksonomy. Taxonomy Categories.

SUGGESTED READINGS:

1. Parkhi, RS: Library Classification: Evolution and Dynamic Theory, Bombay, Asia, 1960.
2. Ranganathan SR: Colon Classification. Ed 6, Bombay, Asia, 1963.
3. Ranganathan, SR: Prolegomena to Library Classification, Ed 2, London, Library Association, 1965.

4. Sehgal R.L.: Number Building in Dewey Decimal Classification Universal Decimal Classification & Colon Classification, ESS-ESS publication, New Delhi, 1993.
5. Raju A.: Universal Decimal Classification, T.R. Publishers, 1991.
6. Ohdedara A.K.: Library Classification, The world press Pvt., Ltd., Calcutta, 1973.
7. Sharma C.K. and Sharma Amit K.: Library classification, Atalantic publishers & Distributors, 2007.
8. Pushpa: Library classification: Theory and priniciples, Wishwaprakashan, New Delhi.
9. Satija M.P. and Agruwal S.P.: Book Numbers, concept publishing company, New Delhi.
10. Ranghanathan S.R. ed. Palmer B.I.: SharadaRanghanathan endowment for library science: Elements of library classification, Bangalore, 1991.

Paper 4: INFORMATION PROCESSING– III: CLASSIFICATION PRACTICE

Classification of Documents according to abridged Dewey Decimal Classification (DDC) 19th edition.

For details refer Course material.

Paper 5: INFORMATION COMMUNICATION TECHNOLOGIES IN LIBRARIES

Unit I

Information Technology: Definition and their major components.

UNIT II

Introduction to computers, Components, Types, Advantages

Unit III

Networking: Concepts, objectives and Types.

Unit IV

Telecommunications, Wireless Communication, Wi-Fi

Unit V

Hardware and Software, Programming Language

Unit VI

System Software and Application Software

Unit VII

Nature and type of Software packages and their use, Library and Information Software packages, Features of India Software packages.

Unit VIII

Open Sources software – GSDL, KOHA, Dspace

Unit IX

Library Automation of Library housekeeping operations

Unit X

Computerized Information Service management of Computerized Library.

Unit XI

Digitization – Definition, Need, Purpose – process – methods and Equipment

Unit XII

Library and Information Networks, INFLIBNET - DELNET

Unit XIII

Resource Sharing Networks, Internet.

Unit XIV

Metadata Standards – Doublincore – Z39.50

SUGGESTED READINGS:

1. Information Technology: Basics (Block 1,2,3,4) IGNOU Study Materials
2. Information Technology in Libraries – Prem Singh and Khanna, J.K. (PragatiPrakasan, Delhi)
3. Electronic Library – Rowley, Jennifer (LA, London)
4. Lucy, A. Tedd. An Introduction to computer based library system. Ed.3 Chinchester, Wiley, 2005
5. Lancaster, F.W. Electronic publishing and their implications for libraries and beyond, London, Clive bingley, 1990
6. Library Networks, an Indian Experience – Kaul, H.K. (Vorgo publ. Delhi)
7. Computer Based Library System – Tedd, L.
8. Managing Library Automation – Harbour, R.T. (ASLIB, London)
9. Gorman, G.E. Digital factor in Library and Information Services. London: Facet publishing, 2002. Haynes, David. Metadata for Librarianship in India. London: Greenwood Press, 2004
10. Patel, Jashu. Libraries and Librarianship in India. London, Greenwood Press, 2001.

Paper 6: MANAGEMENT OF LIBRARIES AND INFORMATION CENTRES

Unit I

Principles of Management and their application in library management -Library as a System

Unit II

Organizational structure of different types of library, Scientific Management Character - Advantages and Disadvantages - Open access

Unit III

Housekeeping Operations: Book / Information Resource selection and acquisition section, License negotiation and relevant rights issues.

Unit IV

Technical processing section: Serial control and circulation control - Policy, procedures and methods of maintenance and stock verification - Collection evaluation and weeding out

Unit V

Collection Management: Policy and procedures for print and non-print resources including print and ejournals - Selection criteria and tools - Barriers of acquisition including licensing of electronic resources - Library security

Unit VI

Types of information resources and classification of documents - Different Types of Selection tools and theirs importance.

Unit VII

Acquisition: Book Selection, Ordering and accessioning etc. - Circulation: Charging and Discharging etc.

Unit VIII

Library Building / Space: Building and space management of library and information centres - Safety issues - Equipments and furniture- in addition for differently able people - Library standards - Indian and International

Unit IX

Policy, procedures and methods of maintenance and stock verification - Collection evaluation and weeding out - Shelf rectification Binding and Preservation of Library materials.

Unit X

Library authority and library committee.

Unit XI

Human Resource Development: Need, Purpose and Mechanism Personnel Planning in Libraries: Recruitment, Selection and Training.

Unit XII

Budgeting: Principles of budgeting, types of budget and allocation of budget (Petty cash and regular expenses like postage/mailing, nominal maintenance etc.) and Reporting and Preparation of Budget - Sources of finance in different type of libraries

Unit XIII

Reporting: Various types of Report generation including Annual report

Unit XIV

Approaches of Management: Management by Objectives – Organisational hierarchy - System approach to MBO.

SUGGESTED READINGS:

1. Application of Management Technique to Library and Information Systems, 12th IASLIC Conference, Roorkee, 1979.
2. Chatterjee, AK: Introduction to Management: Its Principles and Techniques, Kolkatta, World Press.
3. Davar, RS: The Management process, 1982.
4. Jones, N & Jordan, P: Staff Management in Library and Information work, 1982.
5. Katz, WA: Collection Development: Selection of Materials for libraries, New York, HRW, 1980.
6. Krishna Kumar: Library Administration and Management, Delhi, Vikas, 1987.
7. Sharma JK: Personnel Management in Libraries, 1981.
8. Philip D. Leighton and David C. Weber, Keyes D. Metcalf ed: Planning academic and research library buildings, ESS-ESS publication, New Delhi, 2010.
9. Dr. SubodhGopal Nandi: Library Management: Recent thoughts and development, Kaveri Books, 2011.
10. Rakesh Kumar ShantilaPraiapati: Theories and practices of library management, Discovery publishing house, Pvt. Ltd, 2013.

Paper 7: INFORMATION PROCESSING – II: CATALOGUING THEORY

Unit I

Library catalogue-Definition, need, purpose and functions – Physical forms Catalogue

Unit II

Types of Library Catalogue – Subject catalogue – Classified, dictionary, alphabetical – Functions of subject catalogues and comparative study of different types

Unit III

Catalogue codes – Origin, growth and development since 1930 – Classified Catalogue Code (CCC) and AACR -2

Unit IV

Preparing entries in Catalogue - Choice and rendering the entries – Single, Multiple, Corporate authors, Serials, Non- Book materials.

Unit V

Subject Indexing Languages – Sear's List of subject headings – Chain Procedure – PRECIS, POPSI and Uniterm Indexing.

Unit VI

Normative principles, canons and laws of cataloguing – their implications.

Unit VII

Co-operative and Centralized Cataloguing – Role of library of congress, Union Catalogue - Centralized cataloguing in India – Problems and prospects

Unit VIII

Electronic form of catalogues - CIP, OPAC, MARC, and World Cat

Unit IX

Descriptive cataloguing - Standardization at International level – ISBD, ISBN, ISSN. RDA, QR Code

Unit XI

Meaning Definition, Purpose and Importance of Metadata - Basic Features of Metadata - Types of Metadata - Elements of Metadata. - Benefits of Metadata for Libraries and Users.

Unit XII

Metadata Standards: Dublin Core, Z239, MARC -21 and ISO 2009

Unit XIII

Automated cataloguing and Indexing, Web OPAC – Features, Emerging Trends.

Unit XIV

Information Retrieval – Boolean Operators – Types of Searches

SUGGESTED READINGS:

1. RanganathanSR : Cataloguing Practice, Ed 2, Bombay, Asia, 1964.
2. RanganathanSR : Classified catalogue code with additional rules for Dictionary catalogue, Ed 5, Bombay, Asia, 1963.
3. RanganathanSR : Library Catalogue: Fundamentals and Procedure, Madras, Library Association, 1950.
4. Viswanathan, CG : Cataloguing Theory and Practice, 1990.
5. Dr. janaki Raman C.: Online cataloging, Pacific books international, New Delhi, 2011. Krishan Kumar: An introduction to AACR-2, Vikash publishing house, 1986.
6. Khan M.T.M.: Anglo American Cataloguing Rules (AACR), Shree publishers & distributors, New Delhi, 2005.
7. Eric J Junter&Bakewell K.G.B.: Cataloguing, Clive Bingley, London.
8. Mishra A.R. & Ahmad M.D.: Issues in Digital Cataloging, Shree Publishers & Distributors, New Delhi, 2004.
9. Bidgut Mal: Practical cataloguing, Shree publishers & Distributors, New Delhi, 2005.
10. Ranghanathan S.R.: Cataloguing practice, SharadaRanghanthan Endowment for library science.

Paper 8: INFORMATION PROCESSING –IV: CATALOGUING PRACTICE

Cataloguing of books, Serials and Non Nook material according to AACR-2R and Sears List of Subject Headings.

For details refer Course material.

iii. Duration of the Programme

It is One Year.

iv. Faculty requirement

Staff Category	Required
Core Faculty	2
Faculty - Specialization	1
Clerical Assistant	1

v. Instructional Delivery Mechanisms

The instructional delivery mechanisms of the programme includes SLM – study materials, face to face contact session for both theory and practical courses of the programme, e-content of the study materials in the form of CD, and virtual laboratory wherever applicable.

vi. Identification of Media:

The SLM – designed study materials will be provided in print media as well is in the form of CD which carries electronic version of the study material in addition to virtual laboratory courses.

vii. Student Support Services

The student support services will be facilitated by the head quarter i.e., Directorate of Distance Education, Alagappa University, Karaikudi and its approved Learning Centres located at various parts of Tamil Nadu. The pre-admission student support services like counselling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at head quarter and Learning Centres. The post-admission student support services like issuance of identity card, study materials, etc. will be routed through the Learning Centres. The face to face contact sessions of the programme for both theory and practical courses will be held at the head quarter and Learning Centres. The conduct of end semester examinations, evaluation and issuance of certificates will be done by office of the controller of examinations, Alagappa University, Karaikudi.

(f) Procedure for admission, curriculum transaction and evaluation

A Candidate with any degree from a recognised University shall be eligible for B.L.I.Sc.

i. Fee Structure

Sl No.	Fee Details	Amount in Rs.
1	**Admission Processing Fee**	**100**
2	**Course Fee**	**4200**
3	**ICT**	**150**
	Total	**4450**

ii. Admission Policy

Admission under Distance Education Stream

The candidate may seek admission either directly to the University or through any one of the approved Learning Centres.

If the candidates enroll directly with the University, the Course Materials shall be directly handed over to them or sent to them and they have to attend the Contact Classes at Karaikudi only.

If candidates enroll through Learning Centres, the Course Materials shall be sent through the Learning Centres and they have to attend the Contact Classes arranged by the Learning Centres at their places.

Direct admission with the University

The following documents are to be enclosed along with the filled-in application:

- The original entry qualification of HSC/ Diploma Certificate or Degree or Provisional Certificate and a copy attested by the Gazetted Officer. (Original Certificates will be returned immediately after verification).

- Student Index Card with stamp size photo and signature affixed.
- Demand Draft for the prescribed total fee drawn in favour of the Director, DDE, Alagappa University payable on any bank at Karaikudi.
- No Transfer Certificate is required for admission to any of the Courses. However, a 'Course Completion Certificate' may be issued for those candidates who apply for it.
- The Transfer Certificate can be issued only on production of the following documents: by post (or) in person (candidate only)
    - Previous original T.C of the candidate.

- Fees Rs-100/- Through Demand Draft ("Favouring the Director, DDE, Alagappa University, Karaikudi") (OR) payment through cash Counter at DDE campus.
- Copy of Student I.D card.

The filled-in application along with the required documents should be sent to the following address by Registered Post before the last date specified:

The Director
Directorate of Distance Education
Alagappa University
Karaikudi - 630 003

Tamil Nadu.

Admission through Learning Centre

The filled-in application has to be submitted through the Learning Centres along with the following documents:

- The original entry qualification of HSC/ Diploma Certificate or Degree or Provisional Certificate and a copy attested by the Gazetted Officer. (Original Certificates will be returned immediately after verification).
- Student Index Card with a stamp size photo and signature affixed.
- The candidate has to submit two Demand Drafts separately towards Course Fee
- One Demand Draft in favour of the Director, DDE, Alagappa University, payable at Karaikudi towards the University Share, and the others in favour of the Learning Centre concerned through whom the candidate seeks admission.
- The above Two Demand Drafts should be submitted to the Learning Centre along with the filled-in Application.
- No Transfer Certificate is required for admission to any of the Courses. However, a 'Course Completion Certificate' may be issued for those candidates who apply for it.
- The candidates are advised not to pay any fees in the form of Cash to the Learning Centre under any circumstances.

iii. Curriculum transaction

PCP Classes are conducted at regular intervals. The classroom teaching would be through chalk and talk method, use of OHP, Power Point presentations, web-based lessons, animated videos, etc. The face to face contact sessions would be such that the student should participate actively in the discussion. Student seminars would be conducted and scientific discussions would be arranged to improve their communicative skill.

For practical courses, the procedure will be issued to the learners. In the concerned areas, instruction would be given for the practical activities followed by showing the records and the documents. And finally the students have to do the activities individually.

The face to face contact sessions will be conducted in following durations;

Course Type	Face to Face Contact Session per Semester (in Hours)
Theory Courses (3 courses with 4 credits each)	48
Practical Courses (1 course with 4 credits)	120
Total	**168**

iv. Evaluation

The evaluation shall be conducted separately for theory and practical to assess the knowledge acquired during the course of study. There shall be two systems of evaluation viz., internal assessment and end semester examinations.

In the case of theory courses the internal evaluation shall be conducted as Continuous Internal Assessment via Student assignment preparation. The internal assessment shall comprise of maximum 25 marks for each subject. The end semester examination shall be of three hours duration to each course at the end of each semester. The end semester examinations shall comprise of maximum of 75 marks for each course. The candidate failing in any course(s) will be permitted to appear for each failed course(s) in the subsequent examination.

For Practical courses, the internal evaluation will be done through continuous assessment of skill in collecting the data and record note preparation. The external evaluation consists of an end semester practical examinations which comprise of 75 marks for each course. The candidate failing in any course(s) will be permitted to appear for each failed course(s) in the subsequent examination.

Question Paper Pattern:

Answer all questions (one question from each unit with internal choices Time: 3 Hours Max.

Marks: 75

Part A- 10 x 2 Marks = 20 Marks

Part B -5 x 5 Marks = 25 Marks

Part C- 3 x 10 Marks = 30 Marks

Distribution of Marks in Continuous Internal Assessments:
The following procedure shall be followed for awarding internal marks for **theory** courses

Component	Marks
Assignments	25
Total	**25**

The following procedure shall be followed for awarding internal marks for **Practical**courses

Internal –Practical	Marks
Record	25
Total	**25**

Passing Minimum:

The candidate shall be declared to have passed the examination if the candidate secures a minimum of 40%. There shall be no passing minimum for internal. For external examination, passing minimum will be 40%. An aggregate of 40% is needed (External + Internal) for a pass in each theory.

For a pass in the Practical paper, a candidate has to secure a minimum of 40% marks. There shall be no passing minimum for internal. For external examination, passing minimum will be 40%. An aggregate of 40% is needed (External + Internal) for a pass in each practical. However submission of all record note book is a must.

Candidate who does not obtain the required minimum marks for a pass in a course shall be required to appear and pass the same at a subsequent appearance.

Marks and Grades:

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0-10.0	O	Outstanding
80-89	8.0-8.9	D+	Excellent
75-79	7.5-7.9	D	Distinction
70-74	7.0-7.4	A+	Very Good
60-69	6.0-6.9	A	Good
50-59	5.0-5.9	B	Average
00-49	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

C_i = Credits earned for the course i in any semester
G_i = Grade Point obtained for course i in any semester.
n refers to the semester in which such courses were credited

For a semester;

Grade Point Average [GPA] = $\sum_i C_i G_i / \sum_i C_i$

Grade Point Average = Sum of the multiplication of grade points by the credits of the courses

Sum of the credits of the courses in a semester

For the entire programme;

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

CGPA = Sum of the multiplication of grade points by the credits of the entire programme

Sum of the credits of the courses for the entire programme

CGPA	Grad	Classification of Final Result
9.5-10.0	O+	First Class- Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First Class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
0.0 and above but below 5.0	U	Re-appear

*The candidates who have passed in the first appearance and within the prescribed semester of the PG Programme are eligible.

Maximum duration for the completion of the course:

The maximum duration for completion of BLISc Degree in programme shall not exceed ten semesters from the completion of the course.

Commencement of this Regulation:

These regulations shall take effect from the academic year 2018-2019 (June session) i.e., for students who are to be admitted to the first year of the course during the academic year 2018-2019 (June session) and thereafter.

(g) Requirement of the laboratory and Library Resources

The course contains two papers which are meant for practice in the laboratory. Computer laboratory available in the Library will be utilised for these kinds of practicing.

(h) Cost estimate of the programme and the provisions

The cost estimate of the programme and provisions for the fund to meet out the expenditure to be incurred in connection with B.L.I.ScProgrammeis as follows:

Sl. No.	Expenditure Heads	Approx. Amount in Rs.
1	Programme Development	7,00,000/-
2	Programme Delivery	14,00,000/-
3	Programme Maintenance	2,10,000/-

(i) Quality assurance mechanism and expected programme outcomes

1.University's Moto:

'Excellence in Action'

2. University's Vision Statement:

Achieving Excellence in all spheres of Education, with particular emphasis on "PEARL"- Pedagogy, Extension, Administration, Research and Learning.

3. University's Objectives:

1. Providing for Instructions and Training in such Branches of Learning as the University may determine. *
2. Fostering Research for the Advancement and Dissemination of Knowledge

4. University's Quality Policy:

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

5. University's Quality Quote:

Quality Unleashes Opportunities towards Excellence (QUOTE)

6. Programme's Review Mechanism:

The quality of the programme depends on scientific construction of the curriculum, strong-enough syllabi, sincere efforts leading to skilful execution of the course of the study. The ultimate achievement of this programme of study may reflect the gaining of knowledge and skill in the subject. And all these gaining of knowledge may help the students to get new job opportunities, upgrading in their position not only in employment but also in the society, make students feel thirsty to achieve in research in the fields associated with the discipline-Library Sciences achieving in competitive examinations on the subject.

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations. Apart from the end semester examination-based review feedback from the alumni, students, parents and employers will be received and analyzed for the further improvement of the quality of the BLISc Programme.

ALAGAPPA UNIVERSITY, KARAIKUDI
(Accredited with A+ Grade by NAAC (CGPA: 3.64) in the Third Cycle)
Directorate of Distance Education

Minutes of the Board of Studies Meeting of Library and Information Science Courses (DDE) held on 30th May, 2017 at 10.30 a.m. in the Department of Library and Information Science, Alagappa University.

Members Present:

Dr. S. Thanuskodi Professor & Head, DLIS, Alagappa University	:	Chairperson
Dr. A. Thirunavukkarasu Librarian, Central Library, Alagappa University	:	Member
Dr. S. Ravi Professor, DDE, Annamalai University	:	Member
Dr. N. Radhakrihnan Associate Professor, DLIS, Periyar University	:	Member
Dr. R. Sevukan Associate Professor & Head, DLIS, Pondicherry University	:	Member

At the outset, the chairman extended a very warm welcome to all the members of the Board of Studies and briefly narrated the need for revision of syllabi for Certificate, UG and PG Courses of Library and Information Science offered through Directorate of Distance Education, Alagappa University.

The Board of studies thoroughly scrutinized the curriculum structure of the above mentioned programmes of Library and Information Science and made necessary changes in the curriculum structure incorporating the nascent developments in the fields. In tune with the changes and updations it is recommended to write new lessons for all the papers with Self Learning Materials (SLM) pattern. The board also recommended to offer the revised curriculum at the earliest.

Dr. S. Ravi

Dr. A. Thirunavukkarasu

Dr. R. Sevukan

Dr. N. Radhakrihnan

Dr. S. Thanuskodi

தொலைநிலை கல்வி இயக்ககம்

அழகப்பா பல்கலைக் கழகம்

(தேசியத் தர நிர்ணயக் குழுவின் மூன்றாம் சுற்றுத் தர மதிப்பீட்டில் A^+ (CGPA:3.64) தகுதி பெற்றது)

அழகப்பாபுரம்

காரைக்குடி – 630 003

இளங்கலைத்தமிழ் - இலக்கியம் (பி.லிட்.,தமிழ்)

பாடத்திட்ட வடிவமைப்பு

2018– 2019 ஆம் கல்வியாண்டு முதல் நடைமுறைக்குரியது

இளங்கலைத் தமிழ் (இலக்கியம்)

a) நோக்கம் :

- தமிழ் குறித்த மரபுக் கவிதைகள், புதுக்கவிதைகள் , நாடகம் , சிறுகதை, புதினம் போன்றவற்றை விளக்குதல்.
- நன்னூலில் இடம்பெற்றுள்ள எழுத்து, புணரியல். பெயர், வினை, பொது, இடை, உரி ஆகிய இயல்கள் விளக்கம்- நடைமுறைத் தமிழில் மொழிப்பயிற்சி- பிழையற எழுதுதல் - ஒற்றுப்பிழை -தொடர்பிழை- பொருள் மயக்கம் முதலியன இல்லாத நிலை குறித்து விளக்குதல். தண்டியலங்காரத்தில் திணை ஒழுக்கங்களை விளக்கி அணிநயம் எடுததுரைத்தல்.
- கலம்பகம், பரணி இலக்கியம், பிள்ளைத் தமிழ்,உலா போன்வற்றை எடுத்துரைத்தல்.
- திருமந்திரம் ,திருவாசகம் போன்ற சமய இலக்கியங்கள் வழி சமயக் கருத்துக்களை எடுத்துரைத்தல்.
- தமிழிலக்கிய வரலாற்றைத் தொல்காப்பியத்தில் தொடங்கி இருபதாம் நூற்றாண்டு வரை தமிழ் வளர்ச்சி அடைந்த விதம் பற்றி எடுத்துரைத்தல்.
- ஊடகவியல் - தோற்றம் வளர்ச்சி - வரலாறு வகைகள் பணிகள் - அச்சு வழி – மின் வழி – அஞ்சல் - தந்தி – வானொலி – சினிமா – கணினி - இணையம் - வலைத்தளம் - முகநூல் - மின்னஞ்சல் - மின்இதழ் - வாட்ஸ்அப் ஆகியவை பற்றி விளக்குதல்

b) இலக்கு :

அழகப்பா பல்கலைக் கழகத் தொலைதூரக் கல்வியின் மூலம், அனைவரும் பயன்பெறும் வண்ணம், இளங்கலைத் தமிழைத் தொலைதூரக் கல்வி வழியாக வழங்கும் திட்டம் திட்டமிடப்பட்டுள்ளது. நாட்டின் வளர்ச்சிக்கான சமூக வளங்களை மேம்படுத்தும் எண்ணத்துடன் பொருளாதார நிலையில் பின்தங்கியவர்கள், வேலைவாய்ப்பைத் தேடிக் கொண்டு மேற்படிப்பு படிப்பதற்காகச் சிறப்பான முறையில் தரமான கல்வியை வழங்கும் நோக்கில், தொலைதூரக் கல்வி இயக்ககத்தில் பள்ளி ஆசிரியர்கள், இல்லறத்தில் உள்ள மகளிர், சமூகத்தில் கல்வியறிவுடன் அறிவினையும் வளர்த்துக் கொள்ள விரும்புவோர், அரசியல்வாதிகள் ஆகியோர் இதன் மூலம் பயன்பெறுவதே இதன் இலக்காகும்.

c) தொலைதூரக் கல்வி மூலம் பயில்வோர்

பள்ளிப் படிப்பை முழுமையாக நிறைவு செய்தோர், பள்ளிப் படிப்பை முடித்து விவசாயம் செய்வோர், கைத்தொழில் செய்வோர், தொழிலாளர்கள், அரசியல்வாதிகள், பதவி உயர்வு அடைய விரும்புவோர் ஆகியோர் இக்கல்வி முறை மூலம் கற்க இயலும்

d) தொலைதூரக் கல்வி மூலம் திறன்கள் மற்றும் திறமைகளைப் பெறுதல்:

தமிழில் உள்ள இலக்கிய இலக்கண நூல்களைப் படித்து அறிவை வளர்த்தல். மொழிப் பயிற்சி, படைப்பாற்றல், திறனாய்வு, ஆராய்ச்சி ஆகியவற்றை வளர்த்துக் கொள்ளும் பொருட்டு, கருத்தாளர்கள் மற்றும் நல்ல பயிற்சியாளர்கள் , சிறந்த சொற்பொழிவாளர்கள், கவிஞர்கள் ஆகியோர் மூலம் திறமைகளை மாணவர்கள் பெறுகிறார்கள்.

e) பாடத்திட்ட வடிவமைப்பு :

பருவம்	தாள் எண்	தாள் குறியீட்டு எண்	பாடங்கள்	அக மதிப் பெண்கள்	தேர்வு மதிப் பெண்கள்	மொத்த மதிப்பெண்	மதிப் பீடுகள்
	முதற்பருவம்						
1	1	10711	இக்கால இலக்கியம்	25	75	100	4
	2	10712	இலக்கணம் - நன்னூல் - எழுத்து	25	75	100	4
	3	10713	தமிழக வரலாறு	25	75	100	4
	4	10714	சிற்றிலக்கியம்	25	75	100	4
				100	**300**	**400**	**16**
	இரண.டாம்பருவம்						
2	5	10721	அற இலக்கியம்	25	75	100	4
	6	10722	இலக்கணம் : நன்னூல் - சொல்	25	75	100	4
	7	10723	தமிழ் மொழி வரலாறு	25	75	100	4
	8	10724	திராவிட மொழிகளின் ஒப்பாய்வியல்	25	75	100	4
				100	**300**	**400**	**16**
	மூன்றாம் பருவம்						
3	9	10731	சமய இலக்கியம்	25	75	100	4
	10	10732	இலக்கணம் அகப்பொருளும் யாப்பும்	25	75	100	4
	11	10733	தமிழிலக்கிய வரலாறு	25	75	100	4
	12	10734	காப்பிய இலக்கியம்	25	75	100	4
				100	**300**	**400**	**16**
	நான்காம் பருவம்						
4	13	10741	கவிதை இலக்கியம்	25	75	100	4
	14	10742	இலக்கணம் புறப்பொருளும் அணியிலக்கணமும	25	75	100	4
	15	10743	நாட்டுப்புறவியல்	25	75	100	4
	16	10744	இதழியியல்	25	75	100	4
				100	**300**	**400**	**16**
	ஐந்தாம்பருவம்						
5	17	10751	பண்டைய இலக்கியம்	25	75	100	4
	18	10752	இலக்கணம் : தொல்காப்பியம் : எழுத்து - இளம்பூரணம்	25	75	100	4
	19	10753	ஊடகவியல்	25	75	100	4
	20	10754	இலக்கணம் : தொல்காப்பியம் : சொல் - சேனாவரையம்	25	75	100	4
				100	**300**	**400**	**16**
	ஆறாம்பருவம்						
6	21	10761	ஒப்பிலக்கியம்	25	75	100	4
	22	10762	இலக்கணம் : தொல்காப்பியம் : பொருள் - இளம்பூரணம்	25	75	100	4
	23	10763	நாடகத் தமிழ்	25	75	100	4
	24	10764	விளம்பரக் கலை	25	75	100	4
				100	**300**	**400**	**16**
			மொத்தம்			**2400**	**96**

Course Code Legend:

1	0	7	Y	Z

107- B.Litt.Tamil Programme

Y -Semester No

Z - Course number in the semester

No. of Credits per Course (Theory)- 4

Total No. of Semester - 6

Total No. of Credits per Semester- 16

Total No. of Credits the Programme- 16 X 6 = 96

f) **1. பாடச் சேர்க்கைக்கான தகுதி:**

பி.லிட்., தமிழ் - பட்டப்படிப்பில் சேருவதற்கு பன்னிரண்டாம் வகுப்பில் தமிழை மொழிப் பாடமாகப் படித்திருக்க வேண்டும். +2 பாடத்திட்டத்தில் சிறப்புத் தமிழ் படித்தவர்களுக்கு முன்னுரிமை தர வேண்டும்.

2. தேர்ச்சிக்கான மதிப்பெண் :

ஒவ்வொரு தாளிலும் தேர்ச்சி பெறுவதற்கு எழுத்துத் தேர்வில் 75 மதிப்பெண்களில் குறைந்தது 30 மதிப்பெண்களைப் பெறுதல் வேண்டும். கால அளவு 3 மணி நேரமாகும். 25 அக மதிப்பெண்களில் குறைந்தது 10 மதிப்பெண்களைப் பெறுதல் வேண்டும்.

3. அக மதிப்பீடும் வினாத்தாள் அமைப்பும்

அக மதிப்பீடு

ஒவ்வொரு பாடத்திட்டத்திலும் அகமதிப்பீட்டிற்கு 25 மதிப்பெண்கள் கீழ்கண்டவாறு வழங்கப் பட வேண்டும்.

1. ஒப்படைப்புக் கட்டுரை(1) - 15 மதிப்பெண்கள
2. ஒப்படைப்புக் கட்டுரை(1) 10 மதிப்பெண்கள

மொத்தம் 25 மதிப்பெண்கள்

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3) வினாத்தாள் அமைப்பு :

காலம் 3 மணிகள் மொத்த மதிப்பெண் : 75

பகுதி–அ (10X2=20)

அனைத்து வினாக்களுக்கும் விடையளித்தல் வேண்டும்.

பகுதி - ஆ (5X5=25)

ஒரு பக்க அளவில் விடையளித்தல் வேண்டும்

பகுதி - இ (3 X 10 =30)

பெருவினாவைக் கட்டாயமாகக் கேட்டல் வேண்டும். இதில் **ஐந்துபெருவினாக்கள்** கொடுத்து எவையேனும் **மூன்று வினாக்களுக்கு** மட்டும் விடையளித்தல் வேண்டும்.

குறிப்பு :

1. **பகுதி 'அ'** வில் 1 முதல் 10 வரையும்
2. **பகுதி'ஆ'** வில் 11 முதல் 15 வரையும்
3. **பகுதி 'இ'**வில் 16 முதல் 20 வரையும்

பாடநூல்களிலிருந்து மட்டும் வினாக்கள் அமைதல் வேண்டும்

முதலாமாண்டு முதற்பருவம்

தாள் 10711 - இக்கால இலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

கவிதை, சிறுகதை, புதினம்,நாடகத்தின் மூலம் தமிழ் உணர்வை வளர்த்தல்.

கூறு 1 : பாரதியார் - குயில்பாட்டு

கூறு 2 : பாரதிதாசன் தமிழ் குறித்த கவிதைகள்

கூறு 3 : கண்ணதாசன் - மாங்கனி

கூறு 4 : புதுக்கவிதைகள் - கவிஞர்கள், மீரா – ஊசிகள் ,மு.மேத்தா – ஊர்வலம்

கூறு 5 : இளம்பிறை – நீ எழுத மறுக்கும் எனதழகு,ஆ.வெண்ணிலா – யுத்தம்பற்றி...கவிஞர் சீராளன் ஜெயந்தன்- இடைவேளை,கவிஞர்பிருந்தாசாரதி – ஞாயிற்றுக் கிழமை பள்ளிக்கூடம்

கூறு 6 : தேனம்மைலட்சுமணன் (சூலும் சூலமும் அன்னப்பட்சி கவிதை தொகுப்பு ப-32) - தங்கம்மூர்த்தி கவிதைகள் (என் பண்டிகையின்நாட்குறிப்பிலிருந்து முதல் கவிதை)

கூறு 7 : ஹைக்கூ கவிதைகள் 100 - இரா.மோகன் (தொகுப்பு)

கூறு 8 : வ.சுப. மாணிக்கனார் - கம்பர்

கூறு 9 : அய்க்கண் - நாடகம்

கூறு 10 : சிறு கதைகள் - புதுமைப்பித்தன் ஜெயகாந்தன் இராஜம்கிருஷ்ணன்பிரபஞ்சன் வண்ணதாசன்

கூறு 11 : பாரதிபாலன் (மாறுதடம்)

கூறு 12 : அகிலன் கண்ணன் - திருஷ்டி பரிகாரம் (இலக்கியச் சிந்தனை பரிசு பெற்றது) அம்பை (ஒரு வீட்டின் மூலை சமையலறை)

கூறு 13 : எஸ் இராமகிருஷ்ணன்-சிறு கதை

கூறு 14 : புதினம் -சு.தமிழ்ச் செல்வி(அளம்)

தாள் 10712- இலக்கணம் -நன்னூல் - எழுத்து

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

நன்னூல் -எழுத்து,பாயிரம் புணரியல் ஆகியவற்றை கற்பித்துப்,பிழையற எழுதச் செய்தல்.

கூறு 1 : நன்னூல் - ஆசிரியர்வரலாறு - சிறப்புப்பாயிரம்

கூறு 2 : பொது – பாயிரம் - நூல்வரலாறு

கூறு 3 : ஆசிரியர் வரலாறு
கற்பிக்கும் வரலாறு

கூறு 4 : மாணாக்கர் வரலாறு,கற்கும் வரலாறு

கூறு 5 : நன்னூல் - எழுத்தியல்-எழுத்து-பொது இலக்கணம்

கூறு 6 : சார்பெழுத்து-- இனவெழுத்து- வகைகள்

கூறு 7 : பிறப்புபொது இலக்கணம்

கூறு 8 : போலி-நன்னூலார் விதி

கூறு 9 : நன்னூல் - பதவியல்

கூறு 10 : நன்னூல் உயிரீற்றுப் புணரியல்

கூறு 11 : நன்னூல் - மெய்யீற்றுப் புணரியல்

கூறு 12 : நன்னூல் - உருபு புணரியல் நன்னூல் - நடைமுறைத் தமிழ்

கூறு 13 : மொழிப்பயிற்சி – பிழையற எழுதுதல் (ஒற்றுப் பிழை, தொடர்பிழை, பொருள் மயக்கம் முதலிய இல்லாமை)

கூறு 14 : கடிதம் அல்லது வரவேற்பிதழ் எழுதும் முறை.

பார்வை நூல்கள் :

1. நன்னூல் - காண்டிகையுரை

தாள் 10713 - தமிழக வரலாறு

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

தமிழக வரலாற்றைச் சான்றுகள், அயல்நாட்டார் குறிப்புகள் மூலம் தெளிவாக எடுத்துரைத்தல்.

கூறு 1 : தமிழக வரலாற்றுக்குரிய சான்றுகள் - பல்லவர் சோழர் பாண்டியர் - செப்பேடுகள் கல்வெட்டுகள்

கூறு 2 : இலக்கியங்கள் - அயல் நாட்டார் குறிப்புகள். சிந்துவெளி நாகரிகங்கள் , தமிழகத்தின் தொன்மை – தமிழர் யார்? –சங்ககாலச் சேர சோழ பாண்டியர் - சங்ககால அரசியல்

கூறு 3 : சங்ககாலக் கல்வி நிலை – பெண்டிர் நிலை –ஐந்து திணைப்பகுப்பும் அமைப்பும்

கூறு 4 : பாண்டிய நாட்டில் களப்பிரர் - களப்பிரர் வரலாறு –களப்பிரர் ஆட்சியால் தமிழகம் பெற்ற நன்மை தீமை

கூறு 5 : பல்லவர் தோற்றம் - முற்கால இடைக்கால பிற்காலப் பல்லவர்கள் வரலாறு – புதிய பல்லவர் மரபு – பல்லவரின் வீழ்ச்சியும் மறைவும் - பல்லவர் பாண்டியர் போர் பல்லவர் சாளுக்கிய தொடர்பு

கூறு 6 : பல்லவராட்சி முறை – பல்லவர் காலக் கல்வி நிலை – பெண்டிர் நிலை – சமூக வாழ்க்கை – பல்லவர் காலக் கட்டிடக் கலை - இசைக்கலை

கூறு 7 : பிற்காலச் சோழப் பேரரசின தோற்றம் - திரும்புறம்பியம் போர் - பிற்காலச் சோழர் வரலாறு

கூறு 8 : முதல்இராசராசன் முதல் இராசேந்திரன் தனிச்சிறப்பு – சோழராட்சியில் புதிய மரபு தோன்றல் - அம்மரபினர் வரலாறு – சோழரின் வீழ்ச்சியும் பாண்டியர் எழுச்சியும்

கூறு 9 : சோழராட்சி முறை – ஊராட்சி முறை – சமூக வாழ்க்கை - சோழர்களின் கடல் கடந்த வெற்றி – சோழர்களின் கட்டிடக்கலை வளர்ச்சி – கல்வி நிலை – பெண்டிர் நிலை - இசை வளர்ச்சி

கூறு 10 : இரண்டாம் பாண்டியப் பேரரசு – பாண்டியர் சோழர் தொடர்பு – பாண்டியர் வீழ்ச்சியும்

கூறு 11 : இசுலாமியர் எழுச்சியும் - மார்க்கோ போலோவின் குறிப்புகள். மதுரை நாயக்கர் வரலாறு - பாளையப்பட்டு ஆட்சி முறை

கூறு 12 : மராட்டியர் ஆட்சியும் தமிழகமும் - பூலித்தேவன் கட்டபொம்மன் - மருதுபாண்டியர் ஆகியோரின் விடுதலைப்போர்

கூறு 13 : இந்திய விடுதலைப் போரும் தமிழ்நாடும் - வேதாரண்யம் உப்பு சத்தியாகிரகம் - தமிழகக் கலைஞர்கள் கவிஞர்கள் இந்திய விடுதலைப் போரில் பங்கு பெறலும் தூண்டலும்

கூறு 14 : ஆங்கிலேயராட்சியால் தமிழகத்துக்குக் கிடைத்த நன்மைகள் தீமைகள் - பெண்ணிய இயக்கம்

பார்வை நூல்கள் :

1. தென்னிந்திய வரலாறு – கே.கே. பிள்ளை
2. தமிழக வரலாறும் பண்பாடும் - கே.கே.பிள்ளை
3. பிற்காலச் சோழ வரலாறு – டி.வி சதாசிவப் பண்டாரத்தார்
4. பாண்டியர் வரலாறு - டி.வி சதாசிவப் பண்டாரத்தார்
5. சேரர் வரலாறு – திருமந்திரமணி அ. துடிகைக்கிழார்
6. பல்லவ வரலாறு – டாக்டர் - மு.இராசமாணிக்கனார்
7. பாண்டியர் வரலாறு - இராசசேகர தங்கமணி
8. பெண்ணியம் - கதிர் மாதவன்

தாள் 10714 - சிற்றிலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

கல்லாடம் - கலம்பகம், பரணி இலக்கியம், உலா, பிள்ளைத் தமிழ் போன்ற சிற்றிலக்கியங்களை விளக்குதல்.

கூறு 1 : கல்லாடர் - கல்லாடம் - முதல் நான்கு பாடல்கள்

கூறு 2 : பூமணியானை – பகையுடன் கிடந்த எனத் தொடங்கும் இரண்டு பாட்டுகள் மட்டும்

கூறு 3 : நந்திக் கலம்பகம் -முதல் பாதி

கூறு 4 : நந்திக் கலம்பகம -அடுத்தபாதி

கூறு 5 : பாசுரங்கள் 63 மட்டும் பெரியாழ்வார் - திருப்பல்லாண்டு

கூறு 6 : வண்ணமாடங்கள்

கூறு 7 : மாணிக்கங்கட்டி

கூறு 8 : சீதக்கடல்

கூறு 9 : தன்முகத்து

கூறு 10 : செயங்கொண்டார் - கலிங்கத்துபரணி முழுவதும்

கூறு 11 : செயங்கொண்டார் - கலிங்கத்துபரணி

கூறு 12 : ஒட்டக்கூத்தர் - குலோத்துங்கச் சோழனுலா - முதல் பாதி

கூறு 13 : ஒட்டக்கூத்தர் - குலோத்துங்கச் சோழனுலா– அடுத்தபாதி

கூறு 14 : குமரகுருபரர் - மீனாட்சியம்மை பிள்ளைத் தமிழ் முழுவதும்

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முதலாமாண்டு இரண்டாம் பருவம்

தாள் 10721 - அற இலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

இலக்கியங்கள் நேர்முகமாக உணர்த்தும் வாழ்வியல் அறங்களை மாணக்கர் மனத்துள் ஊன்றச் செய்தல்

கூறு 1 : வாழ்வியல் நூல் - திருக்குறள்
கூறு 2 : குடிமை
கூறு 3 : மானம்
கூறு 4 : பெருமை
கூறு 5 : சான்றாண்மை
கூறு 6 : பண்புடைமை
கூறு 7 : நாலடியார்- அறன் வலியுறுத்தல
கூறு 8 : நாலடியார்-அறிவுடைமை - பிறர் மனை நயத்தல்
கூறு 9 : நாலடியார் -பழமொழி நானூறு : 52 முதல் 75
கூறு 10 : பழமொழி நானூறு 76முதல் 101 வரையிலான பாடல்கள்
கூறு 11 : திருமந்திரம் : யாக்கை நிலையாமை
கூறு 12 : திருமந்திரம் - செல்வம் நிலையாமை
கூறு 13 : திருமந்திரம் -இளமை நிலையாமை
கூறு 14 : நீதி நெறி விளக்கம் - 51-50 பாடல்கள்

தாள் 10722 - இலக்கணம் - நன்னூல் - சொல்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

நன்னூல் சொல்லதிகாரத்தில் பெயர், வினை . இடை ,உரி ,பொதுவியலை விளக்கி நிறுத்தற் குறிகள்,இடவேண்டிய நெறிமுறைகளை விளக்குதல்.

கூறு 1 : நன்னூல் - பெயரியல்-சொல் பொது இலக்கணம்

கூறு 2 : திணை பால்- வழக்கு-சொற்கள் வகை

கூறு 3 : பெயர்ச்சொல் -பொது இலக்கணம்- விளக்கம்

கூறு 4 : ஆகுபெயர்

கூறு 5 : வேற்றுமை

கூறு 6 : நன்னூல் - வினையியல் -வினைசொல் -பொது இலக்கணம்- விளக்கம்

கூறு 7 : வினைச்சொல் - வகை

கூறு 8 : வினை முற்று – வகைகள்

கூறு 9 : எச்சம் - வகை – ஒழிபு

கூறு 10 : நன்னூல் - பொதுவியல்

கூறு 11 : நன்னூல் - இடையியல்

கூறு 12 : நன்னூல் - உரி இயல்

கூறு 13 : நன்னூல் - நடைமுறைத் தமிழ் -நிறுத்தற்குறியிடல் - அரைப்புள்ளி – முக்காற்புள்ளி

கூறு 14 : மேற்கோள் குறி வியப்பு வினா குறிகள் ஆகியன இடுதலும் அவற்றின் தேவையும் - இட வேண்டிய நெறிமுறை

பார்வை நூல்கள் :

1. நன்னூல் - காண்டிகையுரை
2. சந்திக்குறியீட்டு விளக்கம் - மர்ரே

13-14

தாள் 10723 - தமிழ் மொழி வரலாறு

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

தொன்மைக் காலத்திலிருந்து இக்காலம் வரை தமிழின் ஒலி வரி வடிவ மாற்றங்களை உணர்த்துதல் காலம் தோறும் தமிழ் இலக்கணக் கூறுகள் அடைந்த மாமற்றங்களை உணர்த்துதல்.

கூறு 1 : மொழி வரலாற்றுச் சான்றுகள் - தொல் திராவிடம்
கூறு 2 : தொல்காப்பியத் தமிழ் - சங்ககாலத் தமிழ்
கூறு 3 : தமிழ் பிராமிக் கல்வெட்டுத் தமிழ்
கூறு 4 : இடைக்காலத்தமிழ் - பல்லவர் காலத் தமிழ்
கூறு 5 : சோழர்காலத் தமிழ் - நாயக்கர் காலத் தமிழ் - மராட்டியத் தமிழ்
கூறு 6 : இக்காலத் தமிழ் - உரைநடையில் பிற மொழிச் சொற்கள்
கூறு 7 : அறிவியல் தமிழ் - கலைச் சொல்லாக்கம்
கூறு 8 : மொழிபெயர்ப்பு
கூறு 9 : வானொலி– தொலைக்காட்சித் தமிழ்.
கூறு 10 : கல்வெட்டுத் தமிழ் - உயிரொலி மாற்றங்கள்
கூறு 11 : மெய்யொலி மாற்றங்கள் - தமிழகக் கிளைமொழிகள்
கூறு 12 : தமிழ் வரிவடிவ வரலாறு
கூறு 13 : தொல்காப்பியர் காலம் - இடைக்காலம் - எழுத்துச் சீர்திருத்தம்
கூறு 14 : வீரமாமுனிவரும் - பெரியாரும் - வா.செ.குழந்தைசாமி

பார்வை நூல்கள்

1. **தெ.பொ.மீ** தமிழ் மொழி வரலாறு – சர்வோதய இலக்கிய பண்ணை – மதுரை
2. **டாக்டர். மு.வ.** மொழி வரலாறு – பாரிநிலையம் ,59. பிராட்வே,சென்னை - 1

தாள் 10724 - திராவிட மொழிகளின் ஒப்பாய்வியல்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

திராவிட மொழிக் குடும்பத்தின் தாய் தமிழே என்பதனை நிறுவுவதற்கான மொழியியல் ஒப்பாய்வு முறையைக் கற்பித்தல்

கூறு 1 : திராவிட மொழிக்குடும்பம்
கூறு 2 : தென் திராவிட – நடுத்திராவிடம் குடும்பம்
கூறு 3 : திராவிட மொழிகளின் தனித்தன்மைகள
கூறு 4 : ஒலி பிறப்பு – உயிரொலி மாற்றம் -
கூறு 5 : மெய்யொலி மாற்றம் - உருபன்களும் சொல்லாக்கமும்
கூறு 6 : பெயர்கள்
கூறு 7 : திணை – பால் - இடம்
கூறு 8 : எண் உணர்த்தல்- வேற்றுமைகள்
கூறு 9 : மூவிடப்பெயர்கள்- எண்ணுப்பெயர்கள்
கூறு 10 : வினைச்சொற்களின் அமைப்பு – வினை வகைகள
கூறு 11 : வினைச் சொற்கள் காலம் காட்டும் முறை
கூறு 12 : எச்சங்களும் முற்றுகளும்
கூறு 13 : வினைப்பெயர்கள் - வினைப்பொருட்கள்
கூறு 14 : திராவிட மொழிகளின் சொற்றொடரமைப்பு

பார்வை நூல்கள் :

1. **கால்டுவெல் ஒப்பிலக்கணம்** - சைவ சித்தாந்த நூற்பதிப்புக் கழகம், சென்னை
2. **டாக்டர். இரா.சீனிவாசன்** - மொழி ஒப்பியலும் வரலாறும் அவணியகம் சென்னை-30

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இரண்டாமாண்டு மூன்றாம்பருவம்

தாள் 10731 - சமய இலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

சமய இலக்கியங்களில் பெரும் புகழ்பெற்ற திருமந்திரம்,திருப்பாவை போன்ற இன்னும் பல நூல்களில் இடம்பெற்றுள்ள செய்திகளைப் பற்றி மாணக்கர்களுக்கு எடுத்துக் கூறுதல்

கூறு 1 : திருமூலர் - திருமந்திரம் - திருமூலர் தம் வரலாறு கூறுதல் - கழக வெளியீடு (135 – 156)

கூறு 2 : ஆண்டாள் - திருப்பாவை முழுவதும்(30)

கூறு 3 : திருநாவுக்கரசர் - பாண்டிய நாட்டுப் பதிகங்கள்

கூறு 4 : திருவாலவாய் 'வேதியாவேத'–திருவாலவாய் - 'மூளைத்தானை'

கூறு 5 : திருப்பத்தூர் - 'புரிந்தமார்'

கூறு 6 : திருஇராமேச்சுரம் - 'பாசமுங்'

கூறு 7 : திருப்பூவனம் - 'வடிவேறு'– என்று தொடங்கும் பதிகங்கள் ஆக 1 முதல் 27 பாடல்கள் மட்டும்

கூறு 8 : திருப்பூவணம் - 'வடிவேறு'– என்று தொடங்கும் பதிகங்கள் ஆக 28 முதல் 53 பாடல்கள் மட்டும்

கூறு 9 : மாணிக்கவாசகர் - திருவாசகம் - திருவார்த்தை(10)

கூறு 10 : எண்ணப்பதிகம் (10) – யாத்திரை பத்து (10)

கூறு 11 : அடிகளாசிரியன் (பதி)

கூறு 12 : குதம்பைச் சித்தர் பாடல்கள் மூலம் மட்டும்

கூறு 13 : சிவப்பிரகாசர் - சோணசைல மாலை (முதல் 30 பாடல்) - இராமலிங்க வள்ளலார் - தெய்வமணி மாலை

கூறு 14 : மஸ்தான் சாகிபு : பராபரக் கண்ணி – எச்.ஏ. கிருஷ்ண பிள்ளை : இரட்சண்ய மனோகரம் (முதல் 50 பாடல்கள்)

தாள் 10732 - இலக்கணம் - அகப்பொருளும் யாப்பும்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

இலக்கியங்களில் யாப்பு இலக்கணம் எவ்வாறு பயன்படுத்தப் பட்டுள்ளது என்பதைப் பற்றி விளக்குதல்

கூறு 1 : நம்பியகப் பொருள் - அகத்திணையியல் -அகப்பொருள்-வகை-ஐந்திணை

கூறு 2 : நம்பியகப் பொருள் - கருப்பொருள்- முதற்பொருள்-விளக்கம் -அட்டவணை

கூறு 3 : நம்பியகப் பொருள்- பிரிவு-இலக்கணம்- வாயில்கள்-அகப் பொருள் மாந்தர்

கூறு 4 : நம்பியகப் பொருள் - களவியல்-கைக்ககிளை – வகை-பாங்கிமதி உடன்பாடு

கூறு 5 : நம்பியகப் பொருள் -மடல் ஏறுதல்- மடல்விலக்குதல்

கூறு 6 : நம்பியகப் பொருள் -இரவுக்குறியிடையீடு வரைவு வேட்கை-வரைவு கடாதல்-பொருள்வயிற்பிரிதல்

கூறு 7 : நம்பியகப் பொருள் - வரைவியல் -வரைவுமலிதல். அறத்தொடுநிற்றல்

கூறு 8 : நம்பியகப் பொருள் - வரைவியல- உடன்போக்கு—மீட்சி

கூறு 9 : நம்பியகப் பொருள் - கற்பியல்-கற்பின் இலக்கணம்.- பிரிவுகள்

கூறு 10 : யாப்பருங்கலக்காரிகை –விளக்கம்

கூறு 11 : யாப்பருங்கலக்காரிகை - உறுப்பியல் - எழுத்து – அசை – சீர்- தளை – அடி – தொடை

கூறு 12 : யாப்பருங்கலக்காரிகை – செய்யுளியல் - பாக்கள் - வகைகள்-

கூறு 13 : யாப்பருங்கலக்காரிகை – செய்யுளியல் - வண்ணகம் - தரவு – சுரிதகம் - அம்போதரங்கம்

கூறு 14 : யாப்பருங்கலக்காரிகை – ஒழிபியல்

பார்வை நூல்கள் :

1. நம்பியகப் பொருள் -மூலம்
2. யாப்பருங்கலக்காரிகை : மூலமும் உரையும் - அண்ணாமலைப் பல்கலைக் கழகம்
3. யாப்பருங்கலக்காரிகை :சைவ சித்தாந்த நூற்பதிப்புக்கழக வெளியீடு.

தாள் 10733 - தமிழிலக்கிய வரலாறு

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

பண்டைய காலம் முதல் தற்காலம் வரை, தமிழகத்தில் இலக்கியங்களை பயன்படுத்திய வரலாற்றை தொகுத்துக் கூறுதல்

கூறு 1 : தமிழின் தொன்மை - தொல்காப்பியம் அமைப்பும் நூல் பொருளும் எழுத்து சொல் பொருள் என்ற மூன்றிலக்கணம் ஐந்தாக வளருதல் - பாட்டியல் இலக்கண நூல்கள்.

கூறு 2 : தமிழகத்தில் சங்கமிருந்தமையின் வரலாறு – சங்கமிருந்தமைக்குச் சான்று – பதினெண்மேல் கணக்கு நூல்களும் அவற்றைபற்றிய குறிப்புகளும் - சங்க இலக்கியங்களின் தனிச்சிறப்பு

கூறு 3 : பதினெண் கீழ்க்கணக்கு நூல்கள் - அறநூல்கள் தோற்றத்திற்கான காரணங்கள் - வச்சிர நந்தியின் தமிழ்ச்சங்கம் - சமணர்களின் தமிழ்ப்பணி

கூறு 4 : தமிழ்க் காப்பியத்தின் தோற்றமும் வளர்ச்சியும் - ஐம்பெருங் காப்பியம் - ஐஞ்சிறு காப்பியம் - பௌத்தர்களின் தமிழ்ப்பணி – பிறகாலச் சோழர் காலத்தில காப்பிய வளர்ச்சி

கூறு 5 : முதலாழ்வார்கள் - திருமழிசையாழ்வார்கள் - திருமங்கையாழ்வார்கள் - பெரியாழ்வார் - ஆண்டாள் - குலசேகரர் - தொண்டரடிப் பொடியாழ்வார் - திருப்பாணாழ்வார் - நம்மாழ்வார் - மதுரகவி

கூறு 6 : ஆழ்வார்களின் தமிழ்ப்பணி. பன்னிருதிருமுறை – சம்பந்தர் - திருநாவுக்கரசர் - சுந்தரர் திருமூலர் - மாணிக்கவாசகர்

கூறு 7 : காரைக்காலம்மையார் - திருமுறைக்கண்ட வரலாறு – பாட்டியல் இலக்கண நூல்கள்

கூறு 8 : பிள்ளைத்தமிழின் தோற்றம் வளர்ச்சியும் - பரணியின் தோற்றமும் வளர்ச்சியும் - கலம்பகத்தின் தோற்றம் வளர்ச்சியும்

கூறு 9 : அந்தாதி மடல் கோவை போன்ற சிற்றிலக்கியங்களில் அமைப்பும் தோற்றமும் இசுலாமியரின் சிற்றிலக்கியத் தமிழ்த் தொண்டு

கூறு 10 : உரைநடையின் தோற்றம் - உரை நூல்கள் தோன்றல் - நாடக இலக்கிய வளர்ச்சி – கீர்த்தனை, குறவஞ்சி நாடகங்கள் - தமிழிலக்கியங்களில் நாட்டுப்புறக் கூறுகளின் தாக்கம் இசைத்தமிழ் வளர்ச்சி – மேடை நாடகங்கள்

கூறு 11 : சிறுகதைகளின் வளர்ச்சி – வ.வே.சு அய்யர் - புதுமைப்பித்தன் சிறுகதை வரலாற்றில் பெறுமிடம் ஜெயகாந்தன் சிறுகதைப் பணி பத்திரிக்கைகளும் சிறு கதை வளர்ச்சியும்

கூறு 12 : மேலைநாட்டார் தொடர்பால் தமிழுக்குப் பரவிய இலக்கிய வடிவங்களில் நாவல் பெறும் முதன்மை – வேதநாயகம் பிள்ளையின் புதினங்கள் - புதினங்கள் வெவ்வேறு வகையான வடிவங்கள்

கூறு 13 : இருபதாம் நூற்றாண்டு தமிழ்க் கவிதை – மரபுக் கவிதை – பாரதியார் பாரதிதாசன் நாமக்கல் கவிஞர் வெ.இராமலிங்கம் பிள்ளை

கூறு 14 : கவிஞர் முடியரசன் புதுக்கவிதை – ந.பிச்சமூர்த்தி நா.காமராசன் கவிஞர் மேத்தா அப்துல் ரஹ்மான் ,வைரமுத்து

தாள் 10734 - காப்பிய இலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

காப்பியங்களில் இலக்கியத்தின் பயன்பாடு பற்றி அறிதல்

கூறு 1 : இளங்கோவடிகள் - சிலப்பதிகாரம் - புகார்க்காண்டம்
கூறு 2 : இளங்கோவடிகள் - சிலப்பதிகாரம் - புகாக்காண்டம்
கூறு 3 : இளங்கோவடிகள் - சிலப்பதிகாரம் - மதுரைக்காண்டம்
கூறு 4 : இளங்கோவடிகள் - சிலப்பதிகாரம் - வஞ்சிக்காண்டம்
கூறு 5 இளங்கோவடிகள் - சிலப்பதிகாரம் - வஞ்சிக்காண்டம
கூறு 6 : திருத்தக்கத் தேவர் - சீவகசிந்தாமணி
கூறு 7 : சீவகசிந்தாமணி –கேமசரியார் இலம்பகம்
கூறு 8 : சீவகசிந்தாமணி அறக்கருத்துகள்
கூறு 9 : கம்பர் - கம்பராமாயணம் - அயோத்தியா காண்டம்
கூறு 10 : கம்பராமாயணம் - அயோத்தியா காண்டம்
கூறு 11 : சேக்கிழார் -திருத்தொண்டர் புராணம் - பூசலார் புராணம்
கூறு 12 : வீரமாமுனிவர் - தேம்பாவணி – பாலைபுகுபடலம்
கூறு 13 : உமறுப்புலவர் - சீறாப்புராணம் - குறிப்பு
கூறு 14 : மானுக்குப் பிணைநின்ற படலம்

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இரண்டாமாண்டு - நான்காம்பருவம்

தாள் 10741– கவிதை இலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

தற்காலக் கவிஞர்கள் சிலரின் கவிதைகளை மாணவர்களுக்கு அறிமுகப்படுத்தித் தற்காலக் கவிதைப் போக்கினை மாணவர்களுக்கு உணர்த்துதல்

கூறு 1	:	அ) பாரதியார்	-பாஞ்சாலி சபதம்
கூறு 2	:	ஆ) பாரதிதாசன்	-புரட்சிக் கவி
கூறு 3	:	இ) பாரதிதாசன்	-புதியதோர் உலகு செய்வோம்
கூறு 4	:	மரபுக் கவிதை	-மனோன்மணியம் சுந்தரம் பிள்ளையின் தமிழ் தெய்வ வணக்கம்
கூறு 5	:	கவிஞர் சுரதா	-சிக்கனம்
கூறு 6	:	கவிமணி தேசிய விநாயகம் பிள்ளை	-உமர்கய்யாம் பாடல்கள்
கூறு 7	:	கவியரசு கண்ணதாசன்	-தைப்பாவை
கூறு 8	:	சிற்பி பாலசுப்பிரமணியன்	-கண்ணாடிச் சிறகுள்ள பறவை
கூறு 9	:	அப்துல் ரகுமான்	--பால்வீதி
கூறு 10	:	நா.பிச்சமூர்த்தி	-தெரியவில்லை
கூறு 11	:	காசி ஆனந்தன்	-வெற்றி விழா
கூறு 12	:	கல்யாண்ஜி	-வாழ்க்கை
கூறு 13	:	கவிஞர் வைரமுத்து சவகர்லால்	-ஓ! மரங்கொத்தி பறவைகள் -கவிதைகள்
கூறு 14	:	ஹைக்கூ கவிதைகள்	-தமிழன்பன், கழனியூரன்

தாள் - 10742 - இலக்கணம் - புறப்பொருளும் அணியிலக்கணமும்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

அணியிலக்கணங்களையும் புறப்பொருளையும் விரிவாக மாணாக்கர்களுக்கு எடுத்துக் கூறல்

கூறு 1 : அ. புறப்பொருள் வெண்பாமாலை (வெட்சிப் படலம் முதல் பாடாண் படலம் முடிய)
கூறு 2 : ஆ, தண்டியலங்காரம்
கூறு 3 : வெட்சி கரந்தைப் படலங்கள்
கூறு 4 : வஞ்சி
கூறு 5 : காஞ்சி
கூறு 6 : நொச்சி
கூறு 7 : உழிஞை
கூறு 8 : தும்பை
கூறு 9 : வாகை
கூறு 10 : பாடாண்
கூறு 11 : தண்டியலங்காரம்
கூறு 12 : பொதுவியல்
கூறு 13 : தண்டியலங்காரம் - பொருளணியியல் - முதல் பத்து அணிகள்
கூறு 14 : தண்டியலங்காரம் - எஞ்சிய அணிகள் 25 மட்டும்

பார்வை நூல்கள் :

1. புறப்பொருள் வெண்பாமாலை – உ.வே.சாமிநாதையர் (பதி)
2. தண்டியலங்காரம் - கு.சுந்தரமூர்த்தி (பதி)

தாள் 10743 –நாட்டுப் புறவியல்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

அழிந்து வரும் நாட்டுப்புற இலக்கிய வகைகளுள் உள்ள இலக்கியத் தரங்களை மதிப்பிடுதலும் அவற்றை அழியாமல் பாதுகாத்தலும்

கூறு 1 : நாட்டுப்புற இலக்கியம் - விளக்கம்

கூறு 2 : நாட்டுப்புறவியலின் வரலாறு தொல்காப்பியத்தில் நாட்டுப்புற இலக்கியக் கூறுகள்

கூறு 3 : இந்திய நாட்டுப்புறவியல் - தமிழக நாட்டுப்புறவியலின் வரலாறு

கூறு 4 : ஏட்டிலக்கியங்களுள் நாட்டுபபுற இலக்கியத் தாக்கம் சங்க இலக்கியங்களில் நாட்டுப்புற இலக்கியக் கூறுகள்

கூறு 5 : தாலாட்டு – ஒப்பாரி – விடுகதை – பழமொழி

கூறு 6 : நாட்டுப்புறக் கதைகள் - நல்லதங்காள் கதை ,முத்துப்பட்டன் கதை, தேசிங்கு ராஜன் கதை

கூறு 7 : நாட்டுப்புற கலைகள் - கும்மி – கோலாட்டம்

கூறு 8 : கரகாட்டம் - மயிலாட்டம் - ஒயிலாட்டம் - பொய்க்கால் குதிரை

கூறு 9 : பொம்மலாட்டம் - தோற்பாவை

கூறு 10 : நாட்டுப்புற நம்பிக்கைகள் - விழாக்கள் - சடங்குகள்

கூறு 11 : விளையாட்டுக்கள் - வட்டாரச் சொற்கள

கூறு 12 : நாட்டுப்புறவியலும் சமூகவியலும்

கூறு 13 : நாட்டுப்புறவியலும் மொழியியலும் - நாட்டுப்புற இலக்கியக் கூறுகள்

கூறு 14 : எதுகை – மோனை - இயைபு – கற்பனை – அணிகள் - உணர்ச்சி – கருத்தமைப்பு

பார்வை நூல்கள் :

1 **நா. வானமாமலை** **தமிழ் நாட்டுப் பாடல்கள்** , நியு செஞ்சரி புக் ஹவுஸ் , சென்னை - 98

2 **முனைவர் ஆறு. இராமனாதன்** **நாட்டுப்புறவியல்** ,மணிவாசகர் பதிப்பகம் , சென்னை 600 108

தாள் 10744 - இதழியல்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

இலக்கியத்தோடு மிக நெருங்கிய தொடர்பினைக் கொண்டுள்ள இதழியல் பற்றி மாணவர்கள் அறியச் செய்தல்.

கூறு 1 : இதழியல் விளக்கம் - மக்கள் தொடர்பு சாதனங்கள்

கூறு 2 : மக்கள் தொடர்புக் கருவிகளில் பத்திரிக்கைகள் - பத்திரிக்கைகளின் பணிகள்

கூறு 3 : இதழியல் விதிகள் - பத்திரிக்கைகளின் பொறுப்புக்களும் கடமைகளும்

கூறு 4 : மக்களாட்சியில் பத்திரிக்கைகளின் பங்கு

கூறு 5 : செய்தித்தாளின் தோற்றம் - இந்திய இதழியல்

கூறு 6 : இந்திய விடுதலைப் போராட்டத்தில் இதழ்களின் பங்கு – தமிழ் இதழ்கள்

கூறு 7 : செய்தி வகைகள் - களங்கள்

கூறு 8 : செய்தியாளர்கள் - செய்தி சேகரிப்பு – செய்திகள் எழுதும் முறை – பேட்டி

கூறு 9 : தலைப்பு – தலையங்கம் - பக்க அமைப்பு – செய்தி நிறுவனங்கள்

கூறு 10 : இதழியல் சட்டங்கள்

கூறு 11 : பத்திரிக்கைக் கவுன்சில் - இதழ்களின் சுதந்திரம்

கூறு 12 : இதழ்களின் நடத்தையும் - இன்றைய இதழியல் - நிர்வாக அமைப்பு

கூறு 13 : இதழ்களின் பகுப்பும் அமைப்பும் - இதழ்களின் இடம்பெறுவன

கூறு 14 : விளம்பரங்கள் - புலனாய்வு இதழ்கள் - நச்சு இதழ்கள்

பார்வை நூல்கள் :

1. **மா.பா.குருசாமி** — **இதழியல் கலை**, குரு. தேமொழி, 117, சன்னதி தெரு, திருச்செந்தூர் - 628 215

2. **டாக்டர். வெ.கிருட்டிணசாமி** — **தகவல் தொடர்பியல்** , மணிவாசகர் பதிப்பகம் , 31 சிங்கர் தெரு, பாரிமுனை, சென்னை – 600 108

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மூன்றாமாண்டு ஐந்தாம்பருவம்

தாள் 10751 - பண்டை இலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

பண்டைய இலக்கியங்களைப் பற்றி எடுத்துரைத்தல்

கூறு 1 : ஆவூர் மூலங்கிழார் பாடல்கள் - அகம் 24 156 341 - புறம் 38 40 166 177 178 196 261 301.

கூறு 2 : கந்தரத்தனார் பாடல்கள் - அகம் 23 95 191 – குறு 155 நற் 116 146 238 306

கூறு 3 : நக்கீரர் - நெடுநல்வாடை

கூறு 4 : குமட்டூர்க் கண்ணனார் - பதிற்றுப்பத்து - இரண்டாம் பத்து

கூறு 5 : நல்லந்துவனார் - கலித்தொகை – நெய்தற்கலி முதல் 5 பாடல்கள்

கூறு 6 : ஓதலாந்தையார் - ஐங்குறுநூறு – பாலை முதல் மூன்று பத்து (செலவழுங்குவித்த பத்து செலவுப்பத்து இடைச்சுரப்பத்து) – கீரந்தையார்

கூறு 7 : பரிபாடல் 2 – திருமால் - பரிபாடல் 9 – செவ்வேள்.

கூறு 8 : திருவள்ளுவர் - திருக்குறள் - ஒழிபியல் - பொருட்பால் - 13 அதிகாரம்.-விளக்கம்

கூறு 9 : குடிமை, மானம்

கூறு 10 : பெருமை, சான்றாண்மை

கூறு 11 : பண்புடைமை, நன்றியில் செல்வம்

கூறு 12 : நாணுடைமை, குடிசெயல் வகை

கூறு 13 : உழவு, நல்குரவு

கூறு 14 : இரவு, இரவச்சம். கயமை

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தாள் 10752 - இலக்கணம் - தொல்காப்பியம் : எழுத்து - இளம்பூரணம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

தொல்காப்பிய எழுத்து இலக்கணத்தைப் பற்றி விளக்கிக் கூறுதல்

கூறு 1 : தொல்காப்பியம் - எழுத்ததிகாரம் - நூன்மரபு

கூறு 2 : இளம்பூரணாரின் உரைத்திறன்

கூறு 3 : தொல்காப்பியம் - எழுத்ததிகாரம் - மொழிமரபு

கூறு 4 : மொழிமரபு–மொழிமுதல் இறுதி எழுத்துகள்-விளக்கம்

கூறு 5 : தொல்காப்பியம் - எழுத்ததிகாரம் - பிறப்பியல்

கூறு 6 : தொல்காப்பியம் - எழுத்ததிகாரம் - புணரியல்

கூறு 7 : தொல்காப்பியம் - எழுத்ததிகாரம் - தொகைமரபு-முன்னோட்டம்

கூறு 8 : தொகைமரபு-சாரியை

கூறு 9 : தொல்காப்பியம் - உருபியல் முன்னேட்டம்

கூறு 10 : எழுத்ததிகாரம் - உருபியல்

கூறு 11 : உயிர் மயங்கியல் - அகர,ஆகார,இகர,ஈகர,உகர,ஊகார ஈறுகள்

கூறு 12 : உயிர் மயங்கியல் - எகர,ஏகார,ஐகார,ஓகார, ஔகார ஈறுகள்

கூறு 13 : தொல்காப்பியம் - எழுத்ததிகாரம் - புள்ளிமயங்கியல்

கூறு 14 : தொல்காப்பியம் - எழுத்ததிகாரம் - குற்றியலுகரப் புணரியல்

தாள் 10753 - ஊடகவியல்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

ஊடகவியலின் தோற்றம் வளர்ச்சி தகவல் தொடர்பியல் தற்காலத்தில் உள்ள தொடர்பு சாதனங்களைப் பற்றி விரிவாக கூறுதல்.

கூறு 1 : ஊடகவியல் விளக்கம் - தகவல் தொடர்பியல் (**Mass Communication**) - இதழியல்(**Journalism**)

கூறு 2 : ஊடகவியல் **(Media)** –சொற்பொருள் விளக்கம் - வரையறை

கூறு 3 : அறிஞர்களின் கருத்துக்கள் - தோற்றம் - வளர்ச்சி – வரலாறு –வகைகள் - பணிகள் - இன்றைய நிலை

கூறு 4 : வார, மாத, காலாண்டு, அரையாண்டு, ஆண்டு இதழ்கள் - சிறுவர் - மகளிர் - இலக்கியம்

கூறு 5 : வணிகம் - மருத்துவம் - அரசியல் ஆன்மிகம் - சினிமா – நிறுவன இதழ்கள்

கூறு 6 : இதழ்களின் உள்ளடக்கம் - செய்தி விளக்கம் - சேகரிப்பு – செய்தியாக்கம் - செய்தி வகைகள்

கூறு 7 : அரசியல் - திரைப்படம் - இலக்கியம் - மருத்துவம் - ஆன்மீகம் - வேலைவாய்ப்பு – விளையாட்டுச் செய்திகள் - நிருபர்கள் தகுதிகள்

கூறு 8 : ஆசிரியர்கள் - தலைப்பு – முகப்பு – உடல்பகுதி – பக்க ஒருங்கமைப்பு – தலையங்கம் - சிறப்பு நிகழ்வுகள்

கூறு 9 : விளம்பரம் - சொற்பொருள் வரையறை - இலக்கணம் - வகைகள் - பத்திரிக்கைச் சட்டங்கள் - பதிப்புரிமை

கூறு 10 : இந்திய, உலகச் செய்தி நிறுவனங்கள் - பத்திரிக்கை மன்றம்

கூறு 11 : ஊடகங்கள் - மரபு வழி - அச்சு வழி – மின் வழி – அஞ்சல் - தந்தி – வானொலி – சினிமா – தொலைநகலி

கூறு 12 : தொலைக்காட்சி – செயற்கைக்கொள் **(Satellite)**–கணினி - இணையம் - வலைத்தளம் - முகநூல் (**Face Book**)– மின்னஞ்சல் (**E-Mail**)–மின்னனு இதழ் (**E –Journal)**

கூறு 13 : கைபேசி – வாட்ஸ்அப் **(Whats app)** - குறுஞ்செயலி **(Mobile App)** - பிற சாதனங்கள்

கூறு 14 மின் தமிழ் - இணையத்தில் இணைந்த தமிழ் - இணையவழி தமிழ்க் கல்வி – கணினியியலில் தமிழ் - தமிழில் தகவல் தொடர்பியல்

பார்வை நூல்கள் :

1. எஸ். கலைவாணி - இதழியல் உத்திகள் பராசக்தி வெளியீடு பராசக்தி மகளிர் கல்லூரி குற்றாலம்
2. இரா. கோதண்டபாணி - இதழியல் கற்பக நூலகம் மதுரை – 2
3. அ. ஆலிஸ் - மக்கள் தகவல் தொடர்பியல் கலைச்சொல் அகராதி மதுமதி வெளியீடு திருச்சி
4. அ. சாந்தா
   வீ. மோகன் - மக்கள் ஊடகத் தொடர்பியல் மீடியா பப்ளிகேசன்ஸ் மதுரை - 17
5. என். வி.கலைமணி - இதழியல் கலை அன்றும் இன்றும் சாரதா பதிப்பகம் சென்னை
6. ச. ஈஸ்வரன்
   இரா . சபாபதி - இதழியல் பாவை பப்ளிகேசன்ஸ் இராயப்பேட்டை சென்னை
7. இரா. குமார் - நடைமுறை இதழியல் முல்லையகம் வெளியீடு சென்னை- 78
8. டி. லெனின் - செல்வம் தரும் இதழியல் வானவில் புத்தகாலயம் சென்னை – 17
9. க. அபிராமி - தமிழ்ப் புத்தகாலயம் தி.நகர் சென்னை
10. வை.சு.சு.கண்ணன் - மின் - தமிழ் தாணு பதிப்பகம் காரைக்குடி – 1
11. மா.பா.குருசாமி - இதழியல் கலை குரு தேமொழி ஆதித்தனார் கல்லூரி திருச்செந்தூர்
12. ச. ஈஸ்வரன்
    இரா. சபாபதி - தகவல் தொடர்புகளும் நெறிமுறைகளும் சாரதா பதிப்பகம் சென்னை - 14

தாள் 10754 – தொல்காப்பியம் - சொல் - சேனாவரையம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

தொல்காப்பியச் சொல் இலக்கணத்தைப் பற்றி விளக்கிக் கூறுதல்

கூறு 1 : தொல்காப்பியம் - சொல் - கிளவியாக்கம்

கூறு 2 : தொல்காப்பியம் - சொல் - வேற்றுமையியல்

கூறு 3 : தொல்காப்பியம் - சொல் - வேற்றுமை மயங்கியல்

கூறு 4 : தொல்காப்பியம் - சொல் - விளிமரபு

கூறு 5 : தொல்காப்பியம் - சொல் - பெயரியல்

கூறு 6 : அ.ஃறிணை ,விரவுப் பெயர்

கூறு 7 : வினையியல் - இலக்கணம் - பாகுபாடு

கூறு8 : வினையெச்சம் - தொடர்ச்சி

கூறு 9 : இடையியல் - இலக்கணம் - சாரியை - இடைநிலை – வேற்றுமை உருபுகள்

கூறு 10 : இடையியல் - அசைநிலை - இசைநிறைச் சொற்கள் -குறிப்புச் சொற்கள் - உவம உருபுகள்

கூறு 11 : தொல்காப்பியம் - சொல் - வினையியல்

கூறு 12 : தொல்காப்பியம் - சொல் - இடையியல்

கூறு 13 : தொல்காப்பியம் - சொல் - உரியியல்

கூறு 14 : தொல்காப்பியம் - சொல் - எச்சவியல்

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மூன்றாமாண்டு ஆறாம்பருவம்

தாள் 10761 - ஒப்பிலக்கியம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

பாட நோக்கம் :

இந்திய உலக ஒருமைப்பாடு நோக்கி மாணவர்களின் சிந்தனையைத் திருப்புதல் - தாய் மொழியளவில் மாணவர்களின் சிந்தனையைத் தேங்கவிடாமல் பிற மொழி இலக்கியங்களையும் கற்றிடும் , ஆய்ந்திடும் வேட்கையை உண்டாக்குதல்.

கூறு 1 : ஒப்பிலக்கியம் - விளக்கம் - வரையறை

கூறு 2 : ஒப்பாய்வின் வரலாறு – பெயரும் பெருமையும் -ஆங்கிலத்தில் ஒப்பில்க்கியம் பிரெஞ்சில் ஒப்பிலக்கியம்

கூறு 3 : தமிழில் ஒப்பிலக்கியம் -ஒப்பிலக்கியம் பற்றி அறிஞர்களின் கருத்து

கூறு 4 : பிரெஞ்சுக் கோட்பாடு – அமெரிக்க கோட்பாடு - கூர்தலறக் கோட்பாடு – அடிக்கருத்துக் கோட்பாடு

கூறு 5 : மாற்று வடிவங்களும் மீட்டுருவங்களும் - ஒப்பிலக்கியமும் மொழி பெயர்ப்பும் - தர்க்கக் கோட்பாடு

கூறு 6 : ஏற்றல் கொள்கை - இலக்கிய ஒருமைப்பாடு - இலக்கியமும் உயவியலும்

கூறு 7 : இலக்கியமும் இசையும் கூத்தும் - இலக்கியமும் ஓவியமும் - வாய்மொழியும் வரிவடிவமும்

கூறு 8 : வீரயுகப்பாடல்கள் - சங்கப் பாடல்களும் கிரேக்க வீரயுகப் பாடல்களும் - படைமடம் - நிரை கவருதல்

கூறு 9 : அறநெறிப்பாடல்கள் - அறநெறிக்காலம் - அறநெறிக்கோட்பாடுகள் - இறைநெறிப் பாடல்கள் - தோற்றம் - உள்ளீடு

கூறு 10 : புதுச்செந்நெறி இலக்கியங்கள் - தோற்றம் - தமிழில் சிற்றிலக்கியத் தோற்றம் - வளர்ச்சி – புதுச்செந்நெறி

கூறு 11 : இலக்கியப் போக்கு – வீறுணர்ச்சிப் பாடல்கள் - கவிதை இயக்கம் - தனிமனிதம்

கூறு 12 : அக வெளியீட்டுக் கொள்கை – வீறுணர்ச்சிக் கவிஞனின் கற்பனை – சமுதாயப் பார்வை – பாரதியும் வால்ட்விட்மனும் ஒப்பீடு

கூறு 13 : ஒப்பிலக்கியப் பணபும் பயனும் - இலக்கிய ஒருமைப்பாடு - இலக்கிய ஒப்பீடு – உணர்வும் அறிவும்

கூறு 14 : தேசிய இலக்கியம் - பொது இலக்கியம் - உலகப் பொதுமை இலக்கியம் - ஒப்பிலக்கியத்தின் ஆய்வுப்பரப்பு

பார்வை நூல்கள் :

1 க. கைலாசபதி ஒப்பியல் இலக்கியம்
2 வை. சச்சிதானந்தன் ஒப்பிலக்கியம் - ஓர் அறிமுகம்
3 டாக்டர்.ம.திருமலை ஒப்பிலக்கியக் கொள்கைகள்
4 தமிழண்ணல் ஒப்பிலக்கிய அறிமுகம்

தாள் 10762 - தொல்காப்பியம் - பொருள் : இளம்பூரணம்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

தொல்காப்பியத்தில் பொருள் இலக்கணம் எவ்வாறு பயன்படுத்தப் பட்டுள்ளது என்பதை விளக்குதல்

கூறு 1 : அகத்திணையியல் - அறிமுகம் - ஐவகை நிலங்கள்

கூறு 2 : அகத்திணையியல் - பிரிவில் நிகழும் கூற்றுவகைகள்

கூறு 3 : புறத்திணையியல் - அறிமுகம் - திணைவகைகள் - வெட்சித்திணை

கூறு 4 : புறத்திணையியல் - வஞ்சித்திணை – உழிஞைத்திணை

கூறு 5 : புறத்திணையியல் - தும்பைத்திணை – வாகைத்திணை

கூறு 6 : புறத்திணையியல் - காஞ்சித்திணை – பாடாண்திணை

கூறு 7 : களவியல்

கூறு 8 : கற்பியல்

கூறு 9 : பொருளியல்

கூறு 10 : மெய்யப்பாட்டியல்

கூறு 11 : உவமையியல்

கூறு 12 : செய்யுளியல் - மாத்திரை முதல் களன் வரை

கூறு 13 : செய்யுளியல் - காலம் முதல் இழைபு வரை

கூறு 14 : மரபியல்

தாள் 10763 - நாடகத்தமிழ்

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம் :

நாடகங்களின் தோற்றம் , வளர்ச்சி குறித்தும் , பல்வேறு கால கட்டங்களில் தமிழில் எழுந்த நாடகங்கள் பற்றியும் , மேடை நாடகக் கூறுகள் பற்றியும் , நாடகக் கலைக்குத் தொண்டாற்றியோர் / புதுமை செய்தோர் பற்றியும் எடுத்துக் கூறுதல்

கூறு 1 : நாடகத் தோற்றம் - தமிழில் நாடகத் தோற்றம்

கூறு 2 : அகத்தியர் - தொல்காப்பியர் கால நாடகம்

கூறு 3 : சங்க கால நாடகம்

கூறு 4 : பல்லவர் , சோழர் , நாயக்கர்

கூறு 5 : மராத்தியர்கால நாடகங்கள

கூறு 6 : நாடக வகைகள் - தெருக்கூத்து

கூறு 7 : குழந்தை நாடகம் - வானொலி நாடகம் - மொழிபெயர்ப்பு நாடகம

கூறு 8 : ஷேக்ஸ்பியர் நாடகம் - வடமொழி மொழிபெயர்ப்பு நாடகங்கள்

கூறு 9 : ஆங்கில மொழிபெயர்ப்பு நாடகங்கள்

கூறு 10 : ஆமெச்சூர் நாடகம் - ஓரங்க நாடகம்

கூறு 11 : மேடை நாடகம் - அரங்குகள் - நேரம்

கூறு 12 : நாடகத்துறைக்குப் புதுமை செய்தவர்கள் - பரிதிமாற் கலைஞர் - சங்கரதாஸ் சுவாமிகள்

கூறு 13 : எம்.கந்தசாமி முதலியார் - சி.கன்னைய நாயுடு – எஸ்.ஜி.கிட்டப்பா – பம்மல் சம்பந்த முதலியாா

கூறு 14 : என் எஸ்.கிருஷ்ணன் - சி.என்.அண்ணாத்துரை – டி.கே.சண்முகம் - நவாப் இராசமாணிக்கம் - எம்.ஆர்.இராதா – விசுவநாத தாஸ்

பார்வை நூல்கள் :

1. எஸ்.வி.சகஸ்ரநாமம் — **நாடகக் கலையின் வரலாறு** , மதுரைப் பல்கலைக் கழகம் , பல்கலைக் கழக நகர் , மதுரை
2. தி.க.சண்முகம் — **நாடகக் கலை** , அண்ணாமலைப்பல்கலைக்கழகம், அண்ணாமலை நகர்
3. டாக்டர். ஆறு. அழகப்பன் — **மேடை நாடகங்கள்** ,பாரி நிலையம் , 59 பிராட்வே , சென்னை
4. நா.ஞானசேகரன் — **இருபது நூற்றாண்டுகளில் தமிழ் நாடகக் கலை** , புத்தகச் சோலை பதிப்பகம் , 48 மகாதானத் தெரு , மயிலாடுதுறை – 609001

தாள் 10764 - விளம்பரக் கலை

மதிப்பெண் :75+ 25
மதிப்பீடு : 4

நோக்கம்:

மாணவர்களுக்கு விளம்பரத்துறையைப் பற்றி அறிந்து கொள்ளச் செய்தல்

கூறு 1 : விளம்பரங்களின் தன்மையும் நோக்கம் - விளக்கங்கள் - விளம்பரத்தின் இயல்புகள் - அறிவிப்பும் விளம்பரமும் - 2.

கூறு 2 : விளம்பரத்தின் தன்மைகள் - விளம்பர எல்லை – விளம்பர நோக்கங்கள் - விளம்பர வரலாறு – குறிக்கோள்

கூறு 3 : விளம்பரங்களின் வகைகள் - நேரடி விளம்பரம் - மறைமுக விளம்பரம் - அடிப்படை விளம்பரம் - விற்பனை நோக்கமுடைய விளம்பரங்கள் -தயாரிப்புப் பொருள்பற்றிய விளம்பரம் - அறிவுறுத்தும் விளம்பரம் - தயாரிப்பு நிறுவனம் பற்றிய விளம்பரம்

கூறு 4 : நிதி தொடர்பான விளம்பரம் - தொழில்துறை விளம்பரம் - அரசு விளம்பரங்கள் - சமூக விளம்பரங்கள் - வணிக விளம்பரங்கள் - செய்தித்தாள் விளம்பரங்கள்

கூறு 5 : வானொலி விளம்பரங்கள் - தொலைக்காட்சி விளம்பரங்கள் - திரைப்பட விளம்பரங்கள் - விளம்பரத்தின் கூறுகள்

கூறு 6 : விளம்பரத்தின் நன்மை தீமைகள் - விளம்பரத்தின் குறைபாடுகள் - விளம்பர ஒழுக்க நெறிகள்

கூறு 7 : தடை செய்யப்பட்ட விளம்பரங்கள் - விளம்பரத்திற்கான சில விதிமுறைகள் - விளம்பரத் தயாரிப்பில் இதர அம்சங்கள்

கூறு 8 : நுகர்வோர் பற்றிய முக்கிய விவரங்கள்

கூறு 9 : விளம்பரத்தின் பணிகள் - விளம்பர நிறுவனத்தின் தகுதிகள்

கூறு 10 : விளம்பர நிறுவன விருதுகள் - நுகர்வோரின் வழிகாட்டி

கூறு 11 : விளம்பர நகலின் அமைப்பு – விளம்பரத்தில் மனோதத்துவம் - விளம்பர நிறுவனங்கள் - விளம்பர அறங்கள்

கூறு 12 : விளம்பர நிறுவனங்களுக்குரிய ஒழுக்க நெறிகள் - விளம்பரத்தின் தாக்கம் - விற்பனைப் பெருக்கம்

கூறு 13 : தொலைக்காட்சி விளம்பரங்களில் தவறான போதனைகள் - விளம்பரங்களில் குழந்தைகள் - பண்பாட்டுக் கலப்பு

கூறு 14 : விளம்பர உத்திகள் - உத்திமுறைகளின் நன்மைகள் - உத்தி முறைகளின் தீமைகள் - விளம்பரம் தொடர்பான சட்டங்கள்

பார்வை நூல்கள்

1. **அ. விநாயகமூர்த்தி** — **விளம்பரக் கலை** ,பாலமுருகன் பதிப்பகம் , ஜெய்ஹிந்தபுரம் , மதுரை – 11
2. **விமல்நாத்** — **விளம்பர யுத்திகள்** , கண்ணதாசன் பதிப்பகம் ,தி.நகர், சென்னை – 17
3. **எஸ்.ரவிராஜ்** — **விளம்பரம் செய்வது எப்படி** , நியு செஞ்சரி புக் ஹவுஸ் பிரைவேட் லிட் ,சென்னை – 58

e. 3. Duration of the Programme:

The programme for the degree of Bachelor of Literature in Tamil shall consist of three academic years divided in to Six semesters. Each semester consists of Four Theory Papers. Theory course carry 4 credits each. Each semester consist of 16 credits.

e. 4. Faculty and Support Staff Requirements:

The programme for the degree of Bachelor of Literature in Tamil requires the following faculty and supporting staff:

Staff Category	Required
Faculty for Core Literature in TamilSubjects #	3
Faculty for Special Specialization#	2
Faculty for Language	2
Clerical Assistant	1

Faculty may belongs to at least Assistant Professor Level

e. 5. Instructional Delivery Mechanisms:

The instructional delivery mechanisms of the programme includes SLM – study materials, face to face contact session for both theory and practical courses of the programme, e-content of the study materials in the form of CD, MOOC courses and virtual laboratory wherever applicable.

e. 6. Identification of Media:

The SLM – designed study materials will be provided in print media as well is in the form of CD which carries electronic version of the study material in addition to MOOC and virtual laboratory courses.

e. 7. Student Support Services:

The student support services will be facilitated by the head quarter i.e., Directorate of Distance Education, Alagappa University, Karaikudi and its approved Learning Centres located at various parts of Tamil Nadu. The pre-admission student support services like counselling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at head quarter and Learning Centres. The post-admission student support services like issuance of identity card, study materials, etc. will be routed through the

Learning Centres. The face to face contact sessions of the programme for theory courses will be held at the head quarter and Learning Centres. The conduct of end semester examinations, evaluation and issuance of certificates will be done by office of the controller of examinations, Alagappa University, Karaikudi.

f. Procedure for curriculum transaction and evaluation:

f. 1. Curriculum Transactions:

The classroom teaching would be through chalk and talk method, use of OHP, Power Point presentations, web-based lessons, animated videos, etc. The face to face contact sessions would be such that the student should participate actively in the discussion. Student seminars would be conducted and scientific discussions would be arranged to improve their communicative skill.

The face to face contact sessions will be conducted in following durations;

Course Type	Face to Face Contact Session per Semester (in Hours)
Theory Courses (4 courses with 4 credits each)	64
Total	**64**

f. 3.2. Distribution of Marks in Continuous Internal Assessments:

The following procedure shall be followed for awarding internal marks for **theory** courses

Component	Marks
Assignments(2) (15+10)	25
Total	**25**

f. 3.4. Marks and Grades:

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0-10.0	O	Outstanding
80-89	8.0-8.9	D+	Excellent
75-79	7.5-7.9	D	Distinction
70-74	7.0-7.4	A+	Very Good
60-69	6.0-6.9	A	Good
50-59	5.0-5.9	B	Average
00-49	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

C_i = Credits earned for the course i in any semester
G_i = Grade Point obtained for course i in any semester.
n refers to the semester in which such courses were credited

For a semester;

Grade Point Average [GPA] = $\sum_i C_i G_i / \sum_i C_i$

Grade Point Average = Sum of the multiplication of grade points by the credits of the courses
Sum of the credits of the courses in a semester

For the entire programme;

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

CGPA = Sum of the multiplication of grade points by the credits of the entire programme

Sum of the credits of the courses for the entire programme

CGPA	Grad	Classification of Final Result
9.5-10.0	O+	First Class- Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First Class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
0.0 and above but below 5.0	U	Re-appear

*The candidates who have passed in the first appearance and within the prescribed semester of the PG Programme are eligible.

f. 3.5. Maximum duration for the completion of the course:

The maximum duration for completion of Bachelor of Literature in Tamil programme shall not exceed ten semesters from their fourth semester.

f. 3.6. Commencement of this Regulation:

These regulations shall take effect from the academic year 2018-2019 (June session) i.e., for students who are to be admitted to the first year of the course during the academic year 2018-2019 (June session) and thereafter.

f. 4. Fee Structure:

The programme has the following Fee Structure:

Sl. No.	Fees Detail	Amount in Rs.		
		First Year	Second Year	Third Year
1	Admission Processing Fee	**100.00**	**-**	**-**
2	Course Fee	**2500.00**	**2500.00**	**2500.00**
4	ICT Fees	**150.00**	**150.00**	**150.00**
	TOTAL	**2750.00**	**2650.00**	**2650.00**

The above mentioned fee structure is exclusive of Exam fees.

g. Requirement of the Library Resources:

The students who have enrolled themselves in Bachelor of Literature in Tamil Programme shall attend the face to face contact session for Theory Courses at their respective Learning Centres. Directorate of Distance Education, Alagappa University, Karaikudi housing an excellent Library facility with adequate number of copies of books in relevant titles for Bachelor of Literature in Tamil programme. The Central Library of Alagappa University also having good source of reference books. The books available at both the libraries are only for reference purpose and not for lending services.

h. Cost estimate of the programme and the provisions:

The cost estimate of the programme and provisions for the fund to meet out the expenditure to be incurred in connection with Bachelor of Literature in Tamil Programme as follows:

Sl. No.	Expenditure Heads	Approx. Amount in Rs.
1	Programme Development (Single Time investment)	**10,00,000.00**
2	Programme Delivery (Per Year)	**20,00,000.00**
3	Programme Maintenance (Per Year)	**3,00,000.00**

i. Quality assurance mechanism and expected programme outcomes:

i. 1. University's Moto:

'Excellence in Action'

i. 2. University's Vision Statement:

Achieving Excellence in all spheres of Education, with particular emphasis on "PEARL"- Pedagogy, Extension, Administration, Research and Learning.

i. 2. University's Objectives:

1. Providing for Instructions and Training in such Branches of Learning as the University may determine.
2. Fostering Research for the Advancement and Dissemination of Knowledge

i. 3. University's Quality Policy:

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

i. 4. University's Quality Quote:

Quality Unleashes Opportunities towards Excellence (QUOTE)

i.5. Programme's Review Mechanism:

The quality of the programme depends on scientific construction of the curriculum, strong-enough syllabi, sincere efforts leading to skilful execution of the course of the study. The ultimate achievement of Bachelor of Literature in Tamil programme of study may reflect the gaining of knowledge and skill in the subject. And all these gaining of knowledge may help the students to get new job opportunities, upgrading in their position not only in employment but also in the society, make students feel thirsty to achieve in research in the fields associated with the disciplineLiterture in Tamil achieving in competitive examinations on the subject.

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations. Apart from the end semester examination-based review feedback from the alumni, students, parents and employers will be received and analyzed for the further improvement of the quality of the Bachelor of Literature in Tamil Programme.

MINUTES OF THE MEETING OF THE BOARD OF STUDIES IN TAMIL (DDE) HELD ON 04.07.2017 AT 11.00 a.m. IN THE DIRECTORATE OF DISTANCE EDUCATION, ALAGAPPA UNIVERSITY, KARAIKUDI.

Members Present

1. Dr. M. Pandi - Chairman
   Professor & Head,
   Dept. of Tamil, AUDE, KKD

2. Dr. S. Rajaram - Member
   Professor,
   Dept. of Tamil, AUDE, KKD

3. Dr. S. Senthamizh Pavai - Member
   Professor & Director,
   Centre for Tamil Culture,
   AUDE, KKD

4. Dr. V. Thiruveni - Member
   Asst. Professor in Tamil
   DDE, AUDE, KKD

5. Dr. S. Balasubramanian - Member
   Professor & Head,
   Dept. of Tamil, TNOU, Chennai

The chairman of the Board Dr. M. Pandi, welcomed the members.

1. Board of Studies in Tamil has thoroughly discussed the Common language papers (Part-I and Part-II for all B.A., and B.Sc.,), B.Litt (Tamil) and MA.,(Tamil) and syllabus and made necessary changes and made corrections in the existing syllabus of all the above said programmes.

2. The corrected syllabus is enclosed herewith

a) Language Papers (Part 1 and 2) - Annexure 1
b) B.litt (Tamil) - Annexure 2
c) M.A (Tamil) - Annexure 3

Dr. M. Pandi Dr.S. Rajaram Dr. S. Senthamizh Pavai

Dr. V. Thiruveni Dr.S. Balasubramanian

ALAGAPPA UNIVERSITY

(A State University Accredited with A+ Grade by NAAC (CGPA: 3.64) in the Third Cycle)
Karaikudi, Tamilnadu, India

DIRECTORATE OF DISTANCE EDUCATION

PROGRAMME PROJECT REPORT
for
B.Sc (Computer Science)

Submitted to
UGC, DISTANCE EDUCATION BUREAU (DEB)
New Delhi
For seeking approval to introduce new programme through Distance Education Mode

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B.Sc (Computer Science)
Choice Based Credit System (CBCS)
(With effective from June 2018-19 onwards)

a) Programme mission and objectives

Mission:

It provides a strong foundation in the theoretical concepts of Computer Science as well as a firm grounding in Programming Languages. It is designed to enable one to undertake software applications for business and industry. Successful candidates could also opt for a teaching career in secondary schools.

Objectives:

The programme aims at inculcating essential skills as demanded by the industry through an interactive learning process. The broad objectives of the programme are:

- To train students in basic computer technology concepts and information technology applications.
- To enhance their career opportunities in the software development and maintenance sector in the state.
- To expose the students to Open Source Technologies so that they become familiar with it and can seek appropriate opportunity in trade and industry.
- To give hands on experience to students while developing real life IT application as part of the study.
- To augment the knowledge base of the students, through various activities which will be complementary to the theoretical studies.

Outcome:

- To widen the ability to plan, analyze, design, code, test, implement & maintain a software product for real time system
- To prepare the learners to pursue higher studies in computing or related disciplines and to work in the fields of teaching and research
- Pursuing B.Sc (CS) in this Computer oriented and technology driven era opens up a large number of job opportunities for the students. With in depth knowledge of Computer Application, Computer system, and software, the students can seek employment as Computer operator, Software Engineer, Application Specialist, Computer operator, Computer Teacher/ Instructor.

b) Relevance of the program with HEI's mission and goals

HEI's mission and goals to be offered through distance mode to reach quality higher education to the rural learners. The distance mode meets the mission of HEI's like Digital India and paper-less transaction will enrich the human resources for the uplift of the nation.

c) Nature of prospective target group of learners

The nature of prospective target group of learners is graduates from various disciplines like mathematics, physics, chemistry, electronics etc. It also includes the learners who want to become Entrepreneurs like web designers, Developers etc.

d) Appropriateness of programme to be conducted in open and distance learning mode to acquire specific skills and competence:

B.Sc CS programme through distance learning mode is developed in order to give subject specific including a) Digital computer organization b) Operating Systems c) Computer Graphics d) Unix and shell programming etc.

e) Instructional Design

e.1 Regulations and curriculum design

1. The University reserves the rights to amend the regulations, schemes of examinations and syllabi from time to time based on recent IT trends

2. Every student should secure 96 credits to complete B.Sc Computer Science programme.

3. Each theory course carries 4 credits with 75 marks in the university end semester and 25 marks in the internal assessment and each practical (lab) course carries 4 credits with 75 marks in the university end semester examination and 25 marks in the internal assessment.

Programme Code: 130

COURSE OF STUDY AND SCHEME OF EXAMINATION

I SEMESTER

S.No	Subject Code	Title	CIA marks	ESE marks	Total Marks	credits
1	13011 A / B	Part I: Tamil - Paper I /Communication Skills I	25	75	100	4
2	13012	Part II: English Paper I	25	75	100	4
3	13013	Programming in C	25	75	100	4
4	13014	Lab : Programming in C	25	75	100	4
			100	300	400	16

II SEMESTER

S.No	Subject Code	Title	CIA marks	ESE marks	Total Marks	credits
1	13021 A / B	Part I: Tamil Paper- II/Communication Skills- II	25	75	100	4
2	13022	Part II: English Paper- II	25	75	100	4
3	13023	Object Oriented Programming and C++	25	75	100	4
4	13024	Lab : Object Oriented Programming and C++	25	75	100	4
		Total	100	300	400	16

III SEMESTER

S.No	Subject Code	Title	CIA marks	ESE marks	Total Marks	credits
1	13031 A / B	Part I: Paper : Tamil Paper- III/Human Skill Development- I	25	75	100	4
2	13032	Part II: English Paper- III	25	75	100	4
3	13033	Data Structures and Algorithms	25	75	100	4
4	13034	Lab : Data Structures and Algorithms	25	75	100	4
		Total	100	300	400	16

IV SEMESTER

S.No	Subject Code	Title	CIA marks	ESE marks	Total Marks	credits
1	13041 A / B	Part I: Tamil Paper IV /Human Skill Development- II	25	75	100	4
2	13042	Part II: English Paper IV	25	75	100	4
3	13043	Java Programming	25	75	100	4
4	13044	Lab : Java Programming	25	75	100	4
		Total	100	300	400	16

V SEMESTER

S.No	Subject Code	Title	CIA marks	ESE marks	Total Marks	credits
1	13051	Operating Systems	25	75	100	4
2	13052	Relational Database Management Systems	25	75	100	4
3	13053	Computer Architecture	25	75	100	4
4	13054	Lab : RDBMS	25	75	100	4
		Total	100	300	400	16

VI SEMESTER

S.No	Subject Code	Title	CIA marks	ESE marks	Total Marks	credits
1	13061	Computer Network	25	75	100	4
2	13062	Visual Basic Programming	25	75	100	4
3	13063	Software Engineering	25	75	100	4
4	13064	Lab : Visual Basic Programming	25	75	100	4
		Total	100	300	400	16
			600	1800	2400	64

CIA: Continuous Internal Assessment **ESE**: End Semester Examination

Course Code Legend:

1	3	0	X	Y

XXX – Programme code for B.Sc CS

X – Semester Number

Y – Course Number in the Semester

No,of Credits per Course (theory) : 4

No.of Credits per Course (practical) : 4

Total No.of credits per Semester : 16

Total No.of credits of the programme : 16 * 6 = 96

e.2 Detailed Syllabi

SEMESTER I

Course Code	Title of the Course
13011A	Part I: Tamil - Paper I

PART- I TAMIL

பொதுத்தமிழ்

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1

1. **கண்ணதாசன் - ஸ்ரீ கிருஷ்ண கானம்**
   1. புல்லாங்குழல் கொடுத்த
   2. குருவாயூருக்கு வாருங்கள்

கூறு 2

1. கோகுலத்து பசுக்கள்
2. கோகுலத்தில் ஒரு நாள் ராதை
3. ஆயர்பாடி மாளிகையில்

கூறு 3

பட்டுக்கோட்டை கல்யாண சுந்தரம்

1. நெஞ்சில் குடியிருக்கும்
2. செய்யும் தொழிலே தெய்வம்

கூறு 4

1. **பாரதியார்**
   கண்ணன் என் விளையாட்டுப்பிள்ளை
   பாரத மாதா திருப்பள்ளி எழுச்சி

கூறு 5

1. **பாரதிதாசன்** - உலகப்பன் பாட்டு (5)
2. **நாமக்கல் கவிஞர்** - நோயற்ற வாழ்வு 7 பாட்டு
3. **பெ.தூரன்** - நிலா பிஞ்சு

கூறு 6

1. **வல்லிக் கண்ணன்** - வெறும் புகழ்
2. **கு.ப.இராஜகோபாலன்** - எதற்காக?
3. **மீரா** - பதினைந்து

கூறு 7

1. **சிற்பி** - சர்ப்ப யாகம்
2. **ஞானக்கூத்தன்** - தோழர் மோசிகீரனார்

கூறு 8

1. **அப்துல் ரகுமான்** - கண்ணும் எழுதேம்
2. **சண்முக சுப்பையா** - வயிறு

கூறு 9

1. **சிலப்பதிகாரம்** - வழக்குரை காதை
2. **கம்பராமாயணம்** - அயோத்தியா காண்டம்

கூறு 10

1. **சீறாப்புராணம்** - ஈத்தங்குலை வரவழைத்த படலம் (1)

கூறு 11

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

1. இன்னவாயில்
2. கொழுந்துறும்
3. பஞ்(ச) அரங்கில்

கூறு 12

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

4. எண்ணுளே
5. ஒண்தலங்கள்
6. இரவியேந்த கஞ்சக்

கூறு 13

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

7. கன்னியாயதாயும்
8. ஏந்தி ஓங்கு உளத்து
9. ஆவ தேமுனர்
10. கொல்லும் வேலொடும்

கூறு 14

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

11. என்ற வாசகம்
12. அம்பினால்
13. வேண்டும் ஓர் வினை

Course Code	Title of the Course
13011B	**PART- I : COMMUNICATION SKILLS I**

Learning objectives:

1. To make students to understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

Unit - 1 Communication – Meaning – Types- Importance

Unit – 2 Barriers to Effective Communication – Principles – Principles of Effective Communication

Unit – 3 Oral Communication – Meaning – Importance- Forms of Oral Communication

Unit – 4 Intonation –Meaning – Function- Types
Preparation of Speech- Steps Involved

Unit – 5 Principles of Effective Oral Communication

Unit – 6 Written Communication – Meaning –Steps – Importance- Advantages
Use of words and Phrases

Unit – 7 Sentence – Meaning –Sentence formation- Characteristics of an Effective Sentence

Unit – 8 Paragraph Writing –Essay Writing –Steps Involved –Outline-Layout –Contents-Drafting-Correction- Final Draft

Unit – 9 Application for Employment and Curriculum Vitae –Steps involved

Unit – 10 Non –Verbal Communication – Meaning –Types –Body Language –Postures-Gestures –Facial Expressions –Eye Contact

Unit – 11 Report Writing –Report –Types of Reports –Format of a Report

Unit – 12 Essentials of a Good Report –Preparation of Report-Procedure Involved

Unit – 13 Meetings-Purpose of the Meeting – Procedure

Unit – 14 Group Discussion –Quality of Content-Participation –Logical Presentation – Behavioral Skills

References:

1. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
2. Geetha Nagaraj, Write to Communicate, 2004.
3. Wren & Martin, English Grammar and Composition, 2002.
4. Dale Carnegie, How to Win Friends and Influence People, 1981.
5. Dale R Jordan, Language Skills and Use.
6. Gartside L. Bahld, Nagammiah and McComas, Satterwhite, Modern Business Correspondence.
7. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.
8. Wallace, Michael J, Study Skills in English.
9. Editors of Readers Digest, Super Word Power.

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Course Code	Title of the Course
13012	Part- II: English Paper I

Learning objective:

To make the students master the different topics prescribed in the Prose, Grammar and Composition.

Prose

Unit – 1	Water-the Elixir of life - C.V. Raman	
Unit – 2	Mrs. Packletide's Tiger	- SAKI
Unit – 3	A Deed of Bravery	- Jim Carbett
Unit – 4	The Cat	- Catharine M.Willson
Unit – 5	On Letter Writing	- Alpha of the Plough
Unit – 6	Our Ancestors	- Carl Sagan
Unit – 7	Our Civilization	- C.E.Foad
Unit – 8	A Hero on Probation	- B.R. Nanda
Unit – 9	Dangers of Drug Abuse	- Hardin B. Fones
Unit – 10	Food	- J.B.S. Haldane

Grammar

Unit – 11 - Articles-Gerunds-Participles-Infinitives-Modals-Proposition –Tenses.

Unit – 12 - Direct and Indirect Speech-Transformation of sentences- Active and passive voice.

Composition

Unit – XIII - Letter writing - Precis writing - Developing hints.

Unit – XIV - Dialogue writing - Paragraph writing.

References:

1. Sebastian D K, Prose for the Young Reader, Macmillan.
2. Active English Grammar, Ed. by the Board of Editors, Macmillan.
3. Modern English – A Book of Grammar Usage and Composition by N.Krishnaswamy, Macmillan Publishers.

Course Code	Title of the Course
13013	Programming in C

Course Objectives:

- To provide an overview of working principles of C language.
- To understand and apply the functions, arrays, pointers.
- To implement the features of C language in real world applications

Course Outcome:

- Able to understand the C programming techniques

Unit No.	Contents
	BLOCK 1: INTRODUCTION
1	**Introduction and Features**: History of C, Importance of C, Basic Structure of C program, character set, Tokens, keywords and identifiers
2	**Constants and variables and data types:** declaration of variables, defining symbolic constants, declaring a variable as a constant
3	**Operators and expressions:** arithmetic, relational, logical, assignment operators, arithmetic expression, Evaluation of expressions, precedence of arithmetic operators
	BLOCK 2 : I/O OPERATIONS AND DECISION MAKING
4	**Managing I/O operations:** reading and writing a character, formatted input, output
5	**Decision making and branching:** IF statement, If..else statement, nesting if else statement, else if ladder, switch statement, goto statement, while statement, do statement, for statement
6	**arrays:** one-dimensional arrays, declaration, initialization, two dimensional arrays, multi dimensional arrays, dynamic arrays
7	**Strings :** Declaration, Initialization of string variables, reading and writing strings, string handling functions
	BLOCK 3 : USER DEFINED FUNCTIONS
8	**Functions basics:** Elements of user defined functions, definitions, return values and their types, function calls, declaration, nesting of functions, recursion

9	**Structures and Unions:** Defining a structure, declaring a structure variable, accessing structure members, array of structures, array within structures, structures within structures, structures and functions
	BLOCK 4 : POINTERS
10	**pointers:** Basics, declaring, initialization of pointer variables, address of variable, accessing a variable through its pointer
11	**Pointer as Functions:** Chain of pointers, pointer increments and scale factors
12	**Strings with Pointer:** pointers and character strings, pointers and structures
	BLOCK 5 : FILES
13	**Introduction:** Introduction, Defining, opening and closing files, I/O operations on files
14	**Error Handling methods:** Error Handling during I/O operations, command line arguments

TEXT BOOK:

3. Programming with C, Schaum outline series, Gottfried, TataMcHill,2006
4. Programming with ANSI and Turbo C, Ashok N Kamthane, Pearson Education, 2006

REFERENCE BOOK:

1. C: The complete reference,H Schildt, TMH Edition, 2000
2. Kanetkar, Let Us C, BPB publications, 1999.

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Course Code	Title of the Course
13014	Lab : Programming in C

Course Objectives

- To be able to solve real world problems using C language
- To learn and implement C language programming techniques

Course Outcome

- Students can develop programming knowledge
- Students can solve any kind of problems using C language

Unit No.	Contents
	BLOCK 1: C PROGRAM FUNDAMENTALS
1	Simple C programs
2	Using IF and switch constructs programs
3	Looping related problems
	BLOCK 2 : FUNCTIONS, ARRAYS, STRINGS
4	Programs using functions
5	IF statement, If..else statement, nesting if else statement, else if ladder, switch statement, goto statement, while statement, do statement, for statement
6	One-dimensional arrays, two dimensional arrays, multi dimensional arrays
7	Initialization of string variables, reading and writing strings, string handling functions
	BLOCK 3 : STRUCTURE AND UNIONS
8	Programs using structures

9	Programs using unions
	BLOCK 4 : POINTERS
10	Initialization of pointer variables, address of variable, accessing a variable through its pointer
11	Pointer as Functions
12	Strings with Pointer: pointers and character strings, pointers and structures
	BLOCK 5 : FILES
13	Programs based on file handling
14	Error Handling methods: Error Handling during I/O operations, command line arguments

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II SEMESTER

Course Code	Title of the Course
13021 *A*	Part I: Tamil Paper - II

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

14. சொல் தவிர்ந்த
15. அன்னை
16. அஞ்சுவார்
17. சொல்லக் கேட்டனள்
18. மற்செய்கை
19. மண்கனியப்
20. அழுது ஆர்ந்த

கூறு 2

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

21. பொய் பொதுளும்
22. இன்பு அருந்தி
23. வழுதாயின இன்பு
24. மறம் ஏவினர்

கூறு 3

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

25. மண்ணோர்கள்
26. பொய்யா விதியோய்

27. விடியா இருள்
28. அழுவார் எவரும்

கூறு 4

சிறுகதை - நீலபத்மநாபனின் "வான வீதியில்"

கூறு 5

உரைநடை - கம்பன் புறத்திணை - தி.சொக்கலிங்கம்

இலக்கணம் - எழுத்தும் சொல்லும்

கூறு 6

1. முதலெழுத்துகள், சார்பெழுத்துகள்
2. மொழி முதலெழுத்துகள் , மொழி இறுதி எழுத்துகள்

கூறு 7

1. ஒற்றெழுத்து மிகலும் மிகாமையும்,
2. ஆகு பெயர் , அன்மொழித் தொகை.
3. வினா-விடை வகைகள்

கூறு 8

1. தமிழ்ச் சொல்லமைப்பின் சிறப்பு – பெயர் , வினை, இடை, உரி வடிவங்கள் ,
2. பிற மொழிச் சொற்களைத் தமிழில் ஆளும் முறைகள்

கூறு 9

3. அல் வழி, வேற்றுமைப் புணர்ச்சிகள்
4. திணை, பால் , எண் , இட இயைபு.

தமிழ் இலக்கிய வரலாறு

கூறு 10

1. **இக்கால இலக்கிய வகைகள்**
   அ) மரபுக் கவிதை
   ஆ) புதுக் கவிதையின் தோற்றமும் வளர்ச்சியும்

கூறு 11

1. **உரை நடை இலக்கியங்கள் - தோற்றமும் வளர்ச்சியும்**
   அ) கட்டுரை ஆ) சிறுகதை
   இ) புதினம் ஈ) நாடகம்

கூறு 12

1. **இக்கால இலக்கியக் களங்கள்**
   திரைப்படம் , தொலைக்காட்சி, வானொலி, இதழ்கள் தமிழுக்கு ஆற்றி வரும் பணிகள்

கூறு 13

1. **தமிழும் சமயமும் :**
   அ) சைவம் ஆ)வைணவம் இ)சமணம் ஈ)பௌத்தம் உ)இசுலாம்
   ஊ) கிறித்துவம்

கூறு 14

1. **பிற்காலக் காப்பியங்கள் :**
   அ) கம்பராமாயணம் **ஆ)** பெரியபராணம்
2. **இணையம் - பற்றிய செய்திகள்**

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Course Code	Title of the Course
13021 B	**PART-I : COMMUNICATION SKILLS - II**

Learning objectives:

1. To make students understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

Unit – 1 Code and Content of Communication Skills

Unit – 2 Stimulus and Response of Communication Skills

Unit – 3 Effective Speaking Guidelines

Unit – 4 Pronunciation Etiquette of Communication Skills

Unit – 5 Phonetics in Communication Skills

Unit – 6 A self Assessment of Communicating Soft Skills

Unit – 7 Language Skills –Ability –Skill Selected Need- Learner Centre activities

Unit – 8 Listening Skills –Importance –Types of Listening- Interview Skills

Unit – 9 Conversation Skills –Modes

Unit – 10 Presentation Skills - Preparing –Planning-Presentation

Unit – 11 Written Communication –Structure of Effective Sentences –Paragraph

Unit – 12 Technical Writing-Creative Writing- Editing and Publishing

Unit – 13 Corporate Communication Skills-Internal –Effective business writing –Letters, Proposals, Resume

Unit – 14 Corporal Communication Skills-External - Press release - Newsletters-Interviewing skills

References:

1. Dutt. Kiranmai & Geeta Rajjevan. Basic Communication Skills. Rev.ed. Foundation Books Pvt.Ltd. Cambridge House, New Delhi 2006.
2. Bill R. Swetmon. Communication Skills for the 21st Century. Chennai: Eswar Press. First South Asian Edition 2006.
3. Glass. Lillian. Talk to Win. New York: Perigee Books,1987.
4. Pease. Alan. Signals: How to Use Body Language for Power, Success and Love, New York: Bantam Books, 1981.
5. Walters. Lilly. Secrets of Successful Speakers. New York: McGraw-Hill, Inc., 1993.
6. Mandal. S.K. How to Succeed in Group Discussions & Personal Interviews. Mumbai: JAICO Publishing House.
7. Rogoff. Leonard and Ballenger. Grady. Office Guide to Business Letters, Memos & Reports. New York: Macmillan, 1994.
8. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
9. Geetha Nagaraj, Write to Communicate, 2004.
10. Wren & Martin, English Grammar and Composition, 2002.
11. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.

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Course Code	Title of the Course
13022	Part II: English Paper- II

Learning objective:

1. To make the students master the different topics prescribed in the Poetry and Language use Sections.

Poetry

Unit – 1 Sonnet - William Shakespeare
Unit – 2 Lines Composed upon Westminster Bridge -William Wordsworth
Unit – 3 Grecian Urn - John Keats (1795-1827)
Unit – 4 Andrea Del Sarto - Robert Browning (1812-1889)
Unit – 5 The Road Not Taken - Robert Frost (1874-1963)
Unit – 6 Strange Meeting - Wilfred Owen (1813-1918)
Unit – 7 Gitanjali - Rabindranath Tagore (1861-1946)
Unit – 8 The Coromandel Fishers - Sarojini Naidu
Unit – 9 The Express - Stephen Spender
Unit – 10 **Shakespeare:** The Merchant of Venice

Language Use:

Unit – 11 Essay writing

Unit – 12 Note Making

Unit – 13 Report writing

Unit – 14 Comprehension

References:

1. The Golden Quill, P.K. Seshadri, Macmillan.
2. The Merchant of Venice, Shakespeare. (Any overseas edition).
3. Active English Grammar, Ed. by the Board of Editors, Macmillan.
4. Modern English – A Book of Grammar Usage and Composition by N.Krishnaswamy, Macmillan Publishers.

Course Code	Title of the Course
13023	OBJECT ORIENTED PROGRAMMING and C++

Course Objectives:

- To provide an overview of working principles of object oriented paradigm
- To understand and apply the OOPs fundamentals
- To implement the features of OOP in real world applications

Course Outcome:

- Able to understand the object oriented programming techniques
- Able to write real world problems with C++

Unit No.	Contents
	BLOCK 1: INTRODUCTION
1	**Introduction and Features**: Evolution of Object Oriented Language, Object oriented Paradigm, Basic concept of object-oriented programming- objects, classes, encapsulation and data abstraction, inheritance, polymorphism, dynamic binding, message passing
2	**Popular OOP languages.** Moving from C to C++ Introduction – Predefined console streams, hierarchy of console stream classes,
3	**I/O operations;** Unformatted I/O operations, formatted console I/O operations, manipulators, custom/user-defined manipulators.
	BLOCK 2 : CLASSES AND OBJECTS
4	**Classes and Objects:** Introduction, class specification, class objects, accessing class members, defining member functions, accessing member functions within a class, outside member functions as inline, private member function,
5	**Memory allocation for objects:** array of objects, function prototype, call by reference, return by reference, objects as function arguments, inline function, friend function, constant parameter and member function.
6	**Object Initialization:** Introduction - constructors, default constructor, parameterized constructors, multiple constructors in a class, dynamic initialization through constructors, copy constructor, dynamic constructor, destructor. Dynamic Objects: Introduction, pointers to objects, array of pointers to objects, this pointer.

	BLOCK 3 : INHERITANCE, POLYMORPHISM AND DATA CONVERSION
7	**Inheritance:** Introduction, derived class declaration, forms of inheritance, inheritance and member accessibility, multilevel inheritance, multiple inheritance, hierarchical inheritance, hybrid inheritance.
8	**Polymorphism:** Introduction, Function overloading, Operator overloading introduction, unary operator overloading, binary operator overloading, assignment operator overloading, overloading with friend functions.
9	**Data conversion:** conversion between basic data types, conversion between objects and basic types, conversion between objects of different classes. Virtual function: Introduction, need for virtual functions, pure virtual functions, abstract classes.
	BLOCK 4 : TEMPLATES AND FILES
10	**Generic Programming with Templates:** Introduction - class templates – class template with multiple arguments
11	**Function template:** function template with multiple arguments. Inheritance of class template.
12	**Streams with Files:** Introduction, hierarchy of file stream classes, opening and closing of files, file pointers and their manipulators, sequential access to a file, file input/output with stream class, random access to a file.
	BLOCK 5 : EXCEPTION HANDLING
13	**Exception Handling:** Introduction – Basics of exception handling, exception handling mechanism, throwing mechanism, catching mechanism. Exceptions in constructors and destructors
14	**Other Exception Handling methods:** Handling uncaught exceptions, exceptions in operator overloaded functions, exception in inheritance tree, exceptions in class templates, memory allocation failure exception.

TEXT BOOK:

1. E.Balagurusamy, Object oriented programming in C++, Third Edition, Tata McGraw Hill Publications, 2007.
2. Mastering C++, K.R Venugopal and Rajkumar, T.Ravishankar, Tata McGraw Hill Publishing Company Ltd., 2006.

REFERENCE BOOK:

1. Object Oriented Programming in C++, Fourth Edition, Robert Lafore, Galgotia Publications Pvt. Ltd., New Delhi. 2010.

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Course Code	Title of the Course
13024	**LAB: OBJECT ORIENTED PROGRAMMING and C++**

Course Objectives:

- To understand and apply the OOPs fundamentals
- To implement the features of OOP in real world applications

Course Outcome:

- Able to write real world problems with C++

Unit No.	Contents
	BLOCK 1: INTRODUCTION
1	Writing simple C++ programs
2	Using if and switch constructs Programs
3	**Looping , Arrays ,Structure statements**: for, while, do-while, Strings and Matrices Programs Problems
	BLOCK 2 : OOPs CONCEPT
4	**Functions:** static function, friend function ,constructor , destructor and operator overloading and Recursive programs
5	**Inheritance :** Inheritance types
6	**Polymorphism :** polymorphism types, Virtual function
	BLOCK 3 : FILE AND POINTERS
7	**File:** File Handling C++ Programs, opening and closing a data file - creating a data file, processing a data file.
8	**Pointers :** Pointers and Pointers with Arrays Programs
9	**Virtual functions:** Pure virtual functions
	BLOCK 4 : TEMPLATES AND FILES
10	**Generic Programming with Templates:** Demonstrating class templates, class template with multiple arguments
11	**Function template:** Demonstrating function template with multiple arguments. Inheritance of class template.
12	**Streams with Files:** opening and closing of files, file pointers and their manipulators, sequential access to a file, file input/output with stream class, random access to a file.
	BLOCK 5 : EXCEPTION HANDLING
13	**Exception Handling:** programs using exception handling, Exceptions in constructors and destructors
14	**Other Exception Handling methods:** Handling uncaught exceptions, exceptions in operator overloaded functions, exception in inheritance tree, exceptions in class templates, memory allocation failure exception.

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III SEMESTER

Course Code	Title of the Course
13031 *A*	**Part I: Tamil Paper- III**

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1 : பத்துப்பாட்டு – முல்லைப்பாட்டு

கூறு 2 : எட்டுத்தொகை – ஐங்குறுநூறு

கூறு 3 : கபிலர் - குறிஞ்சித்திணை

கூறு 4 : மஞ்ஞைப்பத்து – முதல் மூன்று பாடல்கள்

கூறு 5 : குறுந்தொகை – பரணர் பாடல்கள் பா. எண். 19, 24, 36, 128, 399

கூறு 6 : நற்றிணை – பெருங்குன்றூர்கிழார் - பா. எண். 5

பெருவழுதியார் - பா. எண். 55

பெருங்கௌசிகனார் - பா. எண். 139

கூறு 7 : நற்றிணை – கருவூர்க்கோசிகனார் - பா. எண். 214

உலோச்சனார் - பா. எண் 249

கூறு 8 : அகநானூறு – சேந்தம்பூதனார் பாடல்கள் பா.எண். 84, 207

கூறு 9 : புறநானூறு – மறோக்கத்து நப்பசலையார் பாடல்கள்

பா. எண். 37, 39, 126, 226, 280

கூறு 10 : பதினெண் கீழ்க்கணக்கு – திருக்குறள் - வாழ்க்கைத் துணை நலம் (6), அறிவுடைமை (43), பிரிவாற்றாமை (116)

கூறு 11: நான்மணிக்கடிகை – எள்ளற்க (3), பறைபடவாழா (4),

கூறு 12: நான்மணிக்கடிகை - மண்ணயறிப (5),கள்ளிவயிற்றில் (6), கல்லிற்பிறக்கும்(7)

கூறு 13: நாடகம் - இராசராசசோழன் - அரு. இராமநாதன்

கூறு 14: நாவல் - சுவடுகள் - இரா. பாலசுப்பிரமணியன், சத்யா வெளியீடு, மதுரை

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Course Code	Title of the Course
13031B	**PART-I : HUMAN SKILLS DEVELOPMENT - I**

Learning objective:

1. To Make the Students develop human skills.

Unit – 1 Human Skills –Developing skills-Types

Unit – 2 Mind-Levels of functions
Habits-Meaning-Types-Merits of good habits - Interpersonal Relationship-Features- Interpersonal Behaviour

Unit – 3 Thinking ahead- Significance of thinking ahead

Unit – 4 Developing Personality-Meaning -Need- Factors influencing personality, Ways of developing personality -Building positive personality

Unit – 5 Self-concept-Self-esteem-Meaning-Importance - Self- efficacy-Self-acceptance-Meaning-Importance - Etiquette-Meaning-Etiquettes in using mobile, telephones-Dais Etiquette

Unit – 6 Goal-setting Skills-Meaning-Types-Importance-

Unit – 7 Decision-making skills-Meaning-Types-Steps in decision-making

Unit – 8 Negotiating Skills-Styles-Structure-Creating negotiation-Competitive Negotiation

Unit – 9 Attitudes-Meaning-Types-Importance-Developing positive attitudes

Unit – 10 coping with Change-Meaning-Characteristics-Importance of change Resistance to change-Dealing with change

Unit – 11 Leadership-Meaning-Importance-Characteristics-Styles-

Unit – 12 Human Relations Skill-Need-Canons of good human relations

Unit – 13 **C**ounselling-Meaning-Importance-Forms- Conflicts-Meaning-Types-Causes-Effects-Managements of conflicts

Unit – 14 Stress-Meaning-Types-Causes-Effects-Managing the stress - Anger-Meaning-Causes-Consequences-Anger Management

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

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Course Code	Title of the Course
13032	**Part II: English Paper- III**

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, One Act Plays, Grammar and Composition.

Short Stories

Unit – 1	A Hero	- R.K. Narayanan
Unit – 2	The Diamond Necklace	- Guy de Maupassant
Unit – 3	The Verger	- Somerset Maugham
Unit – 4	The Postmaster	- Rabindranath Tagore

One Act Plays

Unit – 5	The Proposal	- Anton Chekhou
Unit – 6	The Boy Comes Home	- A.A. Milne
Unit – 7	The Silver Idol	- James R. Waugh
Unit – 8	Progress	- St. John Ervine
Unit – 9	The Pie and the Tart	- Huge Chesterman
Unit – 10	Reunion	- W.st. Joh Tayleur
Unit – 11	A kind of Justice	- Margaret Wood
Unit – 12	The Refugee	- Asif Currimbhoy

Grammar

Unit – 13 Parts of speech-Noun- Pronoun- Adjective Degrees of Comparison- Verb- Adverb

Composition

Unit – 14 Agenda- Minutes- Notice- Descriptive Writing

References:

1. Aroma, Ed. by the Board of Editors, Publishers- New Century Book House, Chennai.
2. Six Short Stories, Ed. by the Board of Editors, Harrows Publications, Chennai.
3. One Act Plays, Ed. by the Board of Editors, Harrows Publications, Chennai.
4. Modern English – A Book of Grammar Usage and Composition by N.Krishnaswamy, Macmillan Publishers.
5. English for Communication, Ed. by the Board of Editors, Harrows Publications,Chennai.

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Course Code	Title of the Course
13033	DATA STRUCTURES AND ALGORITHMS

Course Objectives:

- The learner should be well versed with the fundamentals of Algorithms, learn various data structures, should be able to use them appropriately as per need during development of programs.
- Also, the learner should know different sorting and searching techniques so that correct techniques can be used in different programs so that the complexity of the program does not increase due the sorting/ search technique employed.

Course Outcome

After the completion of this course, the student will able to

- To write programs using structures, strings, arrays, pointers and strings for solving complex computational problem.
- Using the data structures real time applications
- Able to analyze the efficiency of Data Structures

Unit No	Contents
	BLOCK 1 : INTRODUCTION
1	**Introduction to Data Structure :** Types of Data Structure , Primitive data types
	Algorithms: –Time and space Complexity of algorithms
2	**Arrays:** Array initialization, Definition of Array, Characteristic of Array ,One-dimensional Array, Two-dimensional array and Multi dimensional array
	BLOCK 2 : LINEAR DATA STRUCTURE
3	**Stack :** Stack related terms, Operations on a stack,
4	**Representation of Stack:** Implementation of a stack – application of Stack. Expression Evaluation Polish notation.
5	**Queues:** Operations on queue Circular Queue, Representation of Queues, Application of Queues
6	**List:** Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list
7	**Operation on Linked List :** Insertion and Deletion of linked list
8	**Traversal:** Traversing a linked list , Representation of linked list.
	BLOCK : 3 NON-LINEAR DATA STRUCTURE
9	**Trees:** Binary Trees, Types of Binary trees, Binary Tree Representation
10	**Binary Tree operations / Applications :** Traversing Binary Trees, Binary Search tree,
11	**Operations on Binary Tree:** Insertion and Deletion operations, Hashing Techniques.
	BLOCK 4 : SEARCHING TECHNIQUES
12	**Searching :** Introduction, Searching, Linear Search, Binary Search
	BLOCK 5 : SORTING TECHNIQUES
13	**Sorting:** Bubble sort, Insertion sort, Radix sort
14	**Other sorting Techniques:** Selection sort, Quick sort, Tree sort.

Text Books:

1. Fundamentals of Data structures , Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.

Reference Books:

1. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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Course Code	Title of the Course
13034	**Lab : Data Structures and Algorithms**

Course Objectives

- To be able to solve data structure problems using C++ language
- To learn and implement C++ language programming techniques
- To introduce the efficiency of the algorithm

Course Outcome

- Students can develop programming knowledge/
- Students can solve any kind of problems using C++ language
- Data Structure based problems can be solved

Experiments based on c++ programming and Data Structures

Unit No.	Contents
	BLOCK 1 : SIMPLE C++ PROGRAMS
1	**Introduction** Simple C++ Programs
2	**Control Structures:** Using if and switch constructs Programs
3	**Looping , Arrays ,Structure statements**: for, while, do-while, Strings and Matrices Programs Problems
	BLOCK 2 : OOPs CONCEPTS
4	**Functions:** static function, friend function ,constructor , destructor and operator overloading and Recursive programs
5	**Inheritance and polymorphism:** Inheritance types and polymorphism types, Virtual function
6	**File:** File Handling C++ Programs, opening and closing a data file - creating a data file, processing a data file.
7	**Pointers :** Pointers and Pointers with Arrays Programs
	BLOCK 3: LINEAR DATA STRUCUTURE
8	**Stacks :** Stack Implementation, expression evaluation, Polish notation
9	**Queues:** Queue Implementation, Applications of Queue
10	**Linked List programs:** List, Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list.
	BLOCK 4 : NON LINEAR DATA STRUCTURE
11	***Tree Programs :*** *Trees, Binary Trees, Types of Binary trees, Binary Tree Representation, Traversing Binary Trees, Binary Search tree, Insertion and Deletion operations,*
12	**Graphs:** *Shortest Path Algorithms* *o Dijkstra's Algorithm* *o Graphs with Negative Edge costs* *o Acyclic Graphs* *o All Pairs Shortest Paths Algorithm* ***Minimum cost Spanning Trees*** *o Kruskal's Algorithm* *o Prims's Algorithm* *o Applications* *Breadth First Search*

	BLOCK 5 : SEARCHING AND SORTING ALGORITHMS
13	**Searching Techniques:** Linear and Binary search Programs
14	**Sorting techniques**: Bubble sort, Quick sort, Insertion sort, Merge sort

Reference Books:

1. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.
2. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
3. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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SEMESTER IV

Course Code	Title of the Course
13041 A	Part I: Tamil Paper - IV

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1 : செய்யுள் உறுப்புகள் - யாப்பு - எழுத்து, அசை, சீர்,

கூறு 2 : செய்யுள் உறுப்புகள் - யாப்பு - தளை, அடி, தொடை

கூறு 3 : வெண்பா, ஆசிரியப்பா, கலிப்பா, வஞ்சிப்பா,

கூறு 4 : புதிய யாப்பு வடிவங்கள் - சிந்து, கண்ணி, கீர்த்தனை

கூறு 5 : புதுக்கவிதையில் குறியீடு – படிமம்.

கூறு 6 : அகப்பொருள் - புறப்பொருள் - ஐந்திணை விளக்கம்

கூறு 7 : அகப்பொருள் துறைகள் - வரைவு கடாதல், அறத்தொடு நிற்றல்,
உடன்போக்கு

கூறு 8 : புறப்பொருள் துறைகள் - வஞ்சினக்காஞ்சி, கையறுநிலை, செவியறிவுறூஉ

கூறு 9 : அணி இலக்கணம் - உவமை, உருவகம், வேற்றுமை, பிறிது மொழிதல்,
தற்குறிப்பேற்றம், சிலேடை, பின்வருநிலை

கூறு 10 : நிறுத்தல் குறிகள்

கூறு 11 : தொல்காப்பியம் - சங்கஇலக்கியம் - எட்டுத்தொகை, பத்துப்பாட்டு,

கூறு 12 : பதினெண்கீழ்க்கணக்கு

கூறு 13 : ஐம்பெருங்காப்பியங்கள் - பிற்காலக் காப்பியங்கள் - கம்பராமாயணம் - பெரியபுராணம்

கூறு 13 : இக்காலக் காப்பியங்கள் - பாரதியின் பாஞ்சாலி சபதம் - பாரதிதாசனின் பாண்டியன் பரிசு

கூறு 14. : கண்ணதாசனின் இயேசு காவியம் , சிற்பியின் - மௌன மயக்கங்கள்.

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Course Code	Title of the Course
13041 B	**PART-I : HUMAN SKILLS DEVELOPMENT - II**

Learning objective:

1. To Make the Students develop human skills.

Unit – 1 Guidance & Counselling – Role of Counsellor - Importance and Techniques of counselling

Unit – 2 Managerial skill- Need – Importance

Unit – 3 Human relational skills-Communication-Attention

Unit – 4 Conceptual skills-Meaning-Importance

Unit – 5 Technical skills-Techniques-Practices-Tools-Procedures

Unit – 6 Presentation skills-Planning-Preparation-Delivery

Unit – 7 Organization skills-Meaning-Nature-Importance-Types

Unit – 8 Multi-Tasking skills Responsibilities-Causes

Unit – 9 Leader**-** Qualities of a good leader

Unit – 10 Understanding Skills -Human systems: Individual, Group, organization, and their major interactions

Unit – 11 Understanding Skills -Human systems: Community and Society, and their major interactions

Unit – 12 Problem solving skills – Handling –Facing - Importance

Unit – 13 Cooperative Learning Skills

Unit – 14 Making Social Responsibilities-Causes

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

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Course Code	Title of the Course
13042	Part II: English Paper - IV

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, Drama, Fiction, Tales from Shakespeare, Biographies, Grammar and Composition.

Short Stories

Unit – 1 Lalajee - Jim Corbelt
Unit – 2 A Day's Wait - Hemmingway
Unit – 3 Two old Men - Leo Tolstoy
Unit – 4 Little Girls wiser than - Men Tolstoy
Unit – 5 Boy who wanted more Cheese - William Elliot Griffir

Drama

Unit – 6 Pygmalion - G.B. Shaw

Fiction

Unit – 7 Swami and Friends - R.K. Narayanan

Tales from Shakespeare

Unit – 8 - The Merchant of Venice
Unit – 9 - Romeo and Juliet
Unit – 10 - The Winter's Tale

Biographies

Unit – 11 - Martin-Luther king - R.N. Roy
Unit – 12 - Nehru - A.J. Toynbee

Grammar

Unit – 13 - Concord- Phrases and Clauses-Question Tag

Composition

Unit – 14 - Expansion of Proverbs
- Group Discussion
- Conversation (Apologizing, Requesting, Thanking)

References:

1. Sizzlers, by the Board of Editors, Publishers-:Manimekala Publishing House, Madurai.
2. Pygmalion – G.B. Shaw
3. Swami and Friends – R.K. Narayan
4. Tales from Shakespeare Ed. by the Board of Editors, Harrows Publications, Chennai.
5. Modern English – A Book of Grammar Usage and Composition by N.Krishnaswamy, Macmillan Publishers.

Course Code	Title of the Course
13043	**JAVA PROGRAMMING**

Course objective

- To understand the basics of Java programming
- To understand Java packages, multithreaded programming

Course outcome

- Able to learn, write Java programs
- Able to develop applets graphics programs

Unit No	***Contents***
	BLOCK 1 INTRODUCTION
1	**Java Evolution:** Java history, features, java and Internet, WWW, web browsers
2	***Overview :****simple java program, program structure, tokens, statements*
3	**Writing Java programs:** JVM, constants, variables, data types, type casting
	BLOCK 2 : OPERATORS AND EXPRESSIONS
4	**Operators** : arithmetic, relational, logical, assignment, increment and decrement, conditional, bitwise, special operators
5	**Expressions :** arithmetic, Evaluation of expression, operator precedence and associatively
6	**Decision making and branching:** If, If..Else, nesting of If..Else, else..if, switch, ? Operators, while..do, for jump in loops
	BLOCK 3 : CLASSES,OBJECTS
7	**Defining a class:** adding variables, methods, creating objects, accessing members, constructors, method overloading, nesting of methods, inheritance, overriding methods, final classes
8	**Arrays, strings and vectors:** arrays, one dimensional arrays, two dimensional arrays, strings, vectors, wrapper classes
9	**Interfaces :** multiple inheritance, defining interfaces, extending interfaces, implementing interfaces, accessing interface variables
	BLOCK 4 PACKAGES AND MULTITHREADED PROGRAMMING
10	**API packages :** using system packages, naming conventions, creating packages, accessing packages, using a package, adding a class to a package

11	**Basics :** creating threads, extending the thread class, stopping and blocking a thread, life cycle of a thread, using thread methods, thread exceptions, synchronization, implementing the 'Runnable' interface
12	**Managing Errors :** types of errors, exception handling code, multiple catch statements, using finally statement
	BLOCK 5 APPLET AND GRAPHICS PROGRAMMING
13	**INTRODUCTION:** preparing to write applets, applet life cycle, applet tag, adding applet to a HTML file, running the applet
14	**The Graphics class**: lines and rectangles, circles and ellipses, drawing arcs, drawing polygons, line graphs

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Course Code	Title of the Course
13044	**LAB : JAVA PROGRAMMING**

Course Objectives:

To understand and apply the fundamentals of Java, Packages

Course requirement

Basic knowledge in programming principles

Course outcomes

- Able to create, test and run Java programs
- Able to write applet programs

Unit No	*Contents*
	BLOCK 1 JAVA FUNDAMENTALS
1	**Simple Java programs**
2	**Programs using classes and objects**
3	**Conditional statements using Java**
4	**Looping statements using Java**
	BLOCK 2 : OOP CONCEPTS
5	Operator overloading programs
6	Function overloading programs
7	Inheritance, packages
8	Polymorphism and message passing programs
	BLOCK 3 : VIRTUAL FUNCTION & THREADS
9	Threads
10	Virtual functions
	BLOCK 4 : I/O AND EXCEPTION HANDLING
11	Exception handling programs
12	I/O manipulation programs
	BLOCK 5 : APPLET AND NETWORK PROGRAMMING
13	Simple applet programs
14	Simple network programs using Java

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SEMESTER V

Course Code	Title of the Course
13051	OPERATING SYSTEMS

Course objective

- To understand the operating system basics
- To understand the real and virtual memory management

Course outcome

- Able to know the memory organization, memory management
- Able to file and disk management

Unit No	*Contents*
	BLOCK 1 INTRODUCTION
1	Introduction, components and goals, operating system architecture
2	Process concepts: Introduction, process states, process management
3	Interrupts, Interprocess communication
	BLOCK 2 : ASYNCHRONOUS CONCURRENT EXECUTION
4	Introduction, mutual exclusion, implementing mutual exclusion primitives
5	Software solution to the mutual exclusion problem, hardware solution to mutual exclusion problem, semaphores
6	Concurrent Programming, introduction, monitors
	BLOCK 3 : DEADLOCK AND INFINITE POSTPONEMENT
7	Introduction : Examples of deadlock, Related problem indefinite postponement, resource concepts
8	**Conditions for Deadlock:** Deadlock solution, prevention, avoidance with Dijkstra's banker algorithm, Deadlock detection, Recovery
9	Processor scheduling: Introduction, scheduling levels, preemptive vs nonpreemptive scheduling priorities, scheduling criteria, scheduling algorithms
	BLOCK 4 REAL MEMORY AND VIRTUAL MEMORY MANAGEMENT
10	Introduction, memory organization, memory management, hierarchy, management strategies
11	Contiguous vs non-contiguous memory allocation, fixed partition multiprogramming, variable partition multiprogramming
12	Virtual memory management Introduction, page replacement, strategies, page fault frequency, page replacement, page release, page size
	BLOCK 5 DISK PERFORMANCE & FILE, DATABASE SYSTEMS
13	Introduction, disk scheduling strategies, rotational optimization
14	File and database system introduction, data hierarchy, files, file systems, file optimization, file allocation, free space management, file access control

Text Book:

1. Operating Systems, Deital&Deital, Pearson Education,Third Edition, 2008

Reference Books

1. An Introduction to operating system concepts and practice, Pramod Chandra, PHI,2008
2. Operating system concepts, Abraham silberschatz peter Galvin, Wiley India, 2007.

Course Code	Title of the Course
13052	RELATIONAL DATABASE MANAGEMENT SYSTEMS (RDBMS)

Course Objectives:

- To understand the fundamentals of data models
- To make a study of SQL and relational database design.
- To know about data storage techniques and query processing.
- To impart knowledge in transaction processing, concurrency control techniques and External storage

Course Requirements:

- Knowledge about the basic concepts of the database.

Course Outcome:

- Design a database using ER diagrams and map ER into Relations and normalize the relations
- Acquire the knowledge of query evaluation to monitor the performance of the DBMS.
- Develop a simple database applications using normalization.

Unit No	*Contents*
	BLOCK 1 INTRODUCTION
1	**Data base System Applications**, data base System VS file System – View of Data – Data Abstraction –Instances and Schemas – data Models – the ER Model
2	***Model :****Relational Model – Other Models – Database Languages – DDL – DML – database Access for applications Programs – data base Users and Administrator – Transaction Management – data base System Structure – Storage Manager – the Query Processor.*
3	**History of Data base Systems** - Data base design and ER diagrams – Beyond ER Design Entities, Attributes and Entity sets – Relationships and Relationship sets – Additional features of ER Model – Concept Design with the ER Model – Conceptual Design for Large enterprises.
	BLOCK 2 : RELATIONAL MODEL
4	**Introduction**– Integrity Constraint Over relations – Enforcing Integrity constraints – Querying relational data – Logical data base Design – Introduction to Views – Destroying / altering Tables and Views.
5	**Relational Algebra** – Selection and projection set operations – renaming – Joins – Division – Examples of Algebra overviews –
6	**Relational calculus** – Tuple relational Calculus – Domain relational calculus – Expressive Power of Algebra and calculus.
	BLOCK 3 : SQL QUERY
7	**Form of Basic SQL Query** – Examples of Basic SQL Queries – Introduction to Nested Queries – Correlated Nested Queries Set – Comparison Operators – Aggregative Operators – NULL values – Comparison using Null values – Logical connectivity's – AND, OR and NOT – Impact on SQL Constructs – Outer Joins – Disallowing NULL values – Complex Integrity Constraints in SQL Triggers and Active Data bases. Schema refinement
8	**Normal forms :**Problems Caused by redundancy – Decompositions – Problem related to decomposition – reasoning about FDS – FIRST, SECOND, THIRD Normal forms – BCNF–

9	**Join:** Lossless join Decomposition – Dependency preserving Decomposition – Schema refinement in Data base Design – Multi valued Dependencies – FORTH Normal Form.
	BLOCK 4 TRANSACTION
10	**Introduction :**Transaction Concept- Transaction State- Implementation of Atomicity and Durability – Concurrent – Executions – Serializability- Recoverability – Implementation of Isolation – Testing for serializability
11	**Protocols :** Lock Based Protocols – Timestamp Based Protocols- Validation-Based Protocols – Multiple Granularity.
12	**Recovery and Atomicity** – Log – Based Recovery – Recovery with Concurrent Transactions – Buffer Management – Failure with loss of nonvolatile storage-Advance Recovery systems- Remote Backup systems
	BLOCK 5 STORAGE
13	**Data on External Storage** – File Organization and Indexing – Cluster Indexes, Primary and Secondary Indexes – Index data Structures – Hash Based Indexing – Tree base Indexing – Comparison of File Organizations – Indexes and
14	**Performance Tuning-** Intuitions for tree Indexes – Indexed Sequential Access Methods (ISAM) – B+ Trees: A Dynamic Index Structure.

Text Books:

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.

Reference Books:

1. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
2. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach,Firewall media, 2006
3. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
4. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

Course Code	Title of the Course
13053	**COMPUTER ARCHITECTURE**

Course objective:

- To understand the computer design
- To understand the addressing modes

Course outcome:

- Able to know the storage devices
- Able to know the memory, I/O cache performance

Unit No	***Contents***
	BLOCK 1 INTRODUCTION
1	Fundamentals: Measuring and reporting performance, quantitative principles of computer design, classifying instruction set architecture
2	Memory addressing, addressing modes, types and size of operands, operations in the instruction set, operands and operations for media and signal processing
3	Instructions for control flow, Encoding an instruction set, Example architecture,

	MIPS and TM32
	BLOCK 2 : INSTRUCTION LEVEL PARALLELISM
4	Instruction Level Parallelism: Pipelining and Hazards - Concepts of ILP - Dynamic scheduling
5	Dynamic Hardware prediction - Multiple issues - Hardware based speculation
6	Limitations of ILP - Case studies: lP6 Micro architecture
	BLOCK 3 : ILP WITH SOFTWARE APPROACH
7	Instruction Level Parallelism With Software Approaches: Compiler techniques for exposing ILP - Static branch prediction
8	Static multiple issue : VLIW - Advanced compiler support - Hardware support for exposing parallelism
9	Hardware Vs software speculation. Mechanism - IA 64 and Itanium Processor.
	BLOCK 4 MEMORY AND I/O
10	Memory And I/O: Cache performance - Reducing cache miss penalty and miss rate - Reducing hit time - Main memory and performance - Memory technology
11	Types of storage devices - Buses - RAID - Reliability, availability and dependability
12	I/O performance measures - Designing I/O system.
	BLOCK 5 MULTIPROCESSOR AND THREAD LEVEL PARALLELISM
13	Multiprocessors And Thread Level Parallelism: Symmetric and distributed shared memory architectures - Performance issues - Synchronization
14	Models of memory consistency - Multithreading.

TEXT BOOKS

1. John L. Hennessey and David A. Patterson," Computer Architecture: A Quantitative Approach", Third Edition, Morgan Kaufmann, 2003.
2. D. Sima, T. Fountain and P. Kacsuk, " Advanced Computer Architectures: A Design Space Approach", Addison Wesley, 2000.

REFERENCE BOOKS

1. Kai Hwang "Advanced computer architecture Parallelism Scalability Programmability" Tata Mcgraw Hill Edition 2001.
2. Vincent P.Heuring, Harry F.Jordan, “Computer System Design and Architecture”, Addison Wesley, 2nd Edition 2004.

Course Code	Title of the Course
13054	**RELATIONAL DATABASE MANAGEMENT SYSTEMS (RDBMS) LAB**

Course objective:

- To understand the SQL commands
- To understand the cursor, triggers, packages

Course outcome:

- Able to write from simple SQL queries to PL/SQL statements
- Able to write database applications using SQL

Unit No.	*Contents*
	BLOCK 1 : TABLE MANIPULATION
1	**Table** creation, Renaming a Table, Copying another table, Dropping a Table
2	**Table Description:** Describing Table Definitions, Modifying Tables, Joining tables, Number and Date functions.
	BLOCK 2 : SQL QUERIES AND SUB QUERIES
3	**SQL Queries:** Queries, Sub Queries, and aggregate functions
4	**DDL:** Experiments using database DDL SQL statements
5	**DML:** Experiment using database DML SQL statements
6	**DCL:** Experiment using database DCL SQL statements
	BLOCK 3 : INDEX AND VIEW
7	**Index :** Experiment using database index creation, Renaming a index, Copying another index, Dropping a index
8	***Views:*** *Create Views, Partition and locks*
	BLOCK 4 : EXCEPTION HANDLING AND PL/SQL
9	**Exception Handling:** PL/SQL Procedure for application using exception handling
10	**Cursor:** PL/SQL Procedure for application using cursors
11	**Trigger:** PL/SQL Procedure for application using triggers
12	**Package:** PL/SQL Procedure for application using package
13	**Reports:** DBMS programs to prepare report using functions
	BLOCK 5 : APPLICATION DEVELOPMENT
14	**Design and Develop Application:** Library information system, Students mark sheet processing, Telephone directory maintenance, Gas booking and delivering, Electricity bill processing, Bank Transaction, Pay roll processing. Personal information system, Question database and conducting Quiz and Personal diary

Reference Books:

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.
3. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
4. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach,Firewall media, 2006
5. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
6. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

SEMESTER VI

Course Code	Title of the Course
13061	**COMPUTER NETWORKS**

Course Objectives:

- To understand applications of computer networks
- To provide in-depth knowledge of OSI layer, multiple access protocols

Course Outcome:

- Enhance the perspective of routing algorithms, remote procedure call
- Able to gain the knowledge in network security, symmetric/asymmetric key cryptography.

Unit No.	*Contents*
	BLOCK 1 : INTRODUCTION
1	**Introduction** : computer networks applications, line configuration, topology, transmission modes
2	**Categories of Networks:** LAN, WAN,MAN, OSI layers
3	**Physical Layer:** analog and digital signals performance, transmission media
	BLOCK 2 : DATA LINK LAYER
4	**Introduction:** Error detection and correction, block coding, cyclic redundancy check, framing, flow and error control
5	**Data link layer protocols:** stop and wait protocol, sliding window protocol, ARQ, go-back-n ARQ, selective-repeat ARQ
6	**Multiple access protocols:** ALOHA, CSMA, CSMA/CD, CSMA/CA
	BLOCK 3 : NETWORK LAYER
7	**Introduction:** Circuit switching, Packet switching, Message switching, virtual circuit and datagram subnets
8	**Routing Algorithms:** state routing, shortest path routing, dynamic routing, distance vector routing
9	**Multicast Routing: algorithms, congestion, control algorithms**
	BLOCK 4 : TRANSPORT LAYER
10	**introduction:** process to process delivery, UDP, TCP, connection oriented vs connection less services
11	**Application and Services:** Domain Name system, Remote login, Mail exchange, File transfer, RPC, Remote file access, WWW and HTTP, SNMP
	BLOCK 5 : NETWORK SECURITY
12	Introduction: cryptography, Encryption models, Transposition and substitution chipers, Cryptographic principles
13	***Symmetric key cryptography:*** *DES, AES*
14	***Asymmetric key cryptography:*** *RSA, security services*

Text Books:

1. Computer Networks, 3rd Edition, Andrew S Tanenbaum, 2010
2. Data Communication and Networking, 4th edition, Behrouz A. Forouzan, 2008

Reference Books:

1. Data and computer communication , 8th edition, William stallings, prentice Hall
2. An Engineering approach to computer networks, 2nd edition, S.Keshav, Pearson education,2008

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Course Code	Title of the Course
13062	**VISUAL BASIC PROGRAMMING**

Course objectives

- To be able to understand the fundamentals of windows GUI
- To be able to run variable applications on windows
- To be able to understand visual Basic Programming concepts

Course outcome

- Students can develop GUI based applications using VB

Unit No	CONCEPTS
	BLOCK 1: VISUAL BASIC CONCEPTS
1	**Introduction to GUI** - Visual Basic : Starting and Exiting Visual Basic Project Explorer Working with Forms Properties Window
2	**Using the Toolbox** Toolbars Working with Projects Programming Structure of Visual Basic applications Event and Event driven Procedures
3	**Program Design** - Form and Controls - Writing the Code - Saving, Running and Testing - Making EXE File - Printouts
	BLOCK 2 : VISUAL BASIC CODE,EVENTS AND CONTROLS
4	**Adding code and using events**: Using literals data types - declaring and using variables using the operator subroutines and functions
5	**Looping and decision control structures:** if then else, structure select structure, for next, do.. loop and while.. wend.
6	**Using intrinsic Visual basic Controls with methods and Properties:** Label ,Text box, Command button, Frame, Checkbox, option button, List box, Combo box, Drive List box, directory List box and file list box Formatting controls control arrays, Tab order
	BLOCK 3 : VISUAL BASIC PROCEDURES, FUNCTIONS AND ARRAYS
7	**Creating Procedures, functions** - String functions, date and Time function , numeric functions- Recursive Functions
8	**Multiple Forms** - Startup Forms - SubMain Procedure
9	**Arrays** - Control Arrays - Indexing and Event Handling - Graphics
	BLOCK 4 : MENUS AND MDI FORMS
10	**Menus:** creating menus, adding code to menus
11	**Using MDI forms** - MDI form basic building MDI form creating MDI Child Forms
	BLOCK 5: DATABASE OBJECT (DAO) AND PROPERTIES
12	Database object (DAO) and properties -accessing Recordset objects- Move first, MoveLast, MovePrevious and MoveNext methods Begin, Commit and Rollback transaction accessing Microsoft Access files.
13	Active Data Objects (ADO) ADO and OLE DB and ADO Primer What are OLE DB and ADO? ADO object Model Converting DAO Code to Use ADO.
14	Connecting to the database Retrieving a recordset Creating a query dynamically Using a parameterized query using action queries - Adding records Editing records closing the database connection**.**

Text Books

1. Gary Cornwell Visual basic 6 , Tata McGraw Hill

Reference Books:

1. Scott warner Teach yourself Visual basic 6 , Tata McGraw-Hill
2. Noel Jerke The Complete Reference , Tata McGraw-Hill

3. Eric A. Smith, Valar Whisler, and Hank Marquis Visual Basic 6 programming

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Course Code	Title of the Course
13063	SOFTWARE ENGINEERING

Course Objective:

- To know of how to do project planning for the software process.
- To learn the cost estimation techniques during the analysis of the project.
- To understand the quality concepts for ensuring the functionality of the software

Course Requirement:

- Fundamental concepts of Software Engineering

Course Outcome:

- Understand the activities during the project scheduling of any software application.
- Learn the risk management activities and the resource allocation for the projects.
- Able to create reliable, replicable cost estimation that links to the requirements of project planning and managing.

Unit No.	*Contents*
	BLOCK 1 : INTRODUCTION
1	**Software:** Role of software, Software myths. Generic view of process: A layered technology, a process framework, The Capability Maturity Model Integration (CMMI)
2	***Process patterns****, Process assessment, Personal and Team process models.*
3	***Process model:*** *The waterfall model, Incremental process models, Evolutionary process models, The Unified process.*
	BLOCK 2 : REQUIREMENT ENGINEERING:
4	Design and Construction, Requirement Engineering Tasks, Requirements Engineering Process, Validating Requirements.
5	**Building the Analysis Model:** Requirement analysis, Data Modeling concepts, Object-Oriented Analysis
6	**Modeling:** Scenario-Based Modeling, Flow-Oriented Modeling Class-Based Modeling, Creating a Behavioral Model.
	BLOCK 3 : SYSTEM DESIGN
7	**Design Engineering:** Design process and quality, Design concepts, the design model.
8	***Architectural Design:*** *Software architecture, Data design, Architectural styles and patterns, Architectural Design.*
9	**User interface design:** The Golden rules, User interface analysis and design, Interface analysis, Interface design steps, Design evaluation.
	BLOCK 4 : SYSTEM TESTING
10	**Testing Strategies:** Approach to Software Testing, Unit Testing, Integration Testing, Test strategies for Object-Oriented Software, Validation Testing, System Testing, the art of Debugging, Black-Box and White-Box testing.
11	**Product Metrics:** Software Quality, Product Metrics, Metrics for Analysis Model, Design Model, Source code and Metrics for testing, Metrics for maintenance. Metrics for Process and Projects Domains: Software Measurement, Metrics for Software Quality and Software Process.

	BLOCK 5 : RISK and QUALITY MANAGEMENT
12	Risk Strategies: Reactive vs. Proactive Risk strategies, software risks, Risk identification
13	**Risk Protection and refinement:** Risk projection, Risk refinement, Risk Mitigation, Monitoring and Management, RMMM Plan.
14	**Quality Management:** Quality concepts, Software quality assurance, Software Reviews, Formal Technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

TEXT BOOK:

1. Roger S. Pressman Software Engineering - A practitioner's Approach McGraw-Hill 6th Edition (2010)

REFERENCE BOOKS:

1. Richard Fairlay Software Engineering Concepts McGraw Hill Book Company (2005)
2. Pankaj Jalote An Integrated Approach to Software Engineering Narosa Publishing House 3rd Edition (2005)
3. Software Engineering, Somzerville, 8th Edition, Pearson Education 2007.
4. Software Engineering K.K. Agarwal & Yogesh Singh, 3rd Edition New Age International Publishers 2007.
5. Software Engineering an Engineering Approach James F. Peters, Witold Pedrycz - John Wiley & Sons 2000.
6. Software Engineering Principles and Practice Waman S Jawadekar, , Tata McGraw-Hill 2004.

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Course Code	Title of the Course
13064	**LAB : VISUAL BASIC PROGRAMMING**

Course objectives

- To be able to understand the fundamentals of windows GUI
- To be able to run variable applications on windows
- To be able to understand visual Basic Programming concepts

Course outcome

- Students can develop GUI based applications using VB

Unit No.	Contents
1	Building simple applications
2	Working with intrinsic controls ,Control Arrays
3	Application with multiple forms
4	Application with dialogs
5	Application with Menus
6	Application using data controls
7	Application using Common Dialogs

8	Drag and Drop Events
9	Database Management
10	Creating ActiveX Controls
11	Database object (DAO) and properties
12	Active Data Objects (ADO) ADO and OLE DB
13	Connecting to the database ,Retrieving a record set Creating a query dynamically Using a parameterized query using action queries - Adding records Editing records closing the database connection
14	**Simple Application development:** 1. Library information system 2. Students mark sheet processing 3. Telephone directory maintenance 4. Gas booking and delivering 5. Electricity bill processing 6. Bank Transaction 7. Pay roll processing 8. Personal information system 9. Question database and conducting Quiz 10. Personal diary

Text Books

1. Gary Cornwell Visual basic 6 , Tata McGraw Hill

Reference Books:

1. Scott warner Teach yourself Visual basic 6 , Tata McGraw-Hill
2. Noel Jerke The Complete Reference, Tata McGraw-Hill
3. Eric A. Smith, Valar Whisler, and Hank Marquis Visual Basic 6 programming

e.3 Duration of the Programme:

The B.Sc Computer Science programme shall consist of a period of Three years (Six Semesters).

e.4 Faculty and Support Staff Requirements:

The following faculty and support staff is required for this programme.

S.No	Staff Category	Numbers
1	Computer Science Subject Core Faculty*	3
2	Inter-disciplinary Subject Faculty* (Mathematics, Account & Financial Management and Communication Skills)	2
3	Lab Assistant	1
4	Clerical Assistant	1

* Faculty at least in Assistant Professor level

e.5 Instructional Delivery mechanisms

The instructional delivery mechanisms of the programme includes SLM- Study materials, Lab instruction manual, Personal contact session for both theory and practical courses of the programme, e-version of the course materials in the form of CD, e-book,

e-tutorials, Massive Open Online Courses (MOOC) courses, Open Educational Resources(OER) and virtual lab.

e.6 Identification of media

The printed version of SLM – study material shall be given to the learners in addition to MOOC, E-tutorial and virtual lab.

e.7 Student Support Services

The student support services will be facilitated by the Directorate of Distance Education, Alagappa University, Karaikudi and its approved learning centres located in various parts of Tamilnadu.

The pre-admission student support services like counseling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at Directorate of Distance Education or Learning centres. The post-admission student support services like issuing Identity card, study materials will be provided thru Directorate or Learning centres. The face to face contact sessions of the programme for both theory and practical's will be held at the Directorate or Learning centres. The student support regarding the conduct of examinations, evaluations, publication of results and certificates done by the Office of the Controller of Examinations, Alagappa University, Karaikudi

(f) Procedure for Admissions, curriculum transaction and evaluation

f.1 Minimum qualification for admission

Candidates for admission to the Post Graduate Diploma in Computer Applications B.Sc (Computer Science) programme shall be required to have passed the following examinations. Candidates who have passed any degree of Recognized University or authority accepted by the Syndicate of the Alagappa University as equivalent thereto shall be eligible.

f.2 Curriculum transaction

- The face to face contact sessions in class room teaching with the support of SLM, Power Point Presentations, web based tools, audio and animated videos.
- The practical classes are based on the respective subject study materials containing requirement for the laboratory experiments.
- Face to face contact sessions will be conducted for both theory and practical courses in the following manner.

Course Type	**Face to face contact session per semester (in Hours)**
Theory courses (3 Courses with 4 credits each)	48
Practical courses (1 Courses with 4 credits each)	120
Total	**168**

f.3 Evaluation

There shall be two types of evaluation systems; internal assessment and end semester examination will be conducted by the University according to the following scheme. The maximum marks for the internal assessment for both theory and practical's is 25 marks. The maximum marks for end semester examination is 75 marks for each course. The candidate failing in any course(s) will be permitted to appear for each failed course(s) in the subsequent examination.

Internal assessment

- Internal assessment of theory courses is through home assignment with workbook, case studies, review questions, quiz, multiple choice questions etc., for 25 marks.

- The internal assessment for the practical courses shall be through home assignment which includes workbook designing algorithm, preparing source code, PL/SQL coding etc., for 25 marks.

- The learners should submit home assignment with worksheet for each course (Theory and Practical's) to **The Director, Directorate of Distance Education (DDE), Alagappa University, Karaikudi** Only along with response sheet contains name of the programme, name of the student, enrolment number, course name and subject code.

- Learners should submit home assignments of each courses both theory and practicals at least one month before the commencement of end semester examination of every semester.

Division of Internal Marks (Assignment)

Theory		Practical	
Assignment	**Marks**	**Assignment**	**Marks**
Review questions	15	Algorithm Design	15
Workbook, case studies, multiple choice questions	10	Workbook for preparing source code, PL/SQL coding , results	10
TOTAL	25	TOTAL	25

End Semester Examination

The university end Semester Examinations shall be of three hours duration with maximum of 75 Marks for both theory and practical courses.

Learners shall prepare practical record note book according to the following guidelines; aim, algorithm, source code, input, expected output and result of the experiment and submit during end semester practical examination.

f.3.1 Minimum for a pass:

To pass in each course, a candidate is required to secure 50% marks in the end Semester examination (maximum marks 75) 50% marks in the aggregate (marks in Semester Examination + marks in Internal Assessment) (maximum marks 100).

The students who does not secure required minimum marks for pass in a course(s) shall be required to reappear and pass the same in the subsequent examination,

f.3.2 Question Paper Pattern - Theory

The end semester examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

Answer ALL questions

One question from each unit from the course syllabi

Part – A (10 x 2 Marks: 20 Marks)

Part – B (5 x 5 Marks: 25 Marks) (Internal Choice)

Part – C (3 x 10 Marks: 30 Marks) (Internal Choice)

f.3.3 Procedure for Completing the Course:

A student shall be permitted to continue the programme from I to II semester irrespective of failure(s) in the courses of the earlier semesters. The candidate will qualify for the B.Sc (CS) degree only if he/she passes all the (including arrears) courses with in a period of FIVE years from the date of admission.

f.3.4 Results and Classification:

Results will be declared at the end of each semester of the University examination and the marks/grade obtained by the candidate will be forwarded to them by the Controller of Examinations, Alagappa University.

f.3.4.1 Marks and grades

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0 - 10.00	O	Outstanding
80-89	8.0 - 8.9	D+	Excellent
75-79	7.5 - 7.9	D	Distinction
70-74	7.0 - 7.4	A+	Very Good
60-69	6.0 - 6.9	A	Good
50-59	5.0 - 5.9	B	Average
00-49	0.00	U	Reappear
ABSENT	0.00	AAA	Absent

For a semester

Grade Point Average [GPA] = $\sum C_i G_i / \sum C_i$

Grade Point Average = Sum of the multiplication of Grade points by the credit of the courses / Sum of the credit of the courses in the semester

= Sum of [Credit earned x Grade Points] / Sum of the credits earned in the semester

For the entire programme

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

= sum of the multiplication of grade points by the credits of the entire programme
Sum of the credits of the courses for the entire programme

Where

C_i - Credits earned for the course i in any semester

G_i – Grade Point earned for course i in any semester

n - is number of all Courses successfully cleared during the particular semester in the case of GPA and during all the semesters (programme) in the case of CGPA.

CGPA	Grade	Classification of Final Result
9.5 – 10.00	O+	First class – Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
0.0 and above but below 5.0	U	Reappear

* The candidates who have passed in the first appearance and within the prescribed semester

f.4 Fees Structure

Fee Particulars	Amount in (Rs)		
	First Year	Second Year	Third Year
Admission Processing Fees	100	--	--
Course Fees	8,300	8300	8300
ICT fees	150	150	150
Total Fees	8550	8450	8450

The above mentioned fees structure is exclusive of examination fees.

(g) Requirement of the laboratory support and library resources

g.1 Laboratory Support

A well-equipment Computer Laboratory was established in the Alagappa University, Karaikudi with necessary software's as per the practical's syllabi for conducting face to

face contact sessions for practical courses of this programme. Model Practical Questions is available to the learners in the university website.

g.2 Library Resources

The Directorate of Distance Education, Alagappa University provides library facility with number of books and Self Learning materials for Computer Science programmes. The Central library of Alagappa University provides the collection of volumes of Self Learning Materials, Printed books, Subscriptions to printed periodicals and Non-book materials in print form for the learner's references. All these library resources are meant for learner's reference purpose only.

(h) Cost estimate of the programme and the provisions:

Expense details	Amount in (Rs.) Approx.
Programme development(Single Time Investment)	20,00,000/-
Programme delivery(Per Year)	24,00,000/-
Programme maintenance	5,00,000/-

(i) Quality assurance mechanism and expected programme outcomes:

i.1 University's Moto:

'Excellence in Action'

i.2 University's Vision and Mission

Vision

Achieving Excellence in all spheres of Education, with particular emphasis on ' PEARL' - Pedagogy, Extension, Administration, Research and Learning.

Mission

Affording a High Quality Higher Education to the learners so that they are transformed into intellectually competent human resources that will help in the uplift of the nation to Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM).

i.3 University Objectives

1. Providing for instructions and training in such branches of Learning at the university may determine.
2. Fostering Research for the Advancement and Dissemination of Knowledge and Application.

i.4 Quality Policy

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

i.5 Quality Quote

Quality Unleashes Opportunities Towards Excellence (QUOTE).

i.6. Course benchmarks

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations and number of enrolments of students. Feedback from the alumni, students, parents, stakeholders and employers will be received to analyze the benchmark qualities for the further improvement of the programme.

Minutes of meeting of the Board of Studies(Copy of Letter)

Minutes of the Meeting of the Board of Studies in Computer Science for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc. (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) Programmes to be offered through Open Distance Learning (ODL) Mode held at The Directorate of Distance Education, Alagappa University, Karaikudi – 630 003, on 04.09.2017, (11.00 A.M).

Members Present

1.	Dr. V. Palanisamy	-	Chairman
2.	Dr. E.Ramaraj	-	Member
3.	Dr. K.Kuppusamy	-	Member
4.	Dr. T.Meyyappan	-	Member
5.	Dr. S.S.Dhenakaran	-	Member
6.	Dr. K.Mahesh	-	Special Invitee
7.	Dr. A. Padmapriya	-	Special Invitee
8.	Dr. P. Prabhu	-	Member
9.	Mr.S.Balasubramanian	-	Member

After the deliberation and discussion the board resolved the following:

1. The Board considered the curriculum design and detailed syllabi of Computer Science programmes, prepared as per the norms and the Board scrutinized and necessary modifications are specified.

2. The Board resolved to approve curriculum design, detailed syllabi and other regulations for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc. (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) programmes to be offered from 2018-2019 academic year onwards by the Directorate of Distance Education of Alagappa University, Karaikudi.

Dr. V. Palanisamy 4/9/17 | Dr. E.Ramaraj | Dr. K.Kuppusamy 4/9/17

Dr. T.Meyyappan 04/09/17 | Dr. S.S.Dhenakaran | Dr. K.Mahesh 4/9/17

Dr. A. Padmapriya 4/9/17 | Dr. P. Prabhu 4/9/17 | Mr.S.Balasubramanian

ALAGAPPA UNIVERSITY

Accredited with A+ Grade by NAAC (CGPA 3.64) in the Third Cycle
Karaikudi – 630003. Tamilnadu , INDIA

Directorate of Distance Education

PROGRAMME PROJECT REPORT

for

Bachelor of Science in Information Technology B.Sc(I.T)

To be submitted to

UGC, Distance Education Bureau (DEB),
New Delhi

for seeking approval to introduce programme through Distance Education Mode

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ALAGAPPA UNIVERSITY, KARAIKUDI
DIRECTORATE OF DISTANCE EDUCATION

Bachelor of Science in Information Technology (B.Sc(IT))

Credit Based System (CBS)
(With effect from June 2018 - 2019 Onwards)

(a) Programme's Mission and Objectives

Mission

Mission is to impart employability and creativity to the Under graduate students and lives up to the standards of Information Technology (IT) industry.

Programme Objectives

- ✓ To offer variety of course specializations due to which multitude of job profiles are created.
- ✓ To provide excellent career opportunities in various industries including software development companies in the areas of System analysis/design/developments/supports ,mobile application programming, game programming, web and e- commerce development, database administration, software testing, education and training etc.
- ✓ To avail the prospect of going abroad for off-shore development in the top IT companies across the world.
- ✓ To support employability and career growth prospects for learners are extremely high.

Programme Outcomes

- ✓ Ability to use current programming languages such that the student produces useful algorithms that solve mathematical, graphical and other structures.
- ✓ Ability to reason and think in abstract terms, such as object orientation in order to build proper algorithms.
- ✓ Ability to communicate the fundamentals of computer science both in written form by applying software engineering techniques and verbal forms.
- ✓ Ability to cross disciplinary lines to abstract and apply CS based solutions in different disciplines.
- ✓ Facility with the fundamental and mathematical constructions of Information Science, the essential foundation of the discipline.
- ✓ Understanding of basic computer hardware architecture and be able to design fundamental logic circuits.

(b) Relevance of the program with HEI's and Alagappa University Mission and Goals

This programme is aligned with HEI's and Alagappa University mission and goals to be offered through distance mode to reach quality higher education to the unreachable and/or rural learners. Higher education in Computer Science offered through distance mode meets the mission of HEI's like digital India and e-cash transaction will enrich the Human resources for the uplift of the nation.

(c) Nature of prospective target group of learners

The nature of prospective target group of learners is graduates from various disciplines like Commerce, Mathematics, Physics, Chemistry, Biology, etc. It also includes the learners who want to become entrepreneurs like Web Designers, Software Developers, BPO's, KPO's etc.,

(d) Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence;

B.Sc (IT) Programme through Distance Learning mode is developed in order to give subject-specific skills including i) Knowledge about various kinds of programming languages, Office Automation, Open Source ii) Principles of Information Technology, RDBMS**,** Data Structure, Digital computer fundamentals, System Analysis and Design, Multimedia and its applications and Discrete mathematics.

(e) Instructional Design

e.1 Revisions of Regulation and Curriculum Design

1. The University reserves the right to amend or change the regulations, schemes of examinations and syllabi from time to time based on recent market dynamics, industrial developments, research and feedback from stakeholders and learners.

2. Each student should secure 96 credits to complete B.Sc (IT) programme.

3. Each theory and practical course carries 4 credits with 75 marks in the University End Semester Examination (ESE) and 25 marks in the Continuous Internal Assessment (CIA).

Programme code

B.Sc(IT)	129	**B.Sc(IT) (Lateral Entry LE)**	131

B.Sc(IT) Credit Based Curriculum and Evaluation System

B.Sc(I.T) Course of Study and Scheme of Examinations

	Course code		Name of the Course	CIA Marks Max.	ESE Marks Max.	Total Marks Max.	C Max.
S.No	Bsc(IT)	Bsc(IT) (LE)					
FIRST YEAR							
SEMESTER I							
1	12911A 12911B		**Part I:** Tamil Paper I / Communication Skills – I	25	75	100	4
2	12912		**Part II:** English Paper – I	25	75	100	4
3	12913		**Part III: Core Paper:** Principles of Information Technology	25	75	100	4
4	12914		**Part III: Core Paper:** Office Automation Lab	25	75	100	4
			TOTAL	**100**	**300**	**400**	**16**
SEMESTER II							
5	12921A 12921B		**Part I:** Tamil Paper II: / Communication Skills – II	25	75	100	4
6	12922		**Part II:** English Paper – II	25	75	100	4
7	12923		**Part III: Core Paper:** Programming in C and Data Structures	25	75	100	4
8	12924		**Part III: Core Paper:** C AND Data structure Lab	25	75	100	4
			TOTAL	**100**	**300**	**400**	**16**
SECOND YEAR							
SEMESTER III							
9	12931A 12931B	13131A 13131B	**Part I:** Tamil Paper III / Human Skills Development I	25	75	100	4
10	12932	13132	**Part II:** English Paper – III	25	75	100	4
11	12933	13133	**Part III: Core Paper:** Internet and Java Programming	25	75	100	4
12	12934	13134	**Part III: Core Paper:** Internet and Java Programming Lab	25	75	100	4
			TOTAL	**100**	**300**	**400**	**16**
SEMESTER IV							
13	12941A 12941B	13141A 13141B	**Part I:** Tamil Paper IV / Human Skills Development II	25	75	100	4
14	12942	13142	**Part II:** Paper II: English – IV	25	75	100	4
15	12943	13143	**Part III: Core Paper:** Open Source Software	25	75	100	4

16	12944	13144	**Part III: Core Paper:** Open Source Lab	25	75	100	4
			TOTAL	**100**	**300**	**400**	**16**
THIRD YEAR							
SEMESTER V							
17	12951	13151	**Part III: Core Paper:** Discrete Mathematics	25	75	100	4
18	12952	13152	**Part III: Core Paper:** Operating Systems	25	75	100	4
19	12953	13153	**Part III: Core Paper:** Relational Database Management System (RDBMS)	25	75	100	4
20	12954	13154	**Part III: Core Paper:** Relational Database Management System (RDBMS)Lab	25	75	100	4
			TOTAL	**100**	**300**	**400**	**16**
SEMESTER VI							
21	12961	13161	**Part III: Core Paper:** • NET Programming	25	75	100	4
22	12962	13162	**Part III: Core Paper:** System Analysis and Design	25	75	100	4
23	12963	13163	**Part III: Core Paper:** Multimedia and its Applications	25	75	100	4
24	12964	13164	**Part III: Core Paper:** • NET Programming Lab	25	75	100	4
			TOTAL	**100**	**300**	**400**	**16**
			GRAND TOTAL	**600**	**1800**	**2400**	**96**

CIA : Continuous Internal Assessment **ESE :** End semester Examination

Course Code Legend:

1	2	9	S	C

129 – Programme code for B.Sc(Information Technology)
S -- Semester Number
C – Course Number in the Semester

e.2 Detailed Syllabi

The detailed Syllabi of study and shall be as shown in Appendix.

e.3 Duration of the Programme:

The B.Sc(IT) programme shall consist of a period of three years (Six Semesters).

e.3.1 Medium of Instruction

- The medium of instruction is only in **English**.
- The course material is also in **English.**

e.4 Faculty and Support Staff Requirements:

The following faculty and support staff is required for this programme.

S.No	Staff Category	Required
1	Core Faculty	3
2	Faculty for Specialization	2
3	Laboratory Assistant	1
4	Clerical Assistant	1

* Faculty at least in Assistant Professor level

e.5 Instructional Delivery mechanisms

The instructional delivery mechanisms of the programme includes SLM- Study materials, Lab instruction manual, Personal contact session for both theory and practical courses of the programme, e-version of the course materials in the form of CD, e-book, e-tutorials, Massive Open Online Courses (MOOC) courses, Open Educational Resources(OER) and virtual lab.

e.6 Identification of media

The printed version of SLM – study material shall be given to the learners in addition to MOOC, e-tutorial and virtual lab.

e.7 Student Support Services

The student support services will be facilitated by the Directorate of Distance Education, Alagappa University, Karaikudi and its approved learning centres located in various parts of Tamilnadu.

The pre-admission student support services like counseling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at Directorate of Distance Education or Learning centres.

The post-admission student support services like issuing Identity card, study materials will be provided thru Directorate or Learning centres. The face to face contact sessions of the programme for both theory and practical's will be held at the Directorate or Learning centres.

The student support regarding the conduct of examinations, evaluations, publication of results and certificates done by the Office of the Controller of Examinations, Alagappa University, Karaikudi

(f) Procedure for Admissions, curriculum transaction and evaluation

f.1 Minimum qualification for admission

Candidates for admission to the first year of the Bachelor of Science in Information Technology (B.Sc(I.T)) programme shall be required to have passed HSC or 3 year diploma from recognized institution shall be eligible.

f.1.1 Lateral Entry(LE)

Candidates who have passed 3 year diploma in Computer Science Engineering, Electrical and Electronics Engineering and Civil Engineering from recognized institution are eligible for admission into the Second Year of B.Sc(IT) programme.

f.2 Curriculum transaction

- The face to face contact sessions in class room teaching with the support of SLM, Power Point Presentations, web based tools, audio and animated videos.
- The practical classes are based on the respective subject study materials containing requirement for the laboratory experiments.
- Face to face contact sessions will be conducted for both theory and practical courses in the following manner.

Course Type	**Face to face contact session per semester (in Hours)**
Theory courses (3 Courses with 4 credits each)	48
Practical courses (1 Course with 4 credit)	120
Total	**168**

f.3 Evaluation

There shall be two types of evaluation systems; internal assessment and end semester examination will be conducted by the University according to the following scheme.

- The maximum marks for the internal assessment for both theory and practical's is 25 marks.
- The maximum marks for end semester examination is 75 marks for each course.
- The candidate failing in any course(s) will be permitted to appear for each failed course(s) in the subsequent examination.

Internal assessment

- Internal assessment of theory courses is through home assignment with workbook, case studies, review questions, quiz, multiple choice questions etc., for 25 marks.
- The internal assessment for the practical courses shall be through home assignment which includes workbook designing algorithm, preparing source code, PL/SQL coding etc., for 25 marks.
- Student should submit assignment for theory and practical courses of every course and semester.

Division of Internal Marks (Assignment)

Theory		Practical	
Assignment	**Marks**	**Assignment**	**Marks**
Review questions	15	Algorithm Design	15
Workbook, case studies, quiz, multiple choice questions	10	Workbook for preparing source code, PL/SQL coding , results	10
TOTAL	**25**	**TOTAL**	**25**

End Semester Examination (ESE)

The university end Semester Examinations shall be of three hours duration with maximum of 75 Marks for both theory and practical courses.

f.3.1 Minimum for a pass:

To pass in each course, a candidate is required to secure 40% marks in the End Semester examination and 40% marks in the aggregate (marks in End Semester Examination + marks in Internal Assessment).

The students who does not secure required minimum marks for pass in a course(s) shall be required to reappear and pass the same in the subsequent examination,

f.3.2 Question Paper Pattern - Theory

The end semester examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

All the Blocks Should Be Given Equal Importance

Part – A (10 x 2 Marks: 20 Marks) Answer all questions

Part – B (5 x 5 Marks: 25 Marks) Answer all questions choosing either (a) or (b)

Part – C (3 x 10 Marks: 30 Marks) (Answer any 3 out of 5 questions)

End Semester Examination (ESE) - Practical

Students are required to prepare a separate lab record for each lab course. The practical counsellor should duly sign this lab record after each session. Students shall prepare practical record note book which includes aim, algorithm, source code, input, expected output and result of the experiment and submit during end semester practical examination.

Division of marks in ESE – Practical (Maximum 75 marks)

The end semester practical examination will be conducted in the duration of 3 Hours and maximum of 75 Marks.

Practical details	Max. Marks
Algorithm / Flowchart	10
Source Code	20
Debugging	10
Execution	10
Results	10
Viva-Voce	5
Record	10
Total	75

f.3.3 Procedure for Completing the Course:

A student shall be permitted to continue the programme from I to VI semester irrespective of failure(s) in the courses of the earlier semesters. The candidate will qualify for the B.Sc(IT) degree only if he/she passes all the (including arrears) courses with in a period of FIVE years from the date of admission.

f.3.4 Results and Classification:

Results will be declared at the end of each semester of the University examination and the marks/grade obtained by the candidate will be forwarded to them by the Controller of Examinations, Alagappa University.

f.3.4.1 Marks and grades

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0 - 10.00	O	Outstanding
80-89	8.0 - 8.9	D+	Excellent
75-79	7.5 - 7.9	D	Distinction
70-74	7.0 - 7.4	A+	Very Good
60-69	6.0 - 6.9	A	Good
50-59	5.0 - 5.9	B	Average
40-49	4.0 – 4.9	C	Satisfactory
00-39	0.00	U	Reappear
ABSENT	0.00	AAA	Absent

For a semester

Grade Point Average[GPA] = $\sum C_i G_i / \sum C_i$

GPA = Sum of the multiplication of Grade points by the credit of the courses
Sum of the credit of the courses in the semester

= Sum of [Credit earned x Grade Points]
Sum of the credits earned in the semester

For the entire programme

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

= sum of the multiplication of grade points by the credits of the entire programme
Sum of the credits of the courses for the entire programme

Where,

C_i - Credits earned for the course i in any semester

G_i – Grade Point earned for course i in any semester

n - is number of all Courses successfully cleared during the particular semester in the case of GPA and during all the semesters (programme) in the case of CGPA.

CGPA	Grade	Classification of Final Result
9.5 – 10.00	O+	First class – Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
4.5 and above but below 5.0	C+	Third Class
4.0 and above but below 4.5	C	
0.0 and above but below 4.0	U	Reappear

* The candidates who have passed in the first appearance and within the prescribed semester

f.4 Fees Structure:

Fee Particulars	Amount in Rs.		
	First Year	Second Year	Third Year
Admission Processing Fees	100	--	--
Course Fees	8300	8300	8300
ICT fees	150	150	150
Total Fees	**8550**	**8450**	**8450**

The above mentioned fees structure is exclusive of examination fees.

g)Requirement of the laboratory support and library resources

g.1 Laboratory Support

A well- equipment Computer Laboratory was established in the Alagappa University, Karaikudi with necessary software's as per the practical's syllabi for conducting face to

face contact sessions for practical courses of this programme. Model Practical Questions is available to the learners in the university website.

g.2 Library Resources

The Directorate of Distance Education, Alagappa University provides library facility with number of books and Self Learning materials for Computer Science programmes. The Central library of Alagappa University provides the collection of volumes of Self Learning Materials, Printed books, Subscriptions to printed periodicals and Non-book materials in print form for the learner's references. All these library resources are meant for learner's reference purpose only.

(h) Cost estimate of the programme and the provisions:

Expense details	Amount in (Rs.) Approx.
Programme development (Single time investment)	20,00,000/-
Programme delivery (per year)	24,00,000/-
Programme maintenance (per year)	5,00,000/-

(i) Quality assurance mechanism and expected programme outcomes:

i.1 University's Moto:

' Excellence in Action'

i.2 University's Vision and Mission

Vision

Achieving Excellence in all spheres of Education, with particular emphasis on ' PEARL' - Pedagogy, Extension, Administration, Research and Learning.

Mission

Affording a High Quality Higher Education to the learners so that they are transformed into intellectually competent human resources that will help in the uplift of the nation to Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM).

i.3 University Objectives

1. Providing for instructions and training in such branches of Learning at the university may determine.
2. Fostering Research for the Advancement and Dissemination of Knowledge and Application.

i.4 Quality Policy

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

i.5 Quality Quote

Quality Unleashes Opportunities Towards Excellence (QUOTE).

i.6. Course benchmarks

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations and number of enrolments of students. Feedback from the alumni, students, parents, stakeholders and employers will be received to analyze the benchmark qualities for the further improvement of the programme.

*****

APPENDIX

Detailed Syllabi
FIRST YEAR
SEMESTER I

Course Code	Title of the Course
12911A	PART I: TAMIL PAPER I

பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75+25
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1

1. **கண்ணதாசன் - ஸ்ரீ கிருஷ்ண கானம்**
   1. புல்லாங்குழல் கொடுத்த
   2. குருவாயூருக்குவாருங்கள்

கூறு 2

1. கோகுலத்துபசுக்கள்
2. கோகுலத்தில்ஒருநாள் ராதை
3. ஆயர்பாடிமாளிகையில்

கூறு 3

பட்டுக்கோட்டைகல்யாணசுந்தரம்

1. நெஞ்சில் குடியிருக்கும்
2. செய்யும் தொழிலேதெய்வம்

கூறு 4

1. **பாரதியார்**
   கண்ணன் என் விளையாட்டுப்பிள்ளை
   பாரதமாதாதிருப்பள்ளிஎழுச்சி

கூறு 5

1. **பாரதிதாசன்** - உலகப்பன்பாட்டு (5)
2. **நாமக்கல் கவிஞர்** - நோயற்றவாழ்வு7 பாட்டு
3. **பெ.தூரன்** - நிலாபிஞ்சு

கூறு 6

1. **வல்லிக் கண்ணன்** - வெறும் புகழ்
2. **கு.ப.இராஜகோபாலன்**- எதற்காக?
3. **மீரா** - பதினைந்து

கூறு 7

1. **சிற்பி** - சர்ப்பயாகம்
2. **ஞானக்கூத்தன்** - தோழர் மோசிகீரனார்

கூறு 8

1. **அப்துல் ரகுமான்** - கண்ணும் எழுதேம்
2. **சண்முகசுப்பையா** - வயிறு

கூறு 9

1. **சிலப்பதிகாரம்** - வழக்குரைகாதை
2. **கம்பராமாயணம்** - அயோத்தியாகாண்டம்

கூறு 10

1. **சீறாப்புராணம்** - ஈத்தங்குலைவரவழைத்தபடலம் (1)

கூறு 11

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண்(ஒவ்வொருபாடலின் முதல்வரி)

1. இன்னவாயில்
2. கொழுந்துறும்
3. பஞ்(ச) அரங்கில்

கூறு 12

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)
4. எண்ணுளே
5. ஒண்தலங்கள்
6. இரவியேந்தகஞ்சக்

கூறு 13

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)
7. கன்னியாயதாயும்
8. ஏந்திஓங்குஉளத்து
9. ஆவ தேமுனர்
10. கொல்லும் வேலொடும்

கூறு 14

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)
11. என்றவாசகம்
12. அம்பினால்
13. வேண்டும் ஓர் வினை

***

Course Code	Title of the Course
12911B	PART I: COMMUNCATION SKILLS – I

Learning objectives:

1. To make students to understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

Unit - I Communication – Meaning – Types- Importance
Unit – II Barriers to Effective Communication – Principles – Principles of Effective Communication
Unit – III Oral Communication – Meaning – Importance- Forms of Oral Communication
Unit – IV Intonation –Meaning – Function- Types
Preparation of Speech- Steps Involved
Unit – V Principles of Effective Oral Communication
Unit – VI Written Communication – Meaning –Steps – Importance- Advantages
Use of words and Phrases
Unit – VII Sentence – Meaning –Sentence formation- Characteristics of an Effective Sentence
Unit – VIII Paragraph Writing –Essay Writing –Steps Involved –Outline-Layout –Contents-Drafting-Correction- Final Draft
Unit – IX Application for Employment and Curriculum Vitae –Steps involved
Unit – X Non –Verbal Communication – Meaning –Types –Body Language –Postures-Gestures –Facial Expressions –Eye Contact
Unit – XI Report Writing –Report –Types of Reports –Format of a Report
Unit – XII Essentials of a Good Report –Preparation of Report-Procedure Involved
Unit – XIII Meetings-Purpose of the Meeting – Procedure
Unit – XIV Group Discussion –Quality of Content-Participation –Logical Presentation – Behavioural Skills

References:

1. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
2. Geetha Nagaraj, Write to Communicate, 2004.

3. Wren & Martin, English Grammar and Composition, 2002.
4. Dale Carnegie, How to Win Friends and Influence People, 1981.
5. Dale R Jordan, Language Skills and Use.
6. Gartside L. Bahld, Nagammiah and McComas, Satterwhite, Modern Business Correspondence.
7. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.
8. Wallace, Michael J, Study Skills in English.
9. Editors of Readers Digest, Super Word Power.

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Course Code	Title of the Course
12912	Part II: ENGLISH – Paper I

Learning objective:

1. To make the students master the different topics prescribed in the Prose, Grammar and Composition.

Prose

Unit – I	Water-the Elixir of life	- C.V. Raman
Unit – II	Mrs. Packletide's Tiger	- SAKI
Unit – III	A Deed of Bravery	- Jim Carbett
Unit – IV	The Cat	- Catharine M.Willson
Unit – V	On Letter Writing	- Alpha of the Plough
Unit – VI	Our Ancestors	- Carl Sagan
Unit – VII	Our Civilization	- C.E.Foad
Unit – VIII	A Hero on Probation	- B.R. Nanda
Unit – IX	Dangers of Drug Abuse	- Hardin B. Fones
Unit – X	Food	- J.B.S. Haldane

Grammar

Unit – XI - Articles-Gerunds-Participles-Infinitives-Modals-Proposition –Tenses.

Unit – XII - Direct and Indirect Speech-Transformation of sentences- Active and passive voice.

Composition

Unit – XIII - Letter writing - Precis writing - Developing hints.

Unit – XIV - Dialogue writing - Paragraph writing.

References:

1. Sebastian D K, *Prose for the Young Reader,* Macmillan.
2. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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Course Code	Title of the Course
12913	PRINCIPLES OF INFORMATION TECHNOLOGY

Course Objects

To understand the revolution in computers and communications

To know about various application software
To understand the information systems and software development

Course Outcome

To know the latest trends in information technology

Unit No.	Contents
	BLOCK 1 : AN OVERVIEW OF THE REVOLUTION IN COMPUTERS AND COMMUNICATIONS:
1	**From the analog to the digital age :** The " New Story" of computers and communications - The six Elements of a Computer & Communications System
2	**Communications:** Development in Computer Technology, Developments in Communications Technology
3	**Computer and Communications Technology Combined:** Connectivity and Interactivity - The Ethics of Information Technology.
	BLOCK 3 : NUMBER SYSTEM
4	**Introduction**: Binary, Octal, Decimal and Hexadecimal number systems – Conversion from one base to another base – Use of complements – binary arithmetic – Numeric and Character codes.
5	**Boolean algebra:** Fundamental concepts of Boolean Algebra – De Morgan's theorems – Simplification of expressions – Sum of products and products of sums
6	**Karnaugh map simplification** – Quine - McKluskey method – two level implementation of Combinational Circuits
	BLOCK 2 : SOFTWARE
7	**Application Software:** Kinds of Software - The five types of applications software - Word processing - Spreadsheets
8	**Other Software:** Database software, Presentation graphics software - Communications software **Programming Languages** - Object Oriented and Visual Programming - Internet Programming - HTML, XML, JAVA and ActiveX.
9	**Desktop accessories and personal information managers** - integrated software and suites - Groupware - Internet Web browsers - Specialised software - Ethics and Intellectual property rights.
	BLOCK 4 : COMMUNCATIONS
10	**Communications:** The practical uses of communications and connectivity - Telephone related communications services - Video/voice communication: Video conferencing and picture phones - online information services - The Internet - Shared resources : Workgroup computing, Electronic Data Interchange, and Intranets - Telecomputing and virtual offices -
11	**Using computer to communicate:** Analog and Digital Signals - modems and communication Software, ISDN lines, and Cable Modems
12	**Communications Channels:** Communications Networks - Local Networks - Factors affecting Data transmission - Cyberethics: Netiquette, Controversial material and censorship, and privacy issues.
	BLOCK 5 : STORAGE AND DATABASE

13	**Storage fundamentals** - Compression and Decompression - Criteria for Rating Secondary Storage Devices - Diskettes - Hard Disks - Optical Disks - Magnetic Tapes
14	**Organising Data in Secondary Storage:** Databases, Data Storage - Hierarchy and the concept of the key field - File Management: Basic concepts - File Management Systems .Data Management Systems - Types of Database Organization - Features of a DBMS.

Text Books

1. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Second Edition, The McGraw Hill Companies 2009.
2. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies 2011

Book for Reference:

1. J Hames O'Brien – Introduction to Information systems.
2. Digital Computer Fundamentals, 6th Edition, Thomas C. Bartee, Tata McGraw Hill, 2008.
3. Digital Logic and Computer Design, M. Morris Mano, Pearson Education, 2008.

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Course Code	Title of the Course
12914	**OFFICE AUTOMATION LAB**

Course Objectives

- To create, edit, save and print documents with list tables, header, footer, graphic, spellchecker, mail merge and grammer checker
- To be able to attain the knowledge about spreadsheet with formula , macros spell checker etc.
- To be able to prepare presentation.

Course Outcome

- Attained total automation experience of the office using office automation software.

Unit No.	Contents
	BLOCK 1 : MS-WORD
1	**Working with Files** – Creating and opening documents, Saving documents, Renaming documents, working on multiple documents. Working with Text – Formatting, Moving, copying and pasting text

2	Styles – Apply a style, Apply from the Style dialog box, Create a new style from a model, Modify or rename a style, Delete style. Lists – Bulleted and numbered lists, Nested lists, Formatting lists.
3	**Table Manipulations.** Graphics – Adding clip Art, Add an image from a file, Editing graphics, Spelling and Grammar, AutoCorrect
4	**Page formatting**-Page margins, page size and orientation, Header and footers, page numbers, Mail Merge. Macros – Recording a macro, Running a macro-Web wizard – Using the Web Wizard, Creating & Saving web pages, Hyper links.Mail Merge.
	BLOCK 2 : MS-EXCEL
5	**Modifying a Worksheet** – Moving through cells, Adding worksheets, rows and columns Resizing rows and columns, Selecting cells, Moving and copying cells, Freezing panes - Macros – recording and running.
6	**Formatting cells** – Formatting toolbar, Dates and times, Auto formatting. Formula and Functions. Linking worksheets – Relative, absolute and mixed referencing
7	**Sorting and Filling** – Basic ascending and descending sorted, Complex sorts, Alternating text and numbers with Auto fill, Autofilling functions.
8	**Graphics** – Adding clip art, add an image from a file, Charts – Using chart Wizard, Copy a chart to Microsoft Word
	BLOCK 3 : MS-POWER POINT
9	**Create a Presentation from a template.** Working with Slides – Insert a new slide, Applying a design template, Changing slide layouts
10	**Slides:**Reordering slides, Hide slides, Create a Custom slide show. Adding Content – Resizing a text box, Text box properties, Delete a text box.
11	**Video and Audio effects**, Color Schemes & Backgrounds Adding clip art, Adding an image from a file, Save as a web page.
	BLOCK 4 : MS-ACCESS
12	**Using Access database wizard, pages and projects.** Creating Tables – Create a Table in design view, Primary key, Indexes, Field validation rules.
13	**Datasheet Records** – Adding, Editing, Deleting records, Adding and deleting columns Resizing rows and columns, Finding data in a table & replacing, Print a datasheet.Declaring Table Relationships. Sorting and Filtering – Sorting, Filter by selection, by form, saving & removing a filter. Queries – Create a query in design view, Query Wizard, Find duplicates query
	BLOCK 5 : FORMS IN MS ACCESS
14	**Forms** – Create a form using the wizard, Create a form in Design View. Form Controls. Sub forms-Create a form and sub form at once, Sub form wizard, Drag and drop method. Reports – Using the wizard, Create in Design View, Printing reports. Importing, Exporting, Linking.

REFERENCE BOOKS:

1. Laura Acklen et al, Microsoft Office 97 Professional Essentials, Prentice-Hall India (1998).

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SEMESTER II

Course Code	Title of the Course
12921A	PART I: TAMIL PAPER I

-பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75+25
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)
14. சொல் தவிர்ந்த
15. அன்னை
16. அஞ்சுவார்
17. சொல்லக் கேட்டனள்
18. மற்செய்கை
19. மண்கனியப்
20. அழுதுஆர்ந்த

கூறு 2

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)
21. பொய் பொதுளும்
22. இன்புஅருந்தி
23. வழுதாயின இன்பு
24. மறம் ஏவினர்

கூறு 3

தேம்பாவணி - காட்சிப்படலம்
பாடல்எண் (ஒவ்வொருபாடலின் முதல்வரி)
25. மண்ணோர்கள்
26. பொய்யாவிதியோய்
27. விடியா இருள்
28. அழுவார் எவரும்

கூறு 4

சிறுகதை - நீலபத்மநாபனின் ‘‘வானவீதியில்’’

கூறு 5

உரைநடை - கம்பன் புறத்திணை - தி.சொக்கலிங்கம்

இலக்கணம் - எழுத்தும் சொல்லும்

கூறு 6

1. முதலெழுத்துகள்,சார்பெழுத்துகள்
2. மொழிமுதலெழுத்துகள்,மொழி இறுதிஎழுத்துகள்

கூறு 7

1. ஒற்றெழுத்துமிகலும் மிகாமையும்,
2. ஆகு பெயர்,அன்மொழித் தொகை.
3. வினா-விடை வகைகள்

கூறு 8

1. தமிழ்ச் சொல்லமைப்பின் சிறப்பு–பெயர்,வினை, இடை,உரிவடிவங்கள்,
2. பிறமொழிச் சொற்களைத் தமிழில் ஆளும் முறைகள்

கூறு 9

3. அல் வழி,வேற்றுமைப் புணர்ச்சிகள்
4. திணை,பால்,எண், இட இயைபு.

தமிழ் இலக்கியவரலாறு

கூறு 10

1. **இக்கால இலக்கிய வகைகள்**
   அ) மரபுக் கவிதை
   ஆ) புதுக் கவிதையின் தோற்றமும் வளர்ச்சியும்

கூறு 11

1. **உரைநடை இலக்கியங்கள் - தோற்றமும் வளர்ச்சியும்**
   அ) கட்டுரை ஆ) சிறுகதை
   இ) புதினம் ஈ) நாடகம்

கூறு 12

1. **இக்கால இலக்கியக் களங்கள்**
   திரைப்படம்,தொலைக்காட்சி,வானொலி, இதழ்கள் தமிழுக்குஆற்றிவரும் பணிகள்

கூறு 13

1. **தமிழும் சமயமும் :**
   அ) சைவம் ஆ)வைணவம் இ)சமணம் ஈ)பௌத்தம் உ)இசுலாம்
   ஊ) கிறித்துவம்

கூறு 14

1. **பிற்காலக் காப்பியங்கள் :**
   அ) கம்பராமாயணம் **ஆ)** பெரியபராணம்
2. **இணையம் - பற்றியசெய்திகள்**

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Course Code	Title of the Course
12921B	PART I: COMMUNCATION SKILLS – II

Learning objectives:

1. To make students understand the basic skills of Communication.
2. To acquaint students with the important features of Communication skills.

Unit – I Code and Content of Communication Skills
Unit – II Stimulus and Response of Communication Skills
Unit – III Effective Speaking Guidelines
Unit – IV Pronunciation Etiquette of Communication Skills
Unit – V Phonetics in Communication Skills
Unit – VI A self Assessment of Communicating Soft Skills
Unit – VII Language Skills –Ability –Skill Selected Need- Learner Centre activities
Unit – VIII Listening Skills –Importance –Types of Listening- Interview Skills
Unit – IX Conversation Skills –Modes
Unit – X Presentation Skills - Preparing –Planning-Presentation
Unit – XI Written Communication –Structure of Effective Sentences –Paragraph
Unit – XII Technical Writing-Creative Writing- Editing and Publishing
Unit – XIII Corporate Communication Skills-Internal –Effective business writing –Letters, Proposals, Resume
Unit – XIV Corporal Communication Skills-External - Press release - Newsletters-Interviewing skills

References:

1. Dutt. Kiranmai & Geeta Rajjevan. Basic Communication Skills. Rev.ed. Foundation Books Pvt.Ltd. Cambridge House, New Delhi 2006.
2. Bill R. Swetmon. Communication Skills for the 21st Century. Chennai: Eswar Press. First South Asian Edition 2006.
3. Glass. Lillian. Talk to Win. New York: Perigee Books,1987.

4. Pease. Alan. Signals: How to Use Body Language for Power, Success and Love, New York: Bantam Books, 1981.
5. Walters. Lilly. Secrets of Successful Speakers. New York: McGraw-Hill, Inc., 1993.
6. Mandal. S.K. How to Succeed in Group Discussions & Personal Interviews. Mumbai: JAICO Publishing House.
7. Rogoff. Leonard and Ballenger. Grady. Office Guide to Business Letters, Memos & Reports. New York: Macmillan, 1994.
8. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
9. Geetha Nagaraj, Write to Communicate, 2004.
10. Wren & Martin, English Grammar and Composition, 2002.
11. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.

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Course Code	Title of the Course
12922	**Part II: ENGLISH – PAPER II**

Learning objective:

1. To make the students master the different topics prescribed in the Poetry and Language use Sections.

Poetry

Unit – I	Sonnet	- William Shakespeare
Unit – II	Lines Composed upon Westminster Bridge	-William Wordsworth
Unit – III	Grecian Urn	- John Keats (1795-1827)
Unit – IV	Andrea Del Sarto	- Robert Browning (1812-1889)
Unit – V	The Road Not Taken	- Robert Frost (1874-1963)
Unit – VI	Strange Meeting	- Wilfred Owen (1813-1918)
Unit – VII	Gitanjali	- Rabindranath Tagore (1861-1946)
Unit – VIII	The Coromandel Fishers	- Sarojini Naidu
Unit – IX	The Express	- Stephen Spender
Unit – X	**Shakespeare :** The Merchant of Venice	

Language Use:

Unit – XI	Essay writing
Unit – XII	Note Making
Unit – XIII	Report writing
Unit – XIV	Comprehension

References:

1. *The Golden Quill*, P.K. Seshadri, Macmillan.
2. *The Merchant of Venice,* Shakespeare. (Any overseas edition).
3. *Active English Grammar,* Ed. by the Board of Editors, Macmillan.
4. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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Course Code	Title of the Course
12923	PROGRAMMING IN C AND DATA STRUCTURES

Course Objectives:

- To design, implement and apply the basic C programming concepts.
- To understand the linear and non linear data structures available in solving problems

Course Requirements:

- Before studying this course, the student has knowledge about
- Basic principles of programming
- Concepts of stack, queue and array

Course Outcome:

After the completion of this course, the student will able to

- To write programs using structures, strings, arrays, pointers and strings for solving complex computational problem.
- Use the data structures real time applications
- analyze the efficiency of Data Structures

Unit no.	Description
	BLOCK 1 : INTRODUCTION TO C
1	**Program Development styles and Basics of C**. Introduction to C – Character set – Identifiers and keywords – Data types – constants – Variables – declarations – Declaring variables, - Rules for defining variables. Initializing variables - Type conversion. Operator and Expressions
2	**Data input, output** and Preliminaries – single character input and output – Entering input data – Writing output data – gets and puts functions –
3	**control statements:** Branching and looping – Nested control structures – Switch – Break – Continue and Goto.
4	
	BLOCK 2 : FUNCTIONS,ARRAYS AND POINTERS
5	**Function:** defining a function – Accessing a function – Passing arguments to a function – Recursion – Library function – Macros – C preprocessor – Program structure: Storage classes – Automatic variables – Global variables – Static variables– Multiple programming – Bitwise operation.
6	**Arrays** – Array initialization, Definition of Array, Characteristic of Array, One dimensional array, Two dimensional array, Multidimensional arrays, Character array and strings – string handling functions.
7	**Pointers** – Features of Pointers, Pointer declaration, Arithmetic operation with pointers, Pointers and Arrays, Pointers and two dimensional arrays, Array of Pointers, Pointers to Pointers, Pointers and strings.
	BLOCK 3 : STRUCTURE UNION AND FILES
8	Structures and Unions: defining a structure – Processing a structure – Structures and pointers– Passing structures to functions – Self referential structures – Bit fields – Unions – Enumerations.
9	Data file: Opening and Closing a data file – Creating a data file – Processing a

	data file – Unformatted data file – Command line parameters.
	BLOCK 4 : LINEAR DATA STRUCUTRE
10	**Introduction to Data Structure,** Stack, Stack related terms, operation on a stack, Representation of Stack, Implementation of a stack - Polish notation. Queues, Various Positions of Queue, Representation of Queues.
11	**List,** Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list. Representation of Linked list
	BLOCK 5 : NON-LINEAR DATA STRUCTURE
12	**Introduction** – Trees, Binary Trees, Types of Binary trees,
13	**Binary Tree Representation**, Traversing Binary Trees,
14	**Binary Search tree**, Insertion and Deletion operations, trees and their applications Hashing Techniques.

TEXT BOOKS:

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.

REFERENCE BOOKS :

1. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
2. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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Course Code	Title of the Course
12924	**C AND DATA STRUCTURE LAB**

Course Objectives

- To be able to solve data structure problems using C language
- To learn and implement C language programming techniques

Course Outcome

- Students can develop programming knowledge
- Students can solve any kind of problems using C language
- Data Structure based problems can be solved

Experiments based on C programming and Data Structures

Unit	Contents

No.	
	BLOCK 1 : C PROGRAM FUNDAMENTALS
1	Simple C Programs
2	Using if and switch constructs Programs
3	Looping statements Problems
	BLOCK 2 : FUNCTIONS,ARRAYS,STRINGS,FILEAND POINTERS
4	Functions and Recursive programs
5	Arrays ,Strings and Matrices Programs
6	File Handling Programs
7	Pointers and Arrays Programs programs
	BLOCK 3 – STRUCTURE , UNION AND FILES
8	Structure and union : Programs using structure and union
9	Files : Programs based on file handling
	BLOCK 4 : LINEAR DATA STRUCTURE PROGRAMS
10	Stacks, queues ,expression evaluation programs
11	Infix to postfix conversion
12	Linked List programs: List, Merging lists, Linked list, Single linked list, Double Linked List, Header Linked list, Insertion and Deletion of linked list, Traversing a linked list.
	BLOCK 5 : NON LINEAR DATA STRUCURE EXPERIMENTS
13	Tree Programs : Trees, Binary Trees, Types of Binary trees, Binary Tree Representation,
14	Traversing Binary Trees, Binary Search tree, Insertion and Deletion operations,

REFERENCE BOOKS:

1. Programming in ANSI C, Fifth Edition, E.Balagurusamy, Tata McGraw-Hill Publishing Company Ltd, 2011
2. Data Structures, Seymour Lipschutz, G.A.Vijayalakshmi Pai, Second Edition , Schaum's Outlines, Tata Mc-Graw Hill Private Ltd., 2006.
3. Fundamentals of Data structures in C, Second edition, Ellis Horowitz and Sartaj Sahini, Universities press, 2007.
4. Programming and Data Structure, Pearson Edition, Ashok N Kamthane, 2007.

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SECOND YEAR
SEMESTER III

Course Code	Title of the Course
12931A / 13131A	PART I: TAMIL PAPER I

பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75+25
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1 :பத்துப்பாட்டு–முல்லைப்பாட்டு
கூறு 2 :எட்டுத்தொகை–ஐங்குறுநூறு
கூறு 3 :கபிலர் - குறிஞ்சித்திணை
கூறு 4 :மஞ்ஞைப்பத்து–முதல் மூன்றுபாடல்கள்
கூறு 5 :குறுந்தொகை–பரணர் பாடல்கள் பா. எண். 19, 24, 36, 128, 399
கூறு 6 : நற்றிணை– பெருங்குன்றூர்கிழார் - பா. எண். 5
பெருவழுதியார் - பா. எண். 55
பெருங்கௌசிகனார் - பா. எண். 139
கூறு 7 :நற்றிணை– கருவூர்க்கோசிகனார் - பா. எண். 214
உலோச்சனார் - பா. எண் 249
கூறு 8 :அகநானூறு –சேந்தம்பூதனார் பாடல்கள் பா.எண். 84, 207
கூறு 9 :புறநானூறு –மறோக்கத்துநப்பசலையார் பாடல்கள்
பா. எண். 37, 39, 126, 226, 280
கூறு 10 :பதினெண் கீழ்க்கணக்கு–திருக்குறள் - வாழ்க்கைத்துணைநலம் (6), அறிவுடைமை (43),பிரிவாற்றாமை (116)
கூறு 11: நான்மணிக்கடிகை–எள்ளற்க (3),பறைபடவாழா (4),
கூறு 12:நான்மணிக்கடிகை - மண்ணயறிப (5),கள்ளிவயிற்றில் (6),கல்லிற்பிறக்கும்(7)
கூறு 13: நாடகம் - இராசராசசோழன் - அரு. இராமநாதன்
கூறு 14: நாவல் - சுவடுகள் - இரா. பாலசுப்பிரமணியன்,சத்யாவெளியீடு,மதுரை

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Course Code	Title of the Course
12931B / 13131B	PART I: HUMAN SKILL DEVELOPMENT – I

Learning objective:

1. To Make the Students develop human skills.

Unit – I Human Skills –Developing skills-Types
Unit – II Mind-Levels of functions
Habits-Meaning-Types-Merits of good habits - Interpersonal Relationship-Features- Interpersonal Behaviour
Unit – III Thinking ahead- Significance of thinking ahead
Unit – IV Developing Personality-Meaning -Need- Factors influencing personality, Ways of developing personality -Building positive personality
Unit – V Self-concept-Self-esteem-Meaning-Importance - Self- efficacy-Self-acceptance-Meaning-Importance -Etiquette-Meaning-Etiquettes in using mobile, telephones-Dais Etiquette
Unit – VI Goal-setting Skills-Meaning-Types-Importance-

Unit – VII Decision-making skills-Meaning-Types-Steps in decision-making
Unit – VIII Negotiating Skills-Styles-Structure-Creating negotiation-Competitive Negotiation
Unit – IX Attitudes-Meaning-Types-Importance-Developing positive attitudes
Unit – X **C**oping with Change-Meaning-Characteristics-Importance of change Resistance to change-Dealing with change
Unit – XI Leadership-Meaning-Importance-Characteristics-Styles-
Unit – XII Human Relations Skill-Need-Canons of good human relations

Unit – XIII **C**ounselling-Meaning-Importance-Forms- Conflicts-Meaning-Types-Causes-Effects-Managements of conflicts
Unit – XIV Stress-Meaning-Types-Causes-Effects-Managing the stress - Anger-Meaning-Causes-Consequences-Anger Management

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

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Course Code	Title of the Course
12932 / 13132	Part II: ENGLISH - PAPER– III

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, One Act Plays, Grammar and Composition.

Short Stories

Unit – I A Hero - R.K. Narayanan
Unit – II The Diamond Necklace - Guy de Maupassant
Unit – III The Verger - Somerset Maugham
Unit – IV The Postmaster - Rabindranath Tagore

One Act Plays

Unit – V The Proposal - Anton Chekhou
Unit – VI The Boy Comes Home - A.A. Milne
Unit – VII The Silver Idol - James R. Waugh
Unit – VIII Progress - St. John Ervine
Unit – IX The Pie and the Tart - Huge Chesterman
Unit – X Reunion - W.st. Joh Tayleur
Unit – XI A kind of Justice - Margaret Wood
Unit – XII The Refugee - Asif Currimbhoy

Grammar

Unit – VIII Parts of speech-Noun- Pronoun- Adjective

Degrees of Comparison- Verb- Adverb

Composition

Unit – XIV Agenda- Minutes- Notice- Descriptive Writing

References:

1. *Aroma*, Ed. by the Board of Editors, Publishers- New Century Book House, Chennai.
2. *Six Short Stories*, Ed. by the Board of Editors, Harrows Publications, Chennai.
2. *One Act Plays*, Ed. by the Board of Editors, Harrows Publications, Chennai.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.
4. *English for Communication*, Ed. by the Board of Editors, Harrows Publications, Chennai.

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COURSE CODE	TITLE OF THE COURSE
12933 / 13133	INTERNET AND JAVA PROGRAMMING

Course Objectives:

- To provide an overview of working principles of internet, web related functionalities
- To understand and apply the fundamentals core java, packages, database connectivity for computing

Course Requirements:

- Basic knowledge of internet and programming principles

Course Outcome:

- Able to understand the internet standards and recent web Technologies
- Able to implement, compile, test and run Java program,
- Able to make use of hierarchy of Java classes to provide a solution to a given set of requirements found in the Java API

Unit No.	Contents
	BLOCK 1 : INTRODUCTION
1	**Basic Internet Concepts:** Connecting to the Internet – Domain Name System – E-mail
2	**The World Wide Web** – Internet Search Engines – Web Browsers – Chatting and conferencing on the Internet
3	**Online Chatting** –Messaging – Usenet Newsgroup – Internet Relay chat (IRC) – FTP – Telnet.
	BLOCK 2 : FUNDAMENTALS OF OBJECT-ORIENTED PROGRAMMING:

4	**Basic concepts** of OOP – Benefits – Applications
5	**Java Evolution:** Features – how java differs from C and C++ - java and internet- java support system – java environment -
6	**Overview of Java Language** –constants variables and data types- Operators and Expressions - Decision Making and Branching - Looping
	BLOCK 3 : CLASSES, OBJECTS AND METHODS
7	**class:** Defining a class –fields –methods –creating objects – accessing class members – constructors – methods overloading –static members –nesting of methods – Inheritance –overriding methods –final variables-classes –methods
8	**Arrays, Strings and Vectors** :One dimensional Arrays –creating of array – Two dimensional arrays- strings –vectors –Wrapper classes – Enumerated Types - Interfaces: Multiple Inheritance
9	**Packages:** Defining interface –Extending interfaces – Implementing Interfaces - Putting Classes Together
	BLOCK 4: MULTITHEREADING , EXCEPTION AND APPLETS
10	**Multithreaded Programming** – Creating Threads –Extending the thread class –Stopping and Blocking a thread –Life cycle of a thread –using thread methods –Thread Exceptions –Priority –Synchronization –Implementing the 'Runnable' Interface
11	**Managing Error and Exceptions:** Types of errors –Exceptions –Syntax of Exception Handling code – Multiple Catch statements –using finally statement – Throwing our own Exceptions – using exceptions for Debugging - Graphics Programming: The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons – Line Graphs – Using Control Loops in Applets – Drawing Bar Charts.
12	**Applet Programming:** How applets differ from Applications – preparing to write applets – Building Applet Code – Applet life cycle – creating an Executable Applet – Designing a Web Page – Applet Tag – Adding Applet to HTML file – Running the Applet – Passing parameters to Applets – Displaying Numerical values – Getting input from the user
	BLOCK 5 : MANAGING INPUT/OUTPUT FILES IN JAVA
13	**Introduction** – concept of streams –stream classes – byte stream classes – character Stream
14	**I/O classes**: –using stream –using the file class –Input / output Exceptions – creation of files – Reading / writing characters – reading writing bytes Random access files- Interactive input and output –Other stream classes

Text Books:

1. R. Krishnamoorthy and S. Prabhu, Internet and Java Programming, New Age International Publishers, 2004 (Unit I).
2. Programming with Java, 4e, E. Balagurusamy, Tata McGraw-Hill, 2010.

Reference books:

1. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
2. Naughton and H.Schildt, Java 2 - The complete reference, Tata McGraw-Hill, Fourth edition, 2006.
3. Elliotte Rusty Harold, Java Network Programming, O'Reilly Publishers, 2000.

4. B.Mohamal Ibrahim , Java : J2SE – A Practical Approach, Firewall media, 2006.
5. Cay S. Horstmann, Gary Cornell, Core Java, Volume I and II, 5th Edition, Pearson Education, 2003.
6. Topley, J2ME in A Nutshell, O'Reilly Publishers, 2002.
7. Hunt, Guide to J2EE Enterprise Java, Springer Publications, 2004.
8. Ed Roman, Enterprise Java Beans, Wiley Publishers, 1998.

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COURSE CODE	TITLE OF THE COURSE
12934 / 13134	INTERNET AND JAVA PROGRAMMING LAB

Course Objective:

- To understand and practice markup languages
- To understand and practice embedded dynamic scripting on client side Internet Programming
- To understand and practice web development techniques on client-side.

Course Requirement:

- Basic concepts of Web and Java programming

Course Outcome:

- Explore markup languages features and create interactive web pages using them
- Learn and design Client side validation using scripting languages
- Acquire knowledge about Open source JavaScript libraries
- Able to design front end web page and connect to the back end databases.

Experiments based on Internet Programming Theory

Unit No.	Contents
	BLOCK 1 : JAVA FUNDAMENTAL PROBLEMS
1	Simple Java Problems
2	class and objects
3	Conditional control using java
4	Looping using java
	BLOCK 2 : OOP CONCEPTS
5	Function overloading programs
6	Operator overloading programs
7	Inheritance programs, Packages
8	Polymorphism programs Message passing programs
	BLOCK 3 : THREAD & VIRTUAL FUNCTION
9	Threads
10	Virtual function programs
	BLOCK 4 : I/O AND EXCEPTION HANDLING
11	Exception handling programs
12	I/O manipulation programs,
	BLOCK 4 :NETWORK PROGRAMMING

13	Applet programs
14	Implementation of simple network programs using java

Reference books:

1. R. Krishnamoorthy and S. Prabhu, Internet and Java Programming, New Age International Publishers, 2004).
2. Programming with Java, 4e, E. Balagurusamy, Tata McGraw-Hill, 2010.
3. Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
4. Naughton and H.Schildt, Java 2 - The complete reference, Tata McGraw-Hill, Fourth edition, 2006.
5. Elliotte Rusty Harold, Java Network Programming, O'Reilly Publishers, 2000.
6. B.Mohamal Ibrahim , Java : J2SE – A Practical Approach, Firewall media, 2006.

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SEMESTER IV

Course Code	Title of the Course
12941A / 13141A	**PART I: TAMIL PAPER IV**

பொதுத்தமிழ்
பாடத்திட்டம்

மதிப்பெண் : 75+25
மதிப்பீடு : 4

நோக்கம் : மொழிஅறிவு, இலக்கணஅறிவைவளர்த்தல்

கூறு 1 : செய்யுள் உறுப்புகள் - யாப்பு -எழுத்து,அசை,சீர்,
கூறு 2 :செய்யுள் உறுப்புகள் - யாப்பு -தளை,அடி,தொடை
கூறு 3 :வெண்பா,ஆசிரியப்பா,கலிப்பா,வஞ்சிப்பா,
கூறு 4 :புதியயாப்புவடிவங்கள் - சிந்து,கண்ணி,கீர்த்தனை
கூறு 5 :புதுக்கவிதையில் குறியீடு–படிமம்.
கூறு 6 :அகப்பொருள் - புறப்பொருள் - ஐந்திணைவிளக்கம்
கூறு 7 :அகப்பொருள் துறைகள் - வரைவுகடாதல்,அறத்தொடுநிற்றல், உடன்போக்கு
கூறு 8 :புறப்பொருள் துறைகள் - வஞ்சினக்காஞ்சி,கையறுநிலை,செவியறிவுறூஉ
கூறு 9 :அணி இலக்கணம் - உவமை,உருவகம்,வேற்றுமை,பிறிதுமொழிதல்,
தற்குறிப்பேற்றம்,சிலேடை,பின்வருநிலை
கூறு 10 :நிறுத்தல் குறிகள்
கூறு 11 : தொல்காப்பியம் - சங்கஇலக்கியம் - எட்டுத்தொகை,பத்துப்பாட்டு,
கூறு 12 :பதினெண்கீழ்க்கணக்கு ஐம்பெருங்காப்பியங்கள் - பிற்காலக் காப்பியங்கள் - கம்பராமாயணம் - பெரியபுராணம்
கூறு 13 :இக்காலக் காப்பியங்கள் - பாரதியின் பாஞ்சாலிசபதம் -
பாரதிதாசனின் பாண்டியன் பரிசு
கூறு 14. :கண்ணதாசனின் இயேசுகாவியம் ,சிற்பியின் -மௌனமயக்கங்கள்.

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Course Code	Title of the Course
12941B / 13141B	**PART I: HUMAN SKILL DEVELOPMENT – II**

Learning objective:

1. To Make the Students develop human skills.

Unit – I Guidance & Counselling – Role of Counsellor - Importance and Techniques of counselling
Unit – II Managerial skill- Need – Importance
Unit – III Human relational skills-Communication-Attention
Unit – IV Conceptual skills-Meaning-Importance
Unit – V Technical skills-Techniques-Practices-Tools-Procedures
Unit – VI Presentation skills-Planning-Preparation-Delivery
Unit – VII Organization skills-Meaning-Nature-Importance-Types
Unit – VIII Multi-Tasking skills Responsibilities-Causes
Unit – IX Leader- Qualities of a good leader
Unit – X Understanding Skills -Human systems: Individual, Group, organization, and their major interactions
Unit – XI Understanding Skills -Human systems: Community and Society, and their major interactions
Unit – XII Problem solving skills – Handling –Facing - Importance
Unit – XIII Cooperative Learning Skills
Unit – XIV Making Social Responsibilities-Causes

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

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Course Code	Title of the Course
12942 / 13142	Part II: ENGLISH –PAPER – IV

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, Drama, Fiction, Tales from Shakespeare, Biographies, Grammar and Composition.

Short Stories

Unit – I Lalajee - Jim Corbelt
Unit – II A Day's Wait - Hemmingway
Unit – III Two old Men - Leo Tolstoy
Unit –IV Little Girls wiser than - Men Tolstoy
Unit – V Boy who Wanted more Cheese - William Elliot Griffir

Drama

Unit – VI Pygmalion - G.B. Shaw

Fiction

Unit – VII Swami and Friends - R.K. Narayanan

Tales from Shakespeare

Unit – VIII - The Merchant of Venice
Unit – IX - Romeo and Juliet
Unit – X - The Winter's Tale

Biographies

Unit – XI - Martin-Luther king - R.N. Roy
Unit – XII - Nehru - A.J. Toynbee

Grammar

Unit – XIII - Concord- Phrases and Clauses-Question Tag

Composition

Unit – XIV - Expansion of Proverbs
- Group Discussion
- Conversation (Apologizing, Requesting, Thanking)

References:

1. *Sizzlers*, by the Board of Editors, Publishers-:Manimekala Publishing House, Madurai.
2. *Pygmalion* – G.B. Shaw
3. *Swami and Friends* – R.K. Narayan
4. *Tales from Shakespeare* Ed. by the Board of Editors, Harrows Publications, Chennai.
5. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

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COURSE CODE	TITLE OF THE COURSE
12943 / 13143	OPEN SOURCE SOFTWARE

Course Objectives:

- To understand the need, advantages and applications of open source software
- To work with open source database and open source programming languages

Course Outcome

- Attained to know and work with open source software like Linux, MySql etc
- Able to do programming in open source programming languages

Unit No.	Contents
	BLOCK 1 : INTRODUCTION
1	Introduction to Open sources – Need of Open Sources – Advantages of Open Sources–Application of Open Sources.
2	Open source operating systems: LINUX: Introduction– General Overview– Kernel Mode and user mode–Process–
3	Advanced Concepts–Scheduling – Personalities – Cloning – Signals – Development with Linux. .
	BLOCK 2 : OPEN SOURCE DATABASE
4	MySQL: Introduction Setting up account Starting, terminating and writing your own SQL programs
5	Record selection Technology– Working with strings – Date and Time
6	Sorting Query Results – Generating Summary – Working with metadata – Using sequences – MySQL and Web.
	BLOCK 3 :OPEN SOURCE PROGRAMMING LANGUAGE - PHP
7	PHP: Introduction – Programming in web environment – variables – constants–data types – operators –Statements

8	Functions– Arrays – OOP –String Manipulation and regular expression –File handling and data storage
9	PHP and SQL database – PHP and LDAP – PHP Connectivity –Sending and receiving E-mails –Debugging and error handling – Security – Templates.
	BLOCK 4 :OPEN SOURCE PROGRAMMING LANGUAGE - PYTHON
10	Syntax and Style – Python Objects – Numbers – Sequences – Strings –Lists and Tuples – Dictionaries –Conditionals and Loops .
11	Files – Input and Output –Errors and Exceptions – Functions – Modules – Classes and OOP – Execution Environment.
	BLOCK 5 :OPEN SOURCE PROGRAMMING LANGUAGE - PERL
12	Perl backgrounder – Perl overview– Perl parsing rules – Variables and Data – Statements
13	Control structures – Subroutines
14	Packages, and Modules-Working with Files –Data Manipulation.

Text Books:

1. Remy Card, Eric Dumas and Frank Mevel, "The Linux Kernel Book", Wiley Publications, 2003
2. Steve Suchring, "MySQL Bible", John Wiley, 2002

Books for Reference:

1. Rasmus Lerdorf and Levin Tatroe, "Programming PHP", O'Reilly, 2002
2. Wesley J. Chun, "Core Phython Programming", Prentice Hall, 2001
3. Martin C. Brown, "Perl: The Complete Reference", 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
4. Steven Holzner, "PHP: The Complete Reference", 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
5. Vikram Vaswani, "MYSQL: The Complete Reference", 2nd Edition, Tata McGraw-Hill Publishing CompanyLimited, Indian Reprint 2009.

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COURSE CODE	TITLE OF THE COURSE
12944 / 13144	**OPEN SOURCE LAB**

Course Objectives:

- To understand the need, advantages and applications of open source software
- To work with open source database and open source programming languages
- To develop applications in PHP using various concepts like arrays, udf's, Sessions and make the students to understand and to establish the connectivity between PHP and MySQL and develop programs to add records, retrieve records and delete records from a table.

Course Outcome

- Attained to know and work with open source software like Linux, MySql etc.,
- Able to do programming in open source programming languages.

Unit No.	Contents
	BLOCK 1 : INTRODUCTION TO LINUX
1	**Kernel** configuration, compilation and installation.
2	**Install various software** on Linux. Install and configure XAMP.Unix Commands and shell programming.
	BLOCK 2 : MYSQL
3	**Creating simple table** with constraints Insertion, Updation and Deletion of rows in MYSQL tables Searching of data by different criteria,Sorting of data
4	**Demonstration of joining tables** Usage of subqueries,aggregate functions Working with set operators Working with string, numeric and date functions
5	**Database connectivity** in PHP with MySQL Validating Input Formatting the Output.
	BLOCK 3 : PHP
6	**PHP Simple Programs** PHP program to perform the arithmetic operation. PHP program Adding numbers using function.
7	**PHP Web programs arrays and functions** Creating simple webpage using PHP Use of conditional statements in PHP Use of looping statements in PHP Creating different types of arrays Usage of array functions Creating user defined functions
8	**File manipulation using PHP** Creation of files,sessions and cookies Creating simple applications using PHP Creating simple table with constraints
	BLOCK 4 : PERL AND PYTHON PROGRMAMING
9	**PERL programs** : Simple programs using PERL
10	**Python Programming:** Use of conditional statements Use of looping statements
11	**Python Programming: Arrays** Creating different types of arrays Usage of array functions Creating user defined functions
12	**Python Programming: String**: String Handling
	BLOCK 5 : APPLICATION DEVELOPMENT
13	**Connect to a MYSQL** database with PHO, PERL and Python.
14	**Developing simple applications** using PHP and MYSQL

Books for Reference:

- Remy Card, Eric Dumas and Frank Mevel, "The Linux Kernel Book", Wiley Publications, 2003
- Steve Suchring, "MySQL Bible", John Wiley, 2002.
- Rasmus Lerdorf and Levin Tatroe, "Programming PHP", O'Reilly, 2002.
- Wesley J. Chun, "Core Phython Programming", Prentice Hall, 2001
- Martin C. Brown, "Perl: The Complete Reference", 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.

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THIRD YEAR
SEMESTER V

COURSE CODE	TITLE OF THE COURSE
12951 / 13151	DISCRETE MATHAMATICS

Course Objectives:

- To understand the concepts and operations Set theory, Graph Theory
- To understand and apply the Mathematical Logic in computer science.

Course Requirements:

- Knowledge about Logics and graphs

Course Outcome:

- Acquire the basic knowledge of matrix, set theory, functions and relations concepts needed for designing and solving problems
- Acquire the knowledge of logical operations and predicate calculus needed for computing skill
- Able to design and solve Boolean functions for defined problems

Unit No.	Contents
	BLOCK 1 : MATHEMATICAL LOGIC
1	**Mathematical Logic:** Statements and Notation - connectives -normal forms – The theory of inference for the statement calculus -
2	**Predicate Calculus**: The predicate calculus - Inference theory and predicate calculus.
3	**Set theory:** Sets – Basic concepts – notation - inclusion and equality of sets - the power set

	BLOCK 2 : RELATIONS
4	**Relations and ordering** properties – relation matrix and graph of a relation
5	**Relations** Partition – equivalence and compatibility relations
6	**Composition and partial ordering**:Composition – partial ordering – partially ordered set
	BLOCK 3 : FUNCTIONS
7	**Functions** – definition – composition – inverse – binary and n-ary operations
8	**Other Functions** : Characteristic function – hashing function.
	BLOCK 4 : ALGEBRAIC STRUCTURES
9	**Algebraic Structures:** Algebraic Systems: Examples and General Properties
10	**Semigroups and Monoids:** Definitions and Examples - Homomorphism of Semigroups and Monoids - Subsemigroups and Submonoids
11	**Groups:** Definitions and Examples - Cosets and Lagrange's Theorem
12	**Normal Subgroups** – Algebraic Systems with two Binary Operations.
	BLOCK 5 : GRAPH AND FINITE PROBABILITY
13	**Graph theory:** Basic concepts – definition – paths - reach - ability and connectedness – matrix representation of graphs - trees.
14	**Finite Probability** – Probability Distributions – Conditional Probability Independence – Bayes' Theorem – Mathematical Expectation

TEXT BOOKS:

1. J.P. Tremblay and R. Manohar Discrete mathematical structures with applications to Computer Science TMH Publishing Company 2003.
2. Judith L. Gersting, Mathematical Structures for Computer Science, 5thEdition, W.H. Freeman and Company, 2003.

REFERENCE BOOKS:

1. Venkatraman M K, Sridharan N and Chandrasekaran N, Discrete Mathematics, The National Publishing Company, 2004.
2. Narsingh Deo, Graph Theory with Applications to Engineering and Computer Science PHI,2003.
3. Ramasamy, Discrete Mathematical Structures with application to combinatorics, Univeristies Press, 2006.
4. Bernand Kolman, Roberty C. Busby, Sharn Cutter Ross, Discrete Mathematical Structures, Pearson Education, 2006.
5. Richard Johnsonbaugh, Discrete Mathematics, Fifth Edition, Pearson Education. 2001.
6. Garry Haggard and others, Discrete Mathematics for Computer science, Thomson.

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COURSE CODE	TITLE OF THE COURSE
12952 / 13152	**OPERATING SYSTEMS**

Course Objective

- Able to understand the operating system principles
- Able to know the Principles of Deadlock, processor scheduling and memory management.

Course Requirements:

- To be aware of the evolution and fundamental principles of operating system, processes and their communication

Course Outcome

- Students have acquired the knowledge about the types of operating systems
- Students have acquired the knowledge about the functions of operating system

Unit No.	Contents
	BLOCK 1 : INTRODUCTION
1	**Introduction:** Definition of Operating Systems – Computer System Organization
2	**Computer System Architecture** – Operating System Structure – Operating System Operations
3	**System Structures:** Operating System Services – System Calls – System Programs – Operating System Design and Implementation.
	BLOCK 2 : PROCESS CONCEPT
4	**Process Concept:** Process Scheduling – Operations on Processes – Inter Process Communication
5	**Process Scheduling:** Scheduling Concepts – Scheduling Criteria – Scheduling Algorithms – Multiple Processor Scheduling
	BLOCK 3 : SYNCHRONIZATION
6	**Synchronization:** The Critical Section Problem – Synchronization Hardware – Semaphores – Classic Problems of Synchronization – Monitors
7	**Deadlocks:** Deadlocks Characterization – Methods for Handling Deadlocks
8	**Deadlock** Prevention – Avoidance – Detection –Recovery from Deadlock.
	BLOCK 4 : MEMORY MANAGEMENT
9	**Memory Management Strategies:** Swapping – Contiguous Memory Allocation – Paging – Segmentation
	BLOCK 5 : FILE SYSTEM
10	**File Concept** – Access Methods – Directory
11	**Structure** – File System Mounting – File Sharing – Protection.
12	**Implementing File Systems:** File System Structure – File System Implementation
13	**Directory Implementation** – Allocation Methods – Free Space Management
14	**Secondary Storage Structure:** Overview of Mass Storage Structure – Disk Structure – Disk Attachment – Disk Scheduling – Disk Management.

TEXT BOOK:

1. Abraham Silberschatz, Peter Baer Galvin and Greg Gagne, “Operating System Principles”, 7th Edition, Wiley India Edition, 2008.

REFERENCE BOOKS:

1. Andrew S.Tanenbaum, Operating Systems Design and Implementation, 3rd edition, Prentice Hall, 2006.
2. Harvey M. Deitel, An Introduction to Operating Systems, 3rd Edition, Addison Wesley 2007.

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COURSE CODE	TITLE OF THE COURSE
12953 / 13153	RELATIONAL DATABASE MANAGEMENT SYSTEMS (RBDMS)

Course Objectives:

- To understand the fundamentals of data models
- To make a study of SQL and relational database design.
- To know about data storage techniques an query processing.
- To impart knowledge in transaction processing, concurrency control techniques and External storage

Course Requirements:

- Knowledge about the basic concepts of the database.

Course Outcome:

- Design a database using ER diagrams and map ER into Relations and normalize the relations
- Acquire the knowledge of query evaluation to monitor the performance of the DBMS.
- Develop a simple database applications using normalization.

Unit No	Contents
	BLOCK 1 INTRODUCTION
1	**Data base System Applications**, data base System VS file System – View of Data – Data Abstraction –Instances and Schemas – data Models – the ER Model
2	**Model :**Relational Model – Other Models – Database Languages – DDL – DML – database Access for applications Programs – data base Users and Administrator – Transaction Management – data base System Structure – Storage Manager – the Query Processor.
3	**History of Data base Systems -** Data base design and ER diagrams – Beyond ER Design Entities, Attributes and Entity sets – Relationships and Relationship sets – Additional features of ER Model – Concept Design with the ER Model – Conceptual Design for Large enterprises.
	BLOCK 2 : RELATIONAL MODEL
4	**Introduction**– Integrity Constraint Over relations – Enforcing Integrity constraints – Querying relational data – Logical data base Design – Introduction to Views – Destroying / altering Tables and Views.
5	**Relational Algebra** – Selection and projection set operations – renaming – Joins – Division – Examples of Algebra overviews –
6	**Relational calculus** – Tuple relational Calculus – Domain relational calculus –

	Expressive Power of Algebra and calculus.
	BLOCK 3 : SQL QUERY
7	**Form of Basic SQL Query** – Examples of Basic SQL Queries – Introduction to Nested Queries – Correlated Nested Queries Set – Comparison Operators – Aggregative Operators – NULL values – Comparison using Null values – Logical connectivity's – AND, OR and NOT – Impact on SQL Constructs – Outer Joins – Disallowing NULL values – Complex Integrity Constraints in SQL Triggers and Active Data bases. Schema refinement
8	**Normal forms :**Problems Caused by redundancy – Decompositions – Problem related to decomposition – reasoning about FDS – FIRST, SECOND, THIRD Normal forms – BCNF–
9	**Join:** Lossless join Decomposition – Dependency preserving Decomposition – Schema refinement in Data base Design – Multi valued Dependencies – FORTH Normal Form.
	BLOCK 4 TRANSACTION
10	**Introduction :**Transaction Concept- Transaction State- Implementation of Atomicity and Durability – Concurrent – Executions – Serializability- Recoverability – Implementation of Isolation – Testing for serializability
11	**Protocols :** Lock Based Protocols – Timestamp Based Protocols- Validation-Based Protocols – Multiple Granularity.
12	**Recovery and Atomicity** – Log – Based Recovery – Recovery with Concurrent Transactions – Buffer Management – Failure with loss of nonvolatile storage-Advance Recovery systems- Remote Backup systems
	BLOCK 5 STORAGE
13	**Data on External Storage** – File Organization and Indexing – Cluster Indexes, Primary and Secondary Indexes – Index data Structures – Hash Based Indexing – Tree base Indexing – Comparison of File Organizations – Indexes
14	**Performance Tuning-** Intuitions for tree Indexes – Indexed Sequential Access Methods (ISAM) – B+ Trees: A Dynamic Index Structure.

Text Books:

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.

Reference Books:

1. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
2. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach,Firewall media, 2006
3. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
4. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

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COURSE CODE	TITLE OF THE COURSE
12954 / 13154	RELATIONAL DATABASE MANAGEMENT SYSTEMS (RBDMS) - LAB

Use the concepts like data normalization, link between table by means of foreign keys and other relevant database concepts for the following applications. The implementation of each should have necessary input screen (forms) Menu-driven query processing and reports. Necessary validations should be made for each table;

Unit No.	Contents
	BLOCK 1 : TABLE MANIPULATION
1	**Table** creation, Renaming a Table, Copying another table, Dropping a Table
2	**Table Description:** Describing Table Definitions, Modifying Tables
	BLOCK 2 : SQL QUERIES AND SUB QUERIES
3	**SQL Queries:** Queries, Sub Queries, and aggregate functions
4	**DDL:** Experiments using database DDL SQL statements
5	**DML:** Experiment using database DML SQL statements
6	**DCL:** Experiment using database DCL SQL statements
	BLOCK 3 : INDEX AND VIEW
7	**Index :** Experiment using database index creation, Renaming a index, Copying another index, Dropping a index
8	**Views:** Create Views, Partition and locks
	BLOCK 4 : EXCEPTION HANDLING AND PL/SQL
9	**Exception Handling:** PL/SQL Procedure for application using exception handling
10	**Cursor:** PL/SQL Procedure for application using cursors
11	**Trigger:** PL/SQL Procedure for application using triggers
12	**Package:** PL/SQL Procedure for application using package
13	**Reports:** DBMS programs to prepare report using functions
	BLOCK 5 : APPLICATION DEVELOPMENT
14	**Design and Develop Application:** Library information system, Students mark sheet processing, Telephone directory maintenance, Gas booking and delivering, Electricity bill processing, Bank Transaction, Pay roll processing. Personal information system, Question database and conducting Quiz and Personal diary

Reference Books:

1. Raghurama Krishnan, Johannes Gehrke, Data base Management Systems, 3rd Edition, TATA McGrawHill.2003.
2. Silberschatz, Korth, Data base System Concepts, 6th Edition, Tata McGraw Hill, 2011.
3. Relational Database Principles 2nd Edition, Colin Ritchie, 2004
4. Sharad Maheswari and Ruchin Jain, Database management systems Complete Practical Approach,Firewall media, 2006
5. Peter Rob & Carlos Coronel, Data base Systems design, Implementation, and Management, 7th Edition.
6. Elmasri Navrate , Fundamentals of Database Systems, Pearson Education.

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SEMESTER VI

COURSE CODE	TITLE OF THE COURSE
12961 / 13161	● NET PROGRAMMING

Unit No.	Contents
	BLOCK 1 – INTRODUCTION
1	**Overview of Microsoft .NET Framework** - The .NET Framework components-The Common Language Runtime (CLR) Environment- The .NET Framework class Library
2	**Getting Started with Visual Basic .net IDE :** Set up of work environment, start page, the menu system, toolbars, the new project dialog box, graphical designers, code designers, the object explorer, the toolbox, the solution explorer, the class view window, the properties window, the dynamic help window, the server explorer, the output window, the command window.
3	**Visual basic language concept :** variables, Constants, Data Types, Operators, Control Structures and loops - Arrays : single and multidimensional array, declaring, dynamic array.
	BLOCK 2 : INTRODUCTION TO WINDOWS COMMON CONTROLS
4	**Working with Form** - Properties : appearance, behaviour, layout, windows style etc,
5	**methods and events** - Differentiate procedure oriented, object oriented and event driven programming – Input box- Message box
6	**Working with Common Tool Box Controls:** Label , button, Textbox , NumericUpDown , Check Box, Radio Button , Group Box , control and all important methods and events.
	BLOCK 3 : ADDITIONAL CONTROLS AND MENUS OF WINDOWS
7	Working with other controls of toolbox: Date Time Picker, List Box, Combo box, Picture Box, Rich Text Box, Progress bar, Masked Text box, Link Label, Checked List box
8	Working with Menus: creating menu,inserting,deleting,assigning short cut keys, popup menu.
	BLOCK 4 : INBUILT FUNCTIONS, DIALOG BOX,MDI & EXCEPTION
9	**Inbuilt Functions :** Mathematical Functions-String manipulation - Dialog Boxes: OpenFileDialog, SaveFileDialog, FontDialog, ColorDialog, PrintDialog
10	**Sub Procedures and functions :** declaring, passing and returning arguments, exiting from it, pass by value and pass by ref
11	**Exception Handling and MDI:** Structured Error Handling (Try ....Catch ....finally), Unstructured Error Handling (On error go to line, goto 0, goto -1, resume next) - Multiple document interface (MDI) : MDI Parent form and child form.
	BLOCK 5 : DATABASE ACCESS USING ADO.NET
12	**ADO .NET Object Model:** Dataprovider - Dataset - ADO .NET Programming : Creating a Database Application
13	**Creating Connection to a Database using ADO.NET** , Populating Data in ADO.NET,

14	**Browsing Records**, Datagrid view, Editing, Saving, Adding and Deleting Records using bounded and unbounded.

Text Books:

1. Shelly, cashman, Quasney ' Microsoft Visual Basic .NET : Comprehensive Concepts And Techniques ' Cengage learning, 2012
2. StevenHolzner , Visual Basic .NET Programming Black Book , Dreamtech Press Publications, New Delhi

Book for Reference:

1. Julia Case Bradley and Anita C Millspaugh Programming in Visual Basic.NET McGraw Hill Higher Education (September 2002)

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COURSE CODE	TITLE OF THE COURSE
12962 / 13162	SYSTEM ANALYSIS AND DESIGN

Course Objectives

To understand about the system and its Development life cycle
To be able to analyze, design, develop, implement and maintain software system.

Course Outcome

On Successful completion of the course the students should have:

- Understood the life cycle of the software development.
- Able to prepare software system documentation

Unit No.	Contents
	BLOCK 1 : SYSTEM CONCEPTS AND SYSTEM DEVELOPMENT LIFE CYCLE
1	**System Concepts** - Characteristics - Elements of a system - Types of Systems: Abstract, Physical, Open, Closed and Man-made Information system - Computer Based Information Systems: MIS, DSS, TPS and OAS
2	**System Development Life Cycle** - Problem Definition - Feasibility Study - Analysis - Design - Development - Implementation - Post Implementation and Maintenance
3	**System Analyst :** Interpersonal Skills - Technical Skill - Communication Skills - Role of Systems Analyst.
	BLOCK 2 : SYSTEM ANALYSIS
4	**System Analysis :** Bases for planning in System Analysis - Preliminary Investigation - Determining the User's information requirements, Case Scenario, Problem Definition and Project Initiation, Background Analysis
5	**Fact Finding Techniques :** Interview - Questionnaire - Record Review - Observation.

	Systems Analysis: Analysing Systems data - Feasibility Study: Technical, Economical and Operational - Steps in Feasibility Analysis, Feasibility Report, Oral Presentation
6	**Systems Costs & Benefits:** Categories of Cost - Benefits - Cost Benefit Analysis: Break Even, Present Value, Pay Back and Cash Flow. **Analysis Tools :** Data flow concept - Data Flow Diagram - Data Dictionary - Decision Table - Decision Tree - Structured English.
	BLOCK 3 : SYSTEM DESIGN
7	**System Design :** Process and stages of System Design : Logical and Physical Design. Design Methodologies: Structured design - Form Driven Methodology - Major Development Activities
8	**Input Output and Form Design:** Input Design : Capturing Data for input - Input Validation - Input Design of on-line systems. Output Design - Printed, Display and Audio.
9	**Forms Design :** Definition - Classification of Forms, Requirements of Forms Design - Types of Forms - Forms Control.
	BLOCK 4 : FILE AND DATABASE DESIGN:
10	**File concepts** - Types of Files - Methods of File Organization - Sequential - Direct - Indexed - Database Design: Database concept
11	**Types of Databases :** Hierarchical, Network and Relational.
12	**System Development**: Software Design - Top Down Approach - Flow Chart: System Flow Chart - Program Flow Chart - HIPO - IPO - VTOC - Warnier Orr Diagram - Structured Walkthrough - Quality Assurance - Levels of Assurance - System Testing - Special Systems Tests
	BLOCK 4 : SYSTEM EVALUATION,IMPLEMENTATION AND MAINTENANCE
13	**System Evaluation and Implementation** Training Personnel - Training Methods - Conversion: Conversion Methods - Parallel, Direct, Pilot and Phase-in. Conversion Plan - Site Preparation - Data and File Preparation - Post Implementation Review -
14	**System Maintenance :** Corrective - Adaptive - Hardware and Software Selection : Computer Industry - Software Industry - Procedure of Hardware and Software Selection: Major phases in Hardware and Software selection - Evaluation Process - Financial considerations.

Text Book

Elias M.Awad, Systems Analysis and Design, 1990, Galgotia Publication Pvt. Ltd.

Reference Book:

1. James A. Sen, Analysis and Design of Information System, 1985, McGraw Hill.

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COURSE CODE	TITLE OF THE COURSE
12963 / 13163	**MULTIMEDIA AND ITS APPLICATIONS**

Course Objective:

- To acquire knowledge about Text, Images & Animation.
- To enable the students to learn the concepts of Multimedia.

Course Requirements:

- Basic concepts of Images, Audio and Video

Course Outcome:

On Successful completion of the course the students should have:

- Understood the Multimedia animation and Desktop Computing.

Unit No.	Contents
	BLOCK 1 : FUNDAMENTAL CONCEPTS
1	**Fundamental concepts** in Text and Image: Multimedia and hypermedia, world wide web, overview of multimedia software tools.
2	**Graphics and image** data representation graphics/image data types, file formats
3	**Color in image and video:** color science, color models in images, color models in video.
	BLOCK 2 : FUNDAMENTAL CONCEPTS IN VIDEO AND DIGITAL AUDIO
4	Fundamental concepts in video and digital audio: Types of video signals, analog video, digital video
5	**Digitization of sound**, MIDI
6	**Quantization** and transmission of audio
	BLOCK 3 : MULTIMEDIA DATA COMPRESSION:
7	**Lossless compression algorithm:** Run-Length Coding, Variable Length Coding, Dictionary Based Coding, Arithmetic Coding
8	Lossless Image Compression, Lossy compression algorithm: Quantization.
	BLOCK 4 : BASIC VIDEO COMPRESSION TECHNIQUES
9	**Introduction** to video compression, video compression based on motion compensation
10	**search for motion vectors**, MPEG
11	**Basic Audio Compression** Techniques.
	BLOCK 5 : MULTIMEDIA NETWORKS:
12	**Multimedia Networks:** Basics of Multimedia Networks, Multimedia Network.
13	**Communications and Applications:** Quality of Multimedia Data Transmission, Multimedia over IP
14	**Multimedia over ATM Networks**, Transport of MPEG-4, Media-on-Demand(MOD).

Text Book:

1. Fundamentals of Multimedia by Ze-Nian Li and Mark S. Drew PHI/Pearson Education 2004

Reference Books:

1. Digital Multimedia, Nigel chapman and jenny chapman, Wiley-Dreamtech 2009
2. Multimedia and Communications Technology, Steve Heath, Elsevier (Focal Press) 1999

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COURSE CODE	TITLE OF THE COURSE
12964 / 13164	● NET PROGRAMMING LAB

Course objectives

- To be able to understand the fundamentals of windows GUI
- To be able to run variable applications on windows
- To be able to understand .NET Programming concepts

Course outcome

- Students can develop GUI based applications using .NET

Unit No.	Contents
1	Building simple applications, Observe and draw visual .net IDE layout and hands on practice to create, save and open the project.
2	Working with intrinsic controls ,Control Arrays,Sub Procedures and functions
3	Application with multiple forms
4	Application with dialogs
5	Application with Menus
6	Application using data controls
7	Application using Common Dialogs
8	Drag and Drop Events,Inbuild functions, Mathematical and string functions
9	Database Management
10	Creating ActiveX Controls
11	Database object (DAO) and properties
12	Active Data Objects (ADO) ADO and OLE DB
13	**Database : Bounded and Unbounded Mode :**Connecting to the database ,Retrieving a recordset Creating a query dynamically Using a parameterized query using action queries - Adding records Editing records closing the database connection
14	**Simple Application development:** 1. Library information system 2. Students mark sheet processing 3. Telephone directory maintenance 4. Gas booking and delivering 5. Electricity bill processing 6. Bank Transaction 7. Pay roll processing 8. Personal information system 9. Question database and conducting Quiz 10. Personal diary

Text Books

1. Gary Cornwell Visual basic 6 , Tata McGraw Hill
2. Shelly, cashman, Quasney ‘ Microsoft Visual Basic .NET : Comprehensive Concepts And Techniques ‘Cengage learning, 2012
3. StevenHolzner , Visual Basic .NET Programming Black Book , Dreamtech Press Publications, New Delhi

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Minutes of the Meeting of the Board of Studies in Computer Science for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc. (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) Programmes to be offered through Open Distance Learning (ODL) Mode held at The Directorate of Distance Education, Alagappa University, Karaikudi – 630 003, on 04.09.2017, (11.00 A.M).

Members Present

1.	Dr. V. Palanisamy	-	Chairman
2.	Dr. E.Ramaraj	-	Member
3.	Dr. K.Kuppusamy	-	Member
4.	Dr. T.Meyyappan	-	Member
5.	Dr. S.S.Dhenakaran	-	Member
6.	Dr. K.Mahesh	-	Special Invitee
7.	Dr. A. Padmapriya	-	Special Invitee
8.	Dr. P. Prabhu	-	Member
9.	Mr.S.Balasubramanian	-	Member

After the deliberation and discussion the board resolved the following:

1. The Board considered the curriculum design and detailed syllabi of Computer Science programmes, prepared as per the norms and the Board scrutinized and necessary modifications are specified.

2. The Board resolved to approve curriculum design, detailed syllabi and other regulations for the Master of Computer Applications (M.C.A), M.Sc(Information Technology), M.Sc (Computer Science), Post Graduate Diploma in Computer Applications (P.G.D.C.A), Bachelor of Computer Applications (B.C.A), B.Sc (Information Technology), B.Sc. (Computer Science) programmes to be offered from 2018-2019 academic year onwards by the Directorate of Distance Education of Alagappa University, Karaikudi.

Dr. V. Palanisamy

Dr. E.Ramaraj

Dr. K.Kuppusamy

Dr. T.Meyyappan

Dr. S.S.Dhenakaran

Dr. K.Mahesh

Dr. A. Padmapriya

Dr. P. Prabhu

Mr.S.Balasubramanian

PROGRAMME PROJECT REPORT

B.Sc MATHEMATICS

(Distance Education Programme)

DIRECTORATE OF DISTANCE EDUCATION

ALAGAPPA UNIVERSITY

(A State University Accredite d with A^{+} Grade by NAAC (CGPA:3.64) in the Third Cycle)

KARAIKUDI- 630 003

B.Sc MATHEMATICS

Choice Based Credit System (CBCS)
(With effect from June 2018 – 2019 onwards)

a. Programme's Mission & Objectives:

To afford a High Quality Under Graduate Degree (B.Sc) Mathematics through Distance Learning mode to the students in order to nurture them in the emerging society among the young minds.

The general objectives of the programme is to:

- Give an expanded knowledge about Mathematics.
- Know and demonstrate understanding of the concepts from the five branches of mathematics (number, algebra, geometry and trigonometry, statistics and probability, and discrete mathematics)
- Use appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real-life contexts
- Select and apply general rules correctly to solve problems including those in real-life contexts.

b. Relevance of the Programme with Alagappa University's Mission and Goals:

In order to align with the mission and goals of Alagappa University the B.Sc Mathematics is planned to deliver in Distance Learning mode which may reach the maximum number of student aspirants who are unable to thrive to spend non-elastic timings of formal conventional class room education. Such an undergraduate education in Mathematics subject with appropriate practical experiences will enrich the human resources for the uplift of the nation to Educational, Social, Technological, Environmental and Economic Magnificence (ESTEEM).

c. Nature of Prospective Target Group of Learners:

The curriculum has been designed for the learners including a class having of low level of disposable income, rural dwellers, women, unskilled men, minorities etc. to apply mathematical knowledge and problem-solving techniques to investigate a problem, generate and/or analyse information, find relationships and patterns, describe these mathematically as general rules, and justify or prove them through Distance Learning mode. Especially this curriculum will helpful to the learners, who are as workers in shops, factories and house wives etc.

d. Appropriateness of programme to be conducted in Distance learning mode to acquire specific skills and competence:

B.Sc Mathematics programme through Distance Learning mode is developed in order to give subject-specific skills including to:

- recognize that mathematics permeates the world around us
- appreciate the usefulness, power and beauty of mathematics
- enjoy mathematics and develop patience and persistence when solving problems
- understand and be able to use the language, symbols and notation of mathematics
- develop mathematical curiosity and use inductive and deductive reasoning when solving problems
- become confident in using mathematics to analyse and solve problems both in school and in real-life situations
- develop the knowledge, skills and attitudes necessary to pursue further studies in mathematics
- develop abstract, logical and critical thinking and the ability to reflect critically upon their work and the work of others
- develop a critical appreciation of the use of information and communication technology in mathematics
- appreciate the international dimension of mathematics and its multicultural and historical perspectives.

The programme is developed to give the students to encourage to share their thinking with teachers and peers and to examine different problem-solving strategies. Critical reflection in mathematics helps students gain insight into their strengths and weaknesses as learners and to appreciate the value of errors as powerful motivators to enhance learning and understanding.

At the end of the Programme students should be able to:

- Explain whether their results make sense in the context of the problem
- Explain the importance of their findings
- Justify the degree of accuracy of their results where appropriate
- Suggest improvements to the method when necessary.

e. Instructional Design:

e. 1. Curriculum Design:

Sl. No.	Course Code	Title of the Course	CIA Max.	ESE Max.	TOT Max.	C Max.
FIRST YEAR						
I Semester						
1.	**11311**	Part-I: Tamil Paper-I / Communication Skills-I	25	75	100	4
2.	**11312**	Part-II : English-I	25	75	100	4
3.	**11313**	Classical Algebra	25	75	100	4
4.	**11314**	Calculus	25	75	100	4
		Total	**100**	**300**	**400**	**16**
II Semester						
5.	**11321**	Part-I: Tamil Paper-II / Communication Skills-II	25	75	100	4
6.	**11322**	Part-II : English-II	25	75	100	4
7.	**11323**	Analytical Geometry and Vector Calculus	25	75	100	4
8.	**11324**	Sequences and Series	25	75	100	4
		Total	**100**	**300**	**400**	**16**
SECOND YEAR						
III Semester						
9.	**11331**	Part-I: Tamil Paper-III / Human Skills Development - I	25	75	100	4
10.	**11332**	Part-II : English-III	25	75	100	4
11.	**11333**	Differential Equations and its Applications	25	75	100	4
12.	**11334**	Mechanics	25	75	100	4
		Total	**100**	**300**	**400**	**16**
IV Semester						
13.	**11341**	Part-I: Tamil Paper-IV / Human Skills Development - II	25	75	100	4
14.	**11342**	Part-II : English-IV	25	75	100	4
15.	**11343**	Analysis	25	75	100	4
16	**11344**	Statistics	25	75	100	4

		Total	**100**	**300**	**400**	**16**
V Semester						
17.	**11351**	Modern Algebra	25	75	100	4
18.	**11352**	Operations Research	25	75	100	4
19.	**11353**	Numerical Analysis	25	75	100	4
20.	**11354**	Transform Technics	25	75	100	4
		Total	**100**	**300**	**400**	**16**
VI Semester						
	11361	Discrete Mathematics	25	75	100	4
	11362	Fuzzy Algebra	25	75	100	4
	11363	Complex Analysis	25	75	100	4
	11364	Combinatorics	25	75	100	4
		Total	**100**	**300**	**400**	**16**

Course Code Legend:

1	**1**	**3**	**X**	**Y**	**Z**

312- B.Sc Mathematics
X -Semester No
Y & Z- Course number in the semester

CIA: Continuous Internal Assessment, ESE: End Semester Examination, TOT: Total, C: Credit Points, Max.: Maximum

No. of Credits per Course (Theory) -4
Total No. of Credits per Semester- 16
Total No. of Credits per Programme - 16 X 4 = 64

e. 2. Detailed Syllabi:

FIRST SEMESTER

Course Code	Title of the Course
11311	Part-I: Tamil Paper - I

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1

1. **கண்ணதாசன் - ஸ்ரீ கிருஷ்ண கானம்**
   1. புல்லாங்குழல் கொடுத்த
   2. குருவாயூருக்கு வாருங்கள்

கூறு 2

1. கோகுலத்து பசுக்கள்
2. கோகுலத்தில் ஒரு நாள் ராதை
3. ஆயர்பாடி மாளிகையில்

கூறு 3

பட்டுக்கோட்டை கல்யாண சுந்தரம்

1. நெஞ்சில் குடியிருக்கும்
2. செய்யும் தொழிலே தெய்வம்

கூறு 4

1. **பாரதியார்**

கண்ணன் என் விளையாட்டுப்பிள்ளை
பாரத மாதா திருப்பள்ளி எழுச்சி

கூறு 5

1. **பாரதிதாசன்** - உலகப்பன் பாட்டு (5)
2. **நாமக்கல் கவிஞர்** - நோயற்ற வாழ்வு 7 பாட்டு
3. **பெ.தூரன்** - நிலா பிஞ்சு

கூறு 6

1. **வல்லிக் கண்ணன்** - வெறும் புகழ்
2. **கு.ப.இராஜகோபாலன்** - எதற்காக?
3. **மீரா** - பதினைந்து

கூறு 7

1. **சிற்பி** - சர்ப்ப யாகம்1
2. **ஞானக்கூத்தன்** - தோழர் மோசிகீரனார்

கூறு 8

1. **அப்துல் ரகுமான்** - கண்ணும் எழுதேம்
2. **சண்முக சுப்பையா** - வயிறு

கூறு 9

1. **சிலப்பதிகாரம்** - வழக்குரை காதை
2. **கம்பராமாயணம்** - அயோத்தியா காண்டம்

கூறு 10

1. **சீறாப்புராணம்** - ஈத்தங்குலை வரவழைத்த படலம் (1)

கூறு 11

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

1. இன்னவாயில்
2. கொழுந்துறும்
3. பஞ்(ச) அரங்கில்

கூறு 12

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

4. எண்ணுளே
5. ஒண்தலங்கள்
6. இரவியேந்த கஞ்சக்

கூறு 13

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

7. கன்னியாயதாயும்
8. ஏந்தி ஓங்கு உளத்து
9. ஆவ தேமுனர்
10. கொல்லும் வேலொடும்

கூறு 14

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

11. என்ற வாசகம்
12. அம்பினால்
13. வேண்டும் ஓர் வினை

Course Code	Title of the Course
11311	Part-I: Communication Skills - I

Objectives:

On completion of the course the students will be able to

- ❖ Make students to understand the basic skills of Communication.
- ❖ Acquaint students with the important features of Communication skills.

Unit-1: Communication - Meaning - Types- Importance.

Unit-2: Barriers to Effective Communication - Principles - Principles of Effective Communication.

Unit-3: Oral Communication - Meaning - Importance - Forms of Oral Communication.

Unit-4: Intonation - Meaning - Function - Types Preparation of Speech- Steps Involved.

Unit-5: Principles of Effective Oral Communication.

Unit-6: Written Communication - Meaning - Steps - Importance - Advantages - Use of words and Phrases.

Unit-7: Sentence - Meaning - Sentence formation - Characteristics of an Effective Sentence.

Unit-8: Paragraph Writing - Essay Writing - Steps Involved - Outline-Layout - Contents -Drafting-Correction - Final Draft.

Unit-9: Application for Employment and Curriculum Vitae - Steps involved.

Unit-10: Non-Verbal Communication - Meaning - Types - Body Language - Postures -Gestures - Facial Expressions - Eye Contact.

Unit-11: Report Writing - Report - Types of Reports - Format of a Report.

Unit-12: Essentials of a Good Report - Preparation of Report - Procedure Involved.

Unit-13: Meetings - Purpose of the Meeting - Procedure.

Unit-14: Group Discussion - Quality of Content - Participation - Logical Presentation - Behavioural Skills.

References:

1. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
2. Geetha Nagaraj, Write to Communicate, 2004.
3. Wren & Martin, English Grammar and Composition, 2002.
4. Dale Carnegie, How to Win Friends and Influence People, 1981.
5. Dale R Jordan, Language Skills and Use.
6. Gartside L. Bahld, Nagammiah and McComas, Satterwhite, Modern Business Correspondence.
7. Rajendra Pal and Kortahalli J S, Essentials of Business Communication.
8. Wallace, Michael J, Study Skills in English.
9. Editors of Readers Digest, Super Word Power.

Course Code	Title of the Course
11312	PART-II : ENGLISH PAPER - I

Learning objective:

1. To make the students master the different topics prescribed in the Prose, Grammar and Composition.

Prose

Unit – I	Water-the Elixir of life	- C.V. Raman
Unit – II	Mrs. Packletide's Tiger	- SAKI
Unit – III	A Deed of Bravery	- Jim Carbett
Unit – IV	The Cat	- Catharine M.Willson
Unit – V	On Letter Writing	- Alpha of the Plough
Unit – VI	Our Ancestors	- Carl Sagan
Unit – VII	Our Civilization	- C.E.Foad
Unit – VIII	A Hero on Probation	- B.R. Nanda
Unit – IX	Dangers of Drug Abuse	- Hardin B. Fones
Unit – X	Food	- J.B.S. Haldane

Grammar

Unit – XI - Articles-Gerunds-Participles-Infinitives-Modals-Proposition –Tenses.

Unit – XII - Direct and Indirect Speech-Transformation of sentences- Active and passive voice.

Composition

Unit – XIII - Letter writing - Precis writing - Developing hints.

Unit – XIV - Dialogue writing - Paragraph writing.

References:

1. Sebastian D K, *Prose for the Young Reader*, Macmillan.
2. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

Course Code	Title of the Course
11313	PART-III : CLASSICAL ALGEBRA

Course Objectives:

The general objectives of the course is

1. To introduce the concepts-What is sequence?. Convergent, Divergent and Oscillating sequences.
2. To make the knowledge about Series of positive terms, D'Alembert test, Comparison test, Ratio test, Root test, Conditional convergence and Alternating series.
3. To introduce the concept of Binomial theorem for rational index, Binomial series, Exponential series, Logarithmic series and Summation of series using binomial, exponential and logarithmic series.
4. To understand the concept of Theory of equations, Relation between the roots and coefficients, Symmetric functions of the roots and Sum of the power of the roots of the equation, Removal of terms and Multiple roots.
5. To make the knowledge about Inequalities, Matrices and determinants, Adjoint of a square matrix, system of equations, Cramer's rule, Eigen values.

Course Description:

UNIT- I

Introduction, Binomial theorem for rational index, other forms of Binomial Expansion, Summation of series using binomial theorem.

UNIT -II

Theory of equations - Introduction and basic theorems, Relation between the roots and coefficients, Symmetric functions of the roots.

UNIT -III

Sum of the powers of the roots of the equation, Transformation of equation by given quantity, formation of equations whose roots are diminished by h, formation of equations whose roots are equal in magnitude and opposite in sign.

UNIT -IV

Multiple Roots – Nature and position of roots – Descarte's rule of Signs, Rolle's theorem – Sturm's functions – Problems.

UNIT -V

Removal of terms – Introduction, Reciprocal roots, Newton's and Horner's methods.

UNIT -VI

Finding number and position of the real roots – Finding the nature and position of the roots (Cardans&Ferrar's method not included).

UNIT -VII

Inequalities – Arithmetic and geometric means, Weierstrass inequality.

UNIT -VIII

Determinants - Definition, Expansion of determinants, Properties of determinants

UNIT -IX

Matrices- Operation on matrices, adjoint of a square matrix- Problems.

UNIT -X

Singular and Non singular matirices-Inverse of a non-singular matrix.

UNIT -XI

System of equations - Cramer's rule, problems using Cramer's rule-Problems.

UNIT -XII

Rank of a matrix, Consistency of equations-related problems.

UNIT -XIII

Eigen values, Eigen vectors- Some problems

UNIT -XIV

Cayley Hamilton theorem – Statement, Verification of Cayley Hamilton theorem, finding inverse using Cayley Hamilton theorem.

REFERENCES:

1. Arumugam & Issac, Sequences and Series, New Gamma Publishing House, 2002 Edition.
2. Arumugam & Issac, Set Theory & Number System and Theory of Equations.
3. Venkataraman & Manorama, Algebra, National Publishing House, Chennai.
4. T.K.Manickavasagam Pillai & Others, Algebra Vol.I & Vol.II S.Viswanathan (Printers & Publishers) Pvt. Ltd, 1985-Revised Edition.

Learning Outcomes:

At the end of the module student should be able to...

1. Understand concept of sequences, series and its various types with examples.
2. Understand the types of tests with examples.
3. Understand Binomial theorem, binomial, logarithmic and exponential series and its applications in various fields.
4. Understand theory of equations, inequalities, matrices and determinants with examples and its uses in real world problems.

Course Code	Title of the Course
11314	PART-III : CALCULUS

Course Objectives:

The general objectives of the course is
students will be able to:

1. To introduce the concept of Differentiation and Integration. Successive differentiation, Partial differentiation, Maxima and minima of functions of two variables.
2. To make the knowledge about Tangents, normal, curvature, envelope and evolute.
3. To understand the concept of Integration by parts: Definite integrals and their properties, Reduction formulae.
4. To know about Differential equations of homogeneous equations in x and y, First order linear equations, Linear equations of order 2 with constant coefficients.
5. To introduce the concepts of Laplace transform, Inverse Laplace transform, solving differential equations using Laplace transforms. Partial differential equations of first order, some standard forms and Charpit's method.

Course Description:

UNIT- I

Differentiation – Introduction, Parametric differentiation,, Logrithmic differentiation, differentiation of implicit functions.

UNIT –II

Successive differentiation – Introduction, n^{th} derivative of some standard functions, problems using higher order derivatives.

UNIT –III

Partial differentiation – Homogeneous functions, Euler's theorem, verification of Euler's theorem, Maxima and minima of functions of one variable and two variables.

UNIT –IV

Polar Coordinates – Radius of curvature in polar coordinates, p-r equation of a curve – Asymptotes – Method of finding asymptotes – problems

UNIT –V

Tangents and ormal angle of intersection, curvature, Envelopes and Evolutes, working method to find envelope, involute.

UNIT –VI

Integration – Substitution methods, $1/(x_2 – a_2)$, $1/(x_2 + a_2)$, $1/(a_2 – x_2)$, $1/(x_2 – a_2)½$, $(x_2 – a_2)½$, $(x_2 + a_2)½$, $(a_2 – x_2)½$.

UNIT –VII

Definite Integrals and their properties –problems – Integration by parts –– Reduction formulae – Bernoulli's formula.

UNIT -VIII

Double and triple integrals and their properties – Jacobian – Change of order of integration.

UNIT -IX

Beta and Gamma functions – properties – problems

UNIT -X

Differential equations – Solution of differential equations, variable separable methods.

UNIT -XI

Homogeneous equations in x and y-Methods and problems, First order linear equations.

UNIT -XII

Linear equations of order 2 with constant and variable coefficients, Variation of parameters.

UNIT -XIII

Laplace transform, Inverse Laplace transform, Solving differential equations using Laplace transforms.

UNIT -XIV

Partial differential equations – Forming differential equations by eliminating arbitrary constants and variables, First order partial order equations. Some standard forms – Charpit's method, Clairaut's form, Lagrange's multiplier method and problems.

REFERENCES:

1. Arumugam & Issac, Calculus, New Gamma Publishing House, 2005.
2. Arumugam & Issac, Differential Equations and Applications, New Gamma Publishing House, 2003.
3. A.K.Sharma, Text book of Differential Calculus, Discovery publishing house, New Delhi.
4. S.Narayanan & T.K. Manickavasagam Pillai, Differential Equations and its applications, S.Viswanathan(Printers & Publishers) Pvt. Ltd, 2009, Chennai.
5. Calculus and Fourier series by Dr. M.K.Venkataraman and Mrs. Manorama Sridhar, The National Publishing Company, Chennai.

Learning Outcomes:

At the end of the module student should be able to...

1. Understand concept of differentiation, partial differentiation, maxima and minima with examples.
2. Understand tangent, normal, curvature, envelope and evolute with examples.

3. Understand the concept of integration, reduction formulae, definte integral and its properties.
4. Understand Differential equations of homogeneous equations in x and y, First order linear equations, Linear equations of order 2 with constant coefficients.
5. Understand Laplace transform, Inverse Laplace transform, solving differential equations using Laplace transforms, Partial differential equations of first order, some standard forms and Charpit's method with its applications in various fields.

SECOND SEMESTER

Course Code	Title of the Course
11321	Part-I: Tamil Paper - II

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

14. சொல் தவிர்ந்த
15. அன்னை
16. அஞ்சுவார்
17. சொல்லக் கேட்டனள்
18. மற்செய்கை
19. மண்கனியப்
20. அழுது ஆர்ந்த

கூறு 2

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

21. பொய் பொதுளும்
22. இன்பு அருந்தி
23. வழுதாயின இன்பு
24. மறம் ஏவினர்

கூறு 3

தேம்பாவணி - காட்சிப்படலம்

பாடல் எண் (ஒவ்வொரு பாடலின் முதல்வரி)

25. மண்ணோர்கள்
26. பொய்யா விதியோய்
27. விடியா இருள்
28. அழுவார் எவரும்

கூறு 4

சிறுகதை - நீலபத்மநாபனின் ‘‘வான வீதியில்’’

கூறு 5

உரைநடை - கம்பன் புறத்திணை - தி.சொக்கலிங்கம்

இலக்கணம் - எழுத்தும் சொல்லும்

கூறு 6

1. முதலெழுத்துகள், சார்பெழுத்துகள்
2. மொழி முதலெழுத்துகள் , மொழி இறுதி எழுத்துகள்

கூறு 7

1. ஒற்றெழுத்து மிகலும் மிகாமையும்,
2. ஆகு பெயர் , அன்மொழித் தொகை.
3. வினா-விடை வகைகள்

கூறு 8

1. தமிழ்ச் சொல்லமைப்பின் சிறப்பு – பெயர் , வினை, இடை, உரி வடிவங்கள் ,
2. பிற மொழிச் சொற்களைத் தமிழில் ஆளும் முறைகள்

கூறு 9

3. அல் வழி, வேற்றுமைப் புணர்ச்சிகள்

4. திணை, பால் , எண் , இட இயைபு.

தமிழ் இலக்கிய வரலாறு

கூறு 10

1. **இக்கால இலக்கிய வகைகள்**
   அ) மரபுக் கவிதை

   ஆ) புதுக் கவிதையின் தோற்றமும் வளர்ச்சியும்

கூறு 11

1. உரை நடை இலக்கியங்கள் - தோற்றமும் வளர்ச்சியும்

அ) கட்டுரை ஆ) சிறுகதை

இ) புதினம் ஈ) நாடகம்

கூறு 12

1. **இக்கால இலக்கியக் களங்கள்**
   திரைப்படம் , தொலைக்காட்சி, வானொலி, இதழ்கள் தமிழுக்கு ஆற்றி வரும் பணிகள்

கூறு 13

1. **தமிழும் சமயமும் :**
   அ) சைவம் ஆ)வைணவம் இ)சமணம் ஈ)பௌத்தம் உ)இசுலாம்

   ஊ) கிறித்துவம்

கூறு 14

1. பிற்காலக் காப்பியங்கள் :

அ) கம்பராமாயணம் **ஆ)** பெரியபராணம்

2. இணையம் - பற்றிய செய்திகள்

Course Code	Title of the Course
11321	Part-I: Communication Skills - II

Objectives:

- ❖ To make students understand the basic skills of Communication.
- ❖ To acquaint students with the important features of Communication skills.

Unit-1: Code and Content of Communication Skills.

Unit-2: Stimulus and Response of Communication Skills.

Unit-3: Effective Speaking Guidelines.

Unit-4: Pronunciation Etiquette of Communication Skills.

Unit-5: Phonetics in Communication Skills.

Unit-6: A Self-Assessment of Communicating Soft Skills.

Unit-7: Language Skills - Ability - Skill Selected Need - Learner Centre activities.

Unit-8: Listening Skills - Importance - Types of Listening - Interview Skills.

Unit-9: Conversation Skills - Modes.

Unit-10: Presentation Skills - Preparing - Planning - Presentation.

Unit-11: Written Communication - Structure of Effective Sentences - Paragraph.

Unit-12: Technical Writing - Creative Writing - Editing and Publishing.

Unit-13: Corporate Communication Skills - Internal - Effective business writing -Letters, Proposals, Resume.

Unit-14: Corporal Communication Skills - External - Press release - Newsletters- Interviewing skills.

References:

1. Dutt. Kiranmai & Geeta Rajjevan. Basic Communication Skills. Rev.ed. Foundation Books Pvt.Ltd. Cambridge House, New Delhi 2006.
2. Bill R. Swetmon. Communication Skills for the 21st Century. Chennai: Eswar Press. First South Asian Edition 2006.
3. Glass. Lillian. Talk to Win. New York: Perigee Books,1987.
4. Pease. Alan. Signals: How to Use Body Language for Power, Success and Love, New York: Bantam Books, 1981.
5. Walters. Lilly. Secrets of Successful Speakers. New York: McGraw-Hill, Inc., 1993.
6. Mandal. S.K. How to Succeed in Group Discussions & Personal Interviews. Mumbai: JAICO Publishing House.
7. Rogoff. Leonard and Ballenger. Grady. Office Guide to Business Letters, Memos & Reports. New York: Macmillan, 1994.
8. Krishna Mohan & Meera Banerjee, Developing Communication Skills, 2005.
9. Geetha Nagaraj, Write to Communicate, 2004.
10. Wren & Martin, English Grammar and Composition, 2002.

Rajendra Pal and Kortahalli J S, Essentials of Business Communication.

Course Code	Title of the Course
11322	PART-II : ENGLISH PAPER - II

Learning objective:

1. To make the students master the different topics prescribed in the Poetry and Language use Sections.

Poetry

Unit – I Sonnet - William Shakespeare

Unit – II Lines Composed upon Westminster Bridge -William Wordsworth

Unit – III Grecian Urn - John Keats (1795-1827)

Unit – IV Andrea Del Sarto - Robert Browning (1812-1889)

Unit – V The Road Not Taken - Robert Frost (1874-1963)

Unit – VI Strange Meeting - Wilfred Owen (1813-1918)

Unit – VII Gitanjali - Rabindranath Tagore (1861-1946)

Unit – VIII The Coromandel Fishers - Sarojini Naidu

Unit – IX The Express - Stephen Spender

Unit – X **Shakespeare :** The Merchant of Venice

Language Use:

Unit – XI Essay writing

Unit – XII Note Making

Unit – XIII Report writing

Unit – XIV Comprehension

References:

1. *The Golden Quill*, P.K. Seshadri, Macmillan.
2. *The Merchant of Venice,* Shakespeare. (Any overseas edition).
3. *Active English Grammar*, Ed. by the Board of Editors, Macmillan.
4. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

Course Code	Title of the Course
11323	PART-III : ANALYTICAL GEOMETRY AND VECTOR CALCULUS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Understand and appropriately use the technical vocabulary of the topics covered such as vector, vector-valued function, tangent vector, space curve, tangential components, normal components, neighborhood in the plane, gradient, angle of inclination, iterated integral, double integral, triple integral, Lagrange multipliers, and Jacobian
2. Perform vector operations and interpret the results geometrically.
3. Use vectors to solve problems involving force, velocity, work, and real-life problems and analyze vectors in space
4. Find the angle between two vectors using the dot product
5. Find the direction cosines and cross product of two vectors in space
6. Use the triple scalar product of three vectors in space
7. Find the distance between points, planes, and lines in space
8. Recognize and write equations for different surfaces
9. Use cylindrical and spherical coordinates to represent surfaces in space, analyze and sketch a space curve given by a vector-valued function
10. Differentiate and integrate a vector-valued function.
11. Understand Divergent, Curl, Vector integration, Line integral, Problems using Greens' theorem, Stokes' theorem and Guass theorem.

Course Description:

UNIT -I

Two dimension analytical geometry – Pair of straight lines, angle between pair of lines-Problems.

UNIT -II

Circle, System of circles, Radical axis– co axal system of circles.

UNIT -III

Polar coordinates-Equation of line in polar co-ordinates - Pole and polar conics.

UNIT -IV

Three dimension analytical geometry – Introduction, Direction ratios and direction coefficients – angle between the lines

UNIT -V

Plane – Plane equation – Angle between two planes – Length of the perpendicular – Distance between two planes

UNIT -VI

Straight lines- Equation of a straight line in various forms – problems – Image of a point, Image of a line about a plane.

UNIT -VII

Plane and straight lines – Coplanar lines-Problems.

UNIT -VIII

Cone – Definition – Equation of the Cone in various forms – Equation of a right circular Cone-problems

UNIT -IX

Cylinder – Definition – Equation of a right circular cylinder – simple problems.

UNIT -X

Skew lines – Shortest distance between two skew lines – Problems

UNIT -XI

Sphere – Equation of a sphere, Tangent plane – Problems

UNIT -XII

Equation of a circle on a sphere – Intersection of two spheres.

UNIT -XIII

Vector Calculus – Vector Differentiation– Vector Algebra – Differentiation of vectors - Gradient – Divergence and Curl – Solenoidal – irrotational – Harmonic Vector.

UNIT -XIV

Line and Surface Integrals – Line Integrals – Surface Integrals - Theorems of GREEN, GAUSS and STOKE'S(Statements only) problems.

REFERENCES:

1. Arumugam & Issac, Analytical Geometry 3D and Vector Calculus.
2. Analytical Geometry 3D and Vector Calculus by Dr. M.K.Venkataraman and Mrs. Manorama Sridhar, National Publishing Company, Chennai, 2001..
3. T.K. Manickavasagam Pillai & T.Natarajan, A text book of Analytical Geometry Part II-3D, S.Viswanathan(Printers & Publishers) Pvt. Ltd., 2001.
4. S.Narayanan & T.K. Manickavasagam Pillai, Vector Algebra & Analysis, S.Viswanathan(Printers & Publishers) Pvt. Ltd. 1995.

Learning Outcomes:

After the completion of the course the student will be able to:

1. Understand the distance between points, the distance from a point to a line, and the distance from a point to a plane in the three-dimensional coordinate system.

2. Sketch and describe regions in space and perform algebraic operations with vectors in two and three dimensions.
3. Find the length of a vector and compute dot and cross product of vectors.
4. Find scalar and vector projections of a vector onto another and the angle between two vectors.
5. Determine if vectors are parallel and orthogonal and determine if a vector field is conservative and find a potential function if conservative.
6. Evaluate line integrals in the plane and in space, including line integrals of vector fields.
7. Use the Fundamental Theorem of Line Integrals and determine if a line integral is independent of path.
8. Use Green's, Stoke's and Gauss theorem and compute the curl and divergence of a vector field.

Course Code	Title of the Course
11324	PART-III : SEQUENCES AND SERIES

Course Objectives:

The general objectives of the course is
students will be able to:

1. Define sequences and identify the different kinds of sequences.
2. Find the nth term or the general term of a sequence for which some initial terms are given.
3. Find the types of sequence and series with suitable examples.
4. Find the common ratio of a geometric sequence.
5. Find arithmetic means, harmonic means and geometric means.
6. Find the sum of a finite arithmetic series, harmonic series and geometric series.
7. Find the sum of an infinite geometric series.
8. Find the tests such as Comparison test, Kummer's test, Root test, Cauchy's condensation Test, Cauchy's root test.

Course Description:

UNIT -I

Sequences – bounded sequences – Monotonic sequences.

UNIT -II

Convergent sequences – Cauchy's general principle of convergence - Cauchy's first theorem on Limits.

UNIT -III

Divergent and Oscillating sequences – Some problems.

UNIT -IV

The algebra of limits- Limit superior and Limit inferior.

UNIT -V

Behaviour of monotonic sequences – Some Theorems on limits

UNIT -VI

Subsequences – limit points –Some problems.

UNIT -VII

Cauchy sequences – The upper and lower limits of a sequence.

UNIT -VIII

Series of positive terms –infinite series – Some related problems.

UNIT -IX

Comparison test – Kummer's test – Root test – Simple problems based on above tests.

UNIT -X

Cauchy's condensation Test, Cauchy's root test and their simple problems – Integral test – Problems.

UNIT -XI

Series of arbitrary terms – Alternating series – Problems.

UNIT -XII

Absolute convergence – Tests for convergence of series of arbitrary terms

UNIT -XIII

Rearrangement (Derangement) of Series – Multiplication of series.

UNIT -XIV

General summation of series including successive difference and recurring series.

REFERENCES:

1. Sequences and Series by Dr. S.Arumugam and Prof. A.ThangapandiIssac, New Gamma Publishing House, Palayamkottai, December 2015.
2. M.K.Singal & Asha Rani Singal, A first course in Real Analysis, R. Chand & Co. 1999.
3. Dr.S.Arumugam, Sequences & Series, New Gamma Publishers, 1999.

Learning Outcomes:

At the end of the module student should be able to...

a. Work within an axiomatic framework.
b. Understand how Cauchy's criterion for the convergence of real and complex sequences and series follow from the completeness.

c. Understand concept of sequences, series and its various types with examples.
d. Understand the types of tests with examples.
e. Understand how the elementary functions can be defined by power series, with an ability to deduce some of their easier properties.
f. Understand behavior of monotone sequences and its applications in various fields.
g. Understand theory of equations, inequalities, matrices and determinants with examples and its uses in real world problems

THIRD SEMESTER

Course Code	Title of the Course
11331	Part-I: Tamil Paper - III

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1: பத்துப்பாட்டு – முல்லைப்பாட்டு

கூறு 2: எட்டுத்தொகை – ஐங்குறுநூறு

கூறு 3: கபிலர் - குறிஞ்சித்திணை

கூறு 4: மஞ்ஞைப்பத்து – முதல் மூன்று பாடல்கள்

கூறு 5: குறுந்தொகை – பரணர் பாடல்கள் பா. எண். 19, 24, 36, 128, 399

கூறு 6: நற்றிணை – பெருங்குன்றூர்கிழார் - பா. எண். 5
பெருவழுதியார் - பா. எண். 55
பெருங்கௌசிகனார் - பா. எண். 139

கூறு 7: நற்றிணை – கருவூர்க்கோசிகனார் - பா. எண். 214
உலோச்சனார் - பா. எண் 249

கூறு 8: அகநானூறு – சேந்தம்பூதனார் பாடல்கள் பா.எண். 84, 207

கூறு 9: புறநானூறு – மறோக்கத்து நப்பசலையார் பாடல்கள்
பா. எண். 37, 39, 126, 226, 280

கூறு 10: பதினெண் கீழ்க்கணக்கு – திருக்குறள் - வாழ்க்கைத் துணை நலம் (6), அறிவுடைமை (43), பிரிவாற்றாமை (116)

கூறு 11: நான்மணிக்கடிகை – எள்ளற்க (3), பறைபடவாழா (4),

கூறு 12: நான்மணிக்கடிகை - மண்ணயறிப (5),கள்ளிவயிற்றில் (6), கல்லிற்பிறக்கும்(7)

கூறு 13: நாடகம் - இராசராசசோழன் - அரு. இராமநாதன்

கூறு 14: நாவல் - சுவடுகள் - இரா. பாலசுப்பிரமணியன், சத்யா வெளியீடு, மதுரை.

Course Code	Title of the Course
11331	Part-I: Human Skills Development - I

Objectives:

- ❖ To Make the Students develop human skills.

Unit-1: Human Skills - Developing skills - Types.

Unit-2: Mind-Levels of functions - Habits - Meaning - Types - Merits of good habits - Interpersonal Relationship - Features - Interpersonal Behaviour.

Unit-3: Thinking ahead - Significance of thinking ahead.

Unit-4: Developing Personality - Meaning - Need - Factors influencing personality, Ways of developing personality - Building positive personality.

Unit-5: Self-concept - Self-esteem - Meaning-Importance - Self-efficacy - Self-acceptance -Meaning-Importance - Etiquette - Meaning - Etiquettes in using mobile, telephones - Dais Etiquette.

Unit-6: Goal - setting Skills - Meaning - Types - Importance.

Unit-7: Decision-making skills - Meaning - Types - Steps in decision-making

Unit-8: Negotiating Skills - Styles - Structure - Creating negotiation - Competitive Negotiation.

Unit-9: Attitudes - Meaning - Types - Importance - Developing positive attitudes.

Unit-10: Coping with Change - Meaning - Characteristics - Importance of change Resistance to change - Dealing with change.

Unit-11: Leadership - Meaning - Importance - Characteristics - Styles.

Unit-12: Human Relations Skill - Need - Canons of good human relations.

Unit-13: Counselling - Meaning - Importance - Forms - Conflicts - Meaning - Types - Causes - Effects - Managements of conflicts

Unit-14: Stress-Meaning - Types - Causes - Effects - Managing the stress - Anger - Meaning - Causes - Consequences - Anger Management.

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

Course Code	Title of the Course
11332	PART-II : ENGLISH PAPER - III

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, One Act Plays, Grammar and Composition.

Short Stories

Unit – I	A Hero	- R.K. Narayanan
Unit – II	The Diamond Necklace	- Guy de Maupassant
Unit – III	The Verger	- Somerset Maugham
Unit – IV	The Postmaster	- Rabindranath Tagore

One Act Plays

Unit – V	The Proposal	- Anton Chekhou
Unit – VI	The Boy Comes Home	- A.A. Milne
Unit – VII	The Silver Idol	- James R. Waugh
Unit – VIII	Progress	- St. John Ervine
Unit – IX	The Pie and the Tart	- Huge Chesterman
Unit – X	Reunion	- W.st. Joh Tayleur
Unit – XI	A kind of Justice	- Margaret Wood
Unit – XII	The Refugee	- Asif Currimbhoy

Grammar

Unit – XIII Parts of speech-Noun- Pronoun- Adjective

Degrees of Comparison- Verb- Adverb

Composition

Unit – XIV Agenda- Minutes- Notice- Descriptive Writing

REFERENCES:

1. *Aroma,* Ed. by the Board of Editors, Publishers- New Century Book House, Chennai.
2. *Six Short Stories*, Ed. by the Board of Editors, Harrows Publications, Chennai.
2. *One Act Plays*, Ed. by the Board of Editors, Harrows Publications, Chennai.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.
4. *English for Communication*, Ed. by the Board of Editors, Harrows Publications, Chennai.

Course Code	Title of the Course
11333	PART-III : DIFFERENTIAL EQUATIONS AND ITS APPLICATIONS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Identify an ordinary differential equation and its order
2. Verify whether a given function is a solution of a given differential equation (as well as verifying initial conditions when applicable)
3. Classify ordinary differential equations into linear and nonlinear equations
4. Solve first order linear differential equations
5. Find solutions of separable differential equations
6. Model population dynamics using first order autonomous equations 8. Apply first order equations to problems in elementary dynamics
7. Find solutions of exact equations 10. Find the general solution of second order linear homogeneous equations with constant coefficients
8. Understand the notion of linear independence and the notion of a fundamental set of solutions
9. Use the method of reduction of order to find a second linearly independent solution of a second order, linear homogeneous equation when one solution is given
10. Use the method of undetermined coefficients to solve second order, linear homogeneous equations with constant coefficients
11. Use the method of variation of parameters to find particular solutions of second order, linear homogeneous equations
12. Use second order linear equations with constant coefficients to model mechanical vibrations

Course Description:

UNIT - I

Exact Differential Equations – Conditions for equation to be exact –Working rule for solving it – problems

UNIT - II

Equations of the first order but of higher degree – Equations solvable for p, x, y, clairaut's form-Equations that do not contain (i) x explicitly (ii) y explicitly.

UNIT - III

Equations homogenous in x and y - Linear Equation with constant coefficients-Problems.

UNIT- IV

Linear equations with variable coefficients - Equations reducible to the linear equations.

UNIT - VI

Simultaneous Differential Equations – First order and first degree – Simultaneous linear Differential Equations.

UNIT - VII

Linear equations of the second order – Complete Solution given a known integral-Problems.

UNIT - VIII

Reduction to Normal form – Change of the independent variable-Problems.

UNIT - IX

Variation of parameters – Total Differential Equations – Problems.

UNIT - X

Necessary and Sufficient condition of integrability of Pdx + Qdy + Rdz = 0-Rules - Problems.

UNIT - XI

Partial Differential Equations of the First oder – classifications of integrals

UNIT - XII

Derivations of Partial Differential Equations – Special methods – Standard forms – Charpit's method.

UNIT - XIII

Flow of water from an Orifice – Falling bodies and other rate problems – Brachistochrone Problem

UNIT- XIV

Tautochronous property of the Cycloid – Trajectories-Problems.

REFERENCE BOOKS:

1. Differential Equations and its Applications by S.Narayanan&T.K.ManickavachagomPillay, S.Viswanathan (Printers& Publishers) Pvt. Ltd., 2015.
2. Differential Equations and its Applications by Dr. S.Arumugam and Mr. A.Thangapandi Issac, New Gamma Publishing House, Palayamkottai, Edition, 2014.

Learning Outcomes:

At the end of the module student should be able to…

1. Identify an ordinary differential equation and its order
2. Verify whether a given function is a solution of a given ordinary differential equation (as well as verifying initial conditions when applicable)
3. Classify ordinary differential equations into linear and nonlinear equations
4. Solve first order linear differential equations
5. Find the general solution of second order linear homogeneous equations with constant coefficients
6. Understand the notion of linear independence and the notion of a fundamental set of solutions
7. Use the method of reduction of order to find a second linearly independent solution of a second order, linear homogeneous equation when one solution is given
8. Use the method of undetermined coefficients to solve second order, linear homogeneous equations with constant coefficients
9. Use the method of variation of parameters to find particular solutions of second order, linear homogeneous equations
10. Find the applications of Differential Equations in various fields with suitable examples.

Course Code	Title of the Course
11334	PART-III : MECHANICS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Draw complete and correctly labeled Free Body Diagrams of rigid bodies or systems of rigid bodies in static equilibrium, ability to compute the resultant of any number of concurrent forces in 2- or 3- dimensions.
2. Compute the dot product and cross product of two vectors, and demonstrate, understanding of the meaning of the results.
3. Solve particle equilibrium problems in 2- or 3- dimensions, ability to compute the moment generated by a force about any point in 2-D space and ability to find support reactions for truss and frame/machine problems.
4. Reduce a system of forces acting on a rigid body to a single equivalent force and compute its point of application.
5. Solve rigid body equilibrium problems in 2- or 3-dimensions for statically determinate systems, ability to compute frictional forces for sliding motion and for belts/pulleys.
6. Solve the tip/slip problem, ability to compute the centroid and the area moment of inertia of 2-D bodies using the method of composite areas.
7. Construct shear force and bending moment diagrams for systems of concentrated forces and/or distributed loads acting on statically determinate beams.
8. Solve for the internal forces acting on any member of a pin-jointed truss structure or a frame/machine component.
9. Find the centroid and area moment of inertia for 2-D shapes by the method of integration and ability to compute the moment about any axis in 3-D space generated by a force or a system of forces.
10. Find friction, coefficient of friction, angle of friction, cone of friction, path of projectiles is a parabola, range of a particle projected on a incline plane, Impact, Impulses, Impact in a fixed plane, direct and oblique impact.
11. Find equation of motion, composition of S.H.M's Central orbits, components of velocity and acceleration along and perpendicular to the radius vector and differential equation of a central-pedal equation.

Course Description:

UNIT -I

Forces acting at a point – Resultant and Components – Definition – Simple cases of finding the resultant – Parallelogram law of forces – Analytical Expression for the resultant of two forces acting at a point

UNIT -II

Triangle of forces – Perpendicular Triangle of forces – Converse of Triangle of forces.

UNIT- III

The polygon of forces – Lami's Theorem – An Extended form of the parallelogram law of forces

UNIT -IV

Resolution of a force – Theorems on resolved parts – Resultant of any number of coplanar forces – Condition of equilibrium.

UNIT -V

Forces acting on a rigid body: Parallel forces – Resultant of two like and unlike parallel forces – Moment of a force – Varigon's theorem

UNIT -VI

Couples– Equivalence of two couples- couples in parallel planes-Resultant of a couple and a plane.

UNIT -VII

Three forces acting on as rigid body –Three coplanar forces, conditions of equilibrium- two trigonometrical theorems and simple problems.

UNIT -VIII

Friction- Statical, dynamical and limiting friction-Laws of friction –Coefficient of friction – Angle of friction – Cone of friction – Problems.

UNIT -IX

Uniform string under the action of gravity – Equation of the common catenary – axis, vertex, directrix, span and sag – Tension at any point – Important formulae – Geometrical properties of the Common Catenary

UNIT -X

Projectile – Definition – fundamental principles – path of the projectile – Characteristics of the motion of a projectile – Range on an inclined plane – greatest distance maximum range

UNIT -XI

Impulsive force – Impulse – Impact of two bodies – Loss of Kinetic energy in Impact – Collision of elastic bodies – Fundamental laws of Impact – Newton's experimental law – Impact of a smooth sphere on a fixed smooth plane,

UNIT -XII

Direct Impact of two smooth spheres – Loss of kinetic energy due to direct impact – Oblique impact of two smooth spheres – Loss of kinetic energy due to oblique impact.

UNIT -XIII

Motion under the action of Central forces – S.H.M – Equation of motion – Velocity and acceleration – Equation of motion in Polar Coordinates – Note on equiangular spiral – Motion under a central force

UNIT -XIV

Central Orbits - Differential Equation of Central Orbits – Perpendicular from the pole on the tangent. Formulae in Polar Coordinates – Pedal Equation of the central orbit – Pedal equation of some of the well known curves – Velocities in a central orbit – Two folded problems.

REFERENCE BOOKS:

1. Dr. M.K. Venkataraman, Statics, Agasthiar Publications, 17th Edition, 2014.
2. Dr. M.K. Venkataraman, Dynamics, Agasthiar Publications, 13th Edition, 2009.
3. P. Duraipandian, Laxmi Duraipandian & Muthamizh Jayapragasam, Mechanics, S.Chand & Co. Pvt. Ltd, 2014.

Learning Outcomes:

At the end of this course student will be able to...

1. Get the knowledge of the principles of statics.
2. Construct free-body diagrams.
3. Understand the statical analysis of trusses, frames and machines.
4. Acquire the knowledge of internal forces in members.
5. Calculate centroids and moments of inertia.
6. Know about friction and laws of friction.
7. Get a knowledge of the general principles of dynamics.
8. Acquire a knowledge of kinematic and kinetic analysis of particles and systems of particles.
9. Get the knowledge of momentum methods, energy methods for particles and systems of particles.
10. Understand kinematic and kinetic analysis, momentum methods and energy methods of rigid bodies.
11. Understand projectiles, S.H.M, central orbits, velocity, acceleration and differential equation of a central-pedal equation.

FOURTH SEMESTER

Course Code	Title of the Course
11341	Part-I: Tamil Paper - IV

நோக்கம் : மொழி அறிவு, இலக்கண அறிவை வளர்த்தல்

கூறு 1: செய்யுள் உறுப்புகள் - யாப்பு - எழுத்து, அசை, சீர்,

கூறு 2: செய்யுள் உறுப்புகள் - யாப்பு - தளை, அடி, தொடை

கூறு 3: வெண்பா, ஆசிரியப்பா, கலிப்பா, வஞ்சிப்பா,

கூறு 4: புதிய யாப்பு வடிவங்கள் - சிந்து, கண்ணி, கீர்த்தனை

கூறு 5: புதுக்கவிதையில் குறியீடு – படிமம்.

கூறு 6: அகப்பொருள் - புறப்பொருள் - ஐந்திணை விளக்கம்

கூறு 7: அகப்பொருள் துறைகள் - வரைவு கடாதல், அறத்தொடு நிற்றல், உடன்போக்கு

கூறு 8: புறப்பொருள் துறைகள் - வஞ்சினக்காஞ்சி, கையறுநிலை, செவியறிவுறூஉ

கூறு 9: அணி இலக்கணம் - உவமை, உருவகம், வேற்றுமை, பிறிது மொழிதல், தற்குறிப்பேற்றம், சிலேடை, பின்வருநிலை.

கூறு 10: நிறுத்தல் குறிகள்.

கூறு 11: தொல்காப்பியம் - சங்கஇலக்கியம் - எட்டுத்தொகை, பத்துப்பாட்டு,

கூறு 12: பதினெண்கீழ்க்கணக்கு.

கூறு 13: ஐம்பெருங்காப்பியங்கள் - பிற்காலக் காப்பியங்கள் - கம்பராமாயணம் - பெரியபுராணம்.

கூறு 14: இக்காலக் காப்பியங்கள் - பாரதியின் பாஞ்சாலி சபதம் - பாரதிதாசனின் பாண்டியன் பரிசு - கண்ணதாசனின் இயேசு காவியம் , சிற்பியின் - மௌன மயக்கங்கள்.

Course Code	Title of the Course
11341	Part-I: Human Skills Development - II

Objective:

- To Make the Students develop human skills.

Unit-1: Guidance & Counselling - Role of Counsellor - Importance and Techniques of counselling.

Unit-2: Managerial skill - Need - Importance.

Unit-3: Human relational skills - Communication - Attention.

Unit-4: Conceptual skills - Meaning - Importance.

Unit-5: Technical skills - Techniques - Practices - Tools - Procedures.

Unit-6: Presentation skills - Planning - Preparation - Delivery.

Unit-7: Organization skills - Meaning - Nature - Importance - Types.

Unit-8: Multi-Tasking skills Responsibilities - Causes.

Unit-9: Leader - Qualities of a good leader.

Unit-10: Understanding Skills - Human systems: Individual, Group, organization, and their major interactions.

Unit-11: Understanding Skills - Human systems: Community and Society, and their major interactions.

Unit-12: Problem solving skills - Handling - Facing - Importance.

Unit-13: Cooperative Learning Skills.

Unit-14: Making Social Responsibilities - Causes.

References:

1. Les Giblin, Skill with People, 1995.
2. Shiv Khera, You Can Win, 2002.
3. Christian H Godefroy, Mind Power.
4. Dale Carnegie, How to Enjoy Your Life and Your Job, 1985.
5. Natalie H Rogers, How to Speak without Fear, 1982.
6. Dale Carnegie, How to Develop Self-Confidence and Influence People by Public Speaking.

Course Code	Title of the Course
11342	PART-II : ENGLISH PAPER - IV

Learning objective:

1. To make the students master the different topics prescribed in the Short Stories, Drama, Fiction, Tales from Shakespeare, Biographies, Grammar and Composition.

Short Stories

Unit – I Lalajee - Jim Corbelt

Unit – II A Day's Wait - Hemmingway

Unit – III Two old Men - Leo Tolstoy

Unit –IV Little Girls wiser than - Men Tolstoy

Unit – V Boy who Wanted more Cheese - William Elliot Griffir

Drama

Unit – VI Pygmalion - G.B. Shaw

Fiction

Unit – VII Swami and Friends - R.K. Narayanan

Tales from Shakespeare

Unit – VIII - The Merchant of Venice

Unit – IX - Romeo and Juliet

Unit – X - The Winter's Tale

Biographies

Unit – XI - Martin-Luther king - R.N. Roy

Unit – XII - Nehru - A.J. Toynbee

Grammar

Unit – XIII - Concord- Phrases and Clauses-Question Tag

Composition

Unit – XIV - Expansion of Proverbs

- Group Discussion

- Conversation (Apologizing, Requesting, Thanking)

REFERENCES:

1. *Sizzlers*, by the Board of Editors, Publishers- :Manimekala Publishing House, Madurai.
2. *Pygmalion* – G.B. Shaw
3. *Swami and Friends* – R.K. Narayan
4. *Tales from Shakespeare* Ed. by the Board of Editors, Harrows Publications, Chennai.
5. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

Course Code	Title of the Course
11343	PART-III : ANALYSIS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Introduce the fundamentals of mathematical analysis and to reading and writing mathematical proofs.
2. Use results and techniques involving these concepts to solve a variety of problems, including types of problems that they have not seen previously.
3. Know how completeness, continuity, and other notions are generalized from the real line to metric spaces and appreciate the Contraction Principle in abstract metric space theory as a powerful tool to solve concrete problems.
4. Analyze the use the concept of convergence of sequences of functions and series of functions.
5. To attain a basic level of competency in developing their own mathematical arguments and communicating them to others in writing.

Course Description:

UNIT -I

Introduction – Sets and functions – Countable and Uncountable sets – Inequalities of Holder and Minkowski.

UNIT -II

Metric spaces: Definition and examples – Limits in metric spaces – Continuous functions on metric spaces.

UNIT -III

Functions continuous at a point in the real line – Reformulation -Bounded sets in Metric space- Problems.

UNIT -IV

Subspace – Interior of a set – Open sets- Closed sets – Closure – limit point – Dense sets -Problems

UNIT -V

Complete Metric spaces: Introduction- Completeness - Baire's Category theorem.

UNIT -VI

Continuity – Homeomorphism – Uniform continuity.

UNIT- VII

Differentiability of a function –Derivability & Continuity –Algebra of derivatives – Inverse Function Theorem – Daurboux's Theorem on derivatives.

UNIT -VIII

Rolle's Theorem –Mean Value Theorems on derivatives- Taylor's Theorem with remainder- Power series expansion .

UNIT - IX

Riemann integration –definition – Daurboux's theorem –conditions for integrability – Integrability of continuous & monotonic functions.

UNIT - X

Integral functions –Properties of Integrable functions - Continuity & derivability of integral functions –The First Mean Value Theorem and the Fundamental theorem of Calculus.

UNIT -XI

Contraction mapping - Definitions and Examples - Contraction mapping theorem- Applications.

UNIT - XII

Connectedness: Introduction - Connectedness definition and examples- Connected subsets of R- Connectedness and Continuity.

UNIT - XIII

Compactness: Introduction- Compact metric spaces – Continuous functions on compact metric spaces – Continuity of the inverse function – Uniform continuity.

UNIT - XIV

Sequence of functions and Series of functions- Pointwise convergent-Cauchy criterion for uniform convergence.

REFERENCE BOOKS:

1. Arumugam & Issac, Modern Analysis, New Gamma Publishing House, Palayamkottai, 2010.
2. Richard R. Goldberg, Methods of Real Analysis, Oxford & IBH Publishing Company, New Delhi.
3. D.Somasundaram & B.Choudhary, A first course in Mathematical Analysis, Narosa Publishing House, Chennai.
4. M.K,Singhal & Asha Rani Singhal , A First Course in Real Analysis, R.Chand & Co., June 1997 Edition.
5. Shanthi Narayan, A Course of Mathematical Analysis, S. Chand & Co., 1995

Learning Outcomes:

After completion of this course the students will:

1. Define the real numbers, least upper bounds, and the triangle inequality.
2. Define functions between sets; equivalent sets; finite, countable and uncountable sets. Recognize convergent, divergent, bounded, Cauchy and monotone sequences.
3. Calculate the limit superior, limit inferior, and the limit of a sequence.
4. Recognize alternating, convergent, conditionally and absolutely convergent series.

5. Apply the ratio, root, limit and limit comparison tests.
6. Define metric and metric space.
7. Determine if subsets of a metric space are open, closed, connected, bounded, totally bounded and/or compact.
8. Determine if a function on a metric space is discontinuous, continuous, or uniformly continuous.

Course Code	Title of the Course
11344	PART-III : STATISTICS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Organize, present and interpret statistical data, both numerically and graphically use various methods to compute the probabilities of events.
2. Analyze and interpret statistical data using curve fitting.
3. Construct correlation and regression table for finding missing datas.
4. Organize and interpret Index numbers in various applications.
5. Perform parameter testing techniques, including single and multi-sample tests for means, standard deviations and proportions.
6. Perform a time series analysis using time series components.

Course Description:

UNIT- I

Central Tendencies – Introduction – Arithmetic Mean – Partition Values – Median-Mode

UNIT- II

Geometric Mean and Harmonic Mean – Related problems

UNIT- III

Measures of Dispersion-Problems.

UNIT- IV

Moments – Skewness and Kurtosis

UNIT-V

Curve fitting – Goodness of fit-Problems

UNIT-VII

Principle of least squares.

UNIT- VIII

Correlation – Rank correlation Regression –Related problems

UNIT-IX

Correlation Coefficient for a Bivariate Frequency Distribution.

UNIT-X

Interpolation – Finite Differences – Newton's Formula – Lagrange's Formula-Problems

UNIT-XI

Attributes – Consistency of Data – Independence and Association of Data -Problems

UNIT-XII

Index Numbers – Consumer Price Index Numbers – Problems.

UNIT –XIII

Analysis of Time series – Time series– Components of a Time series

UNIT- XIV

Measurement of Trends-Related problems.

REFERENCE BOOKS:

1. Arumugam & Issac, Statistics, New Gamma Publishing House, 2007.
2. S.P.Gupta, Statistical Methods, Sultan Chand & Sons, 37th Edition, 2008.
3. Statistics by Dr. S. Arumugam and Mr. A.ThangapandiIssac, New Gamma Publishing House, Palayamkottai, June 2015.

Learning Outcomes:

After completion of this course the students will:

1. Recognize the role of statistics in the applications of many different fields.
2. Define and illustrate the concepts of mean, median and mode compute the Harmonic and Geometric mean.
3. Define, illustrate and apply the concepts of curve fitting and principles of least square.
4. Define, illustrate and apply finite difference methods using Newton's and Lagrange's formulae.
5. Illustrate and apply attributes, consistency of data and Independence and Association of Data.
6. Define and examine Index numbers, Time series and measurement of trends.

SEMESTER – V

Course Code	Title of the Course
11351	PART-III : MODERN ALGEBRA

Course Objectives:

The general objectives of the course is
students will be able to:

1. Formulate a rigorous mathematical proof.
2. Analyze the concept of sets, groups, subgroups, cosets, homomorphism and isomorphism theorems.
3. Analyze the concept of permutations an order of an element, relations, partial orders and binary operations.
4. Determine whether a subset of a ring is an ideal, prime ideal, or maximal ideal.
5. Perform operations with ring homomorphism.
6. Compute with polynomials and determine their reducibility.
7. Demonstrate understanding of key concepts with integral domains.
8. Demonstrate understanding of (abstract) vector spaces, determine whether a subset is a subspace, and determine whether a set of vectors is linearly independent.
9. Analyze the similarities and differences between finite fields and characteristic zero fields.

Course Description:

UNIT- I

Set theory- Sets and mappings- concept of a set – Set inclusion- union, intersection of sets- Difference of sets- Complement of a set- Symmetric difference of two sets – Cartesian product of sets

UNIT- II

Relations – Equivalence relations- Partial order relations- Functions- Binary operations

UNIT- III

Group theory: Definition and examples – Properties – Permutation groups Examples and problems

UNIT- IV

Subgroups – Cyclic groups – Order of an element-Problems.

UNIT- V

Cosets – Lagrange's theorem – Index of a subgroup- Euler's theorem- Fermat's theorem-Problems

UNIT-VI

Normal subgroups and Quotient groups - Homomorphism – Fundamental theorem of homomorphism

UNIT -VII

Isomorphism-Cayley's theorem- Automorphism-Problems.

UNIT -VIII

Ring theory: Definition and examples – Properties of rings – Isomorphism – Types of rings.

UNIT -IX

Integral domains – Fields – Characteristic of a ring – Subrings.

UNIT- X

Quotient Ring– Maximal and prime ideals – Ring homomorphism-Fundamental theorem of Ring homomorphism

UNIT- XI

Quotient field – Euclidean ring – Properties – Polynomial rings- Gauss lemma-Eisenstein' criterion.

UNIT -XII

Vector spaces: Definition and examples – Properties of vector space-Problems.

UNIT- XIII

Subspaces – Linear independence – Span of a set – Basis and dimension – Rank and nullity of a linear transformation

UNIT -XIV

Inner product spaces: Definition and examples – Orthogonality – Orthogonal complement.

REFERENCES:

1. Arumugam & Issac, Modern Algebra, Scitech Publications(India) Pvt. Ltd. , 2008.
2. A.R. Vasistha, Modern Algebra, Krishna Prakashan Mandir, Meerut, 1994-95.
3. T.K.Manickavasagam Pillai, T.Nagarajan & K.S.Ganapathy, Algebra Vol.I, S.Viswanathan(Printers & Publishers) Pvt. Ltd., 2012.

Learning Outcomes:

After completion of this course the students will:

1. Demonstrate factual knowledge including the mathematical notation and terminology used in this course.
2. Read, interpret, and use the vocabulary, symbolism, and basic definitions used in algebra, including binary operations, relations, groups, subgroups, homomorphisms, rings, and ideals.

3. Describe the fundamental principles including the laws and theorems arising from the concepts covered in this course.
4. Develop and apply the fundamental properties of algebraic structures, their substructures, their quotient structure, and their mappings.
5. Prove basic theorems such as Lagrange's theorem, Cayley's theorem, and the fundamental theorems for groups and rings.
6. Apply course material along with techniques and procedures covered in this course to solve problems.
7. Use the facts, formulas, and techniques learned in this course to prove theorems about the structure, size, and nature of groups, subgroups, quotient groups, rings, subrings, ideals, quotient rings, and the associated mappings. Students will also solve problems about the size and composition of subgroups and quotient groups; the orders of elements; isomorphic groups and rings.
8. Apply Vector spaces, Subspaces, Linear independence, Rank and nullity of a linear transformation and Inner product spaces: Definition and examples, Orthogonality, Orthogonal complement.

Course Code	Title of the Course
11352	PART-III : OPERATIONS RESEARCH

Course Objectives:

The general objectives of the course is
students will be able to:

1. Formulate and model a linear programming problem from a word problem and solve them graphically in 2 and 3 dimensions, while employing some convex analysis.
2. Place a Primal linear programming problem into standard form and use the Simplex Method or Revised Simplex Method to solve it.
3. Find the dual, and identify and interpret the solution of the Dual Problem from the final tableau of the Primal problem.
4. Modify a Primal Problem, and use the Fundamental Insight of Linear Programming to identify the new solution, or use the Dual Simplex Method to restore feasibility.
5. Interpret the dual variables and perform sensitivity analysis in the context of economics problems as shadow prices, imputed values, marginal values, or replacement values.
6. Explain the concept of complementary slackness and its role in solving primal/dual problem pairs.
7. Classify and formulate integer programming problems and solve them with cutting plane methods, or branch and bound methods.
8. Formulate and solve a number of problems in game theory using various methods.

Course Description:

UNIT -I

Introduction – Origin and Development of O.R – Nature and features of O.R. – Scientific Method in O.R. – Modelling in O.R. – Advantages and Limitations of Models – General solution methods of O.R. models – Applications of Operations Research

UNIT -II

Linear Programming problem – Mathematical formulation of the problem – Illustration on Mathematical formulation of linear programming problems – Graphical solution method – Some exceptional cases.

UNIT- III

General linear programming problem – Canonical and Standard forms of L.P.P – Simplex method.

UNIT- IV

Linear programming using artificial variables- Big M method – Two Phase method- Problems

UNIT -V

Duality in linear programming – General primal and dual pair – Formulating a Dual problem – Primal – Dual pair in matrix form – Duality Theorems – Complementary Slackness Theorem.

UNIT -VI

Integer Programming – Cutting plane technique, Dual simplex method.

UNIT -VII

Introduction – L.P. formulation of T.P. – Existence of solution in T.P. – The Transportation table – Loops in T.P. – Solution of a Transportation problem – Finding an initial basic – feasible solution (NWCM – LCM – VAM).

UNIT -VIII

Degeneracy in TP – Transportation Algorithm (MODI Method) – Unbalanced T.P – Maximization T.P.

UNIT- IX

Assignment problem – Introduction – Mathematical formulation of the problem – Test for optimality by using Hungarian method – Maximization case in Assignment problem

UNIT- X

Sequencing problem – Introduction – problem of sequencing – Basic terms used in Sequencing– n jobs to be operated on two machines – problems - n jobs to be operated on K machines–problems–Two jobs to be operated on K machines (Graphical method)–problems.

UNIT -XI

Game Theory – Two person Zero – Sum Games – Basic terms – Maximin – Minimax Principle.

UNIT -XII

Games without saddle points – Mixed strategies – Graphical solution of 2× n and m × 2 games

UNIT -XIII

Dominance Property – General solution of m×n rectangular games-Problems.

UNIT -XIV

Network Scheduling by PERT / CPM – Network Basic components – Drawing network – Critical path Analysis – PERT Analysis – Distinction between PERT and CPM.

REFERENCES:

1. R.S.Arumugam, Operations Research, New Gamma Publications, 2006.
2. V.Sundaresan, K.S.Ganapathy & K.Ganesan, Resource Management Techniques(Operations Research), A.R.Publications.
3. Kanti Swarup, P.K. Gupta & Man Mohan, Sultan Chand & Sons, 13th Edition, 2007.

Learning Outcomes:

After completion of this course the students will:

1. Understand the concept of operations research methods and its uses in various fields.
2. Identify and develop operational research models from the verbal description of the real system.
3. Understand the mathematical tools that are needed to solve optimization problems.
4. Use mathematical software to solve the proposed models.
5. Develop a report that describes the model and the solving technique, analyze the results and propose recommendations in language understandable to the decision making processes in Management Engineering.

Course Code	Title of the Course
11353	PART-III : NUMERICAL ANALYSIS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Find numerical approximations to the roots of an equation by Newton method, Bisection Method, Secant Method, etc.
2. Find numerical solution to a system of linear equations by Gaussian Elimination and Gauss-Siedel methods.
3. Apply several methods of numerical integration, including Romberg integration.
4. Apply Taylor and Maclaurin Series to numerical problems.
5. Find the Lagrange Interpolation Polynomial for any given set of points.
6. Find numerical solution of a differential equation by Euler's, Modified Euler's, Predictor Corrector and Runge-Kutta Methods.
7. Use finite differences for interpolation, differentiation, etc.

Course Description:

UNIT -I

Algebraic & Transcendental and polynomial equations: Bisection method, Iteration method, Method of false position, Newton-Raphson method.

UNIT -II

System of linear equations: Matrix inversion method, Cramer's rule, Guass elimination method, Guass-Jordan elimination method, Triangularisation method.

UNIT- III

Solutions to Linear Systems –Jacobi & Gauss Siedal iterative methods – Theory & problems.

UNIT -IV

Interpolation: Graphic method- Finite differences – Forward and Backward differences –Central differences- Fundamental theorem of finite differences.

UNIT- V

Interpolating Polynomials using finite differences- Other difference operators.

UNIT -VI

Lagrange and Newton interpolations-Applications.

UNIT -VII

Divided differences and their properties – Application of Newton's General Interpolating formula.

UNIT -VIII

Central differences Interpolation formulae - Guass formulae, Stirlings formula, Bessel's formula, Everett's formula, Hermite's formula.

UNIT -IX

Numerical differentiation - Methods based on interpolation-Problems.

UNIT -X

Numerical differentiation - Methods based on finite differences-Problems.

UNIT -XI

Numerical integration, Trapezodial rule, Simpson's 1/3 rule, Simpson's 3/8 rule, Weddle's rule, Cote's method.

UNIT -XII

Numerical solutions of ordinary differential equations: Taylor's series method, Picard's method, Euler's method, Runge-Kutta method

UNIT -XIII

Numerical solutions of ordinary differential equations using Runge Kutta 2^{nd} and 4^{th} order methods (Derivation of the formula not needed) - Theory & problems

UNIT- XIV

Predictor-Corrector methods-Milne's Predictor Corrector Methods-Adam's Predictor Corrector Method

REFERENCES:

1. Arumugam, Issac & Somasundaram, Numerical Methods, Scitech Publications(India) Pvt. Ltd., 2nd Edition, 2010.
2. P.P.Gupta & G.S.Malik, Calculus of finite differences and Numerical Analysis, Krishnaprakasham Mandhir, Meerut.
3. Dr.M.K.Venkatraman, Numerical Methods in Science and Engineering.

Learning Outcomes:

After completion of this course the students will:

1. Use numerical methods in modern scientific computing with finite precision computation
2. Understand the numerical interpolation and approximation of functions, numerical integration and differentiation, numerical solution of ordinary differential equations.
3. Demonstrate understanding of common numerical methods and how they are used to obtain approximate solutions to otherwise intractable mathematical problems.
4. Apply numerical methods to obtain approximate solutions to mathematical problems.
5. Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.
6. Analyse and evaluate the accuracy of common numerical methods.
7. Implement numerical methods in Matlab and write efficient, well-documented Matlab code and present numerical results in an informative way.

Course Code	Title of the Course
11354	PART-III : TRANSFORM TECHNIQUES

Course Objectives:

The general objectives of the course is
students will be able to:

1. Find the Laplace Transforms, Fourier series and Z-Transforms using various examples.
2. Understand a solid mathematical foundation in complex variables and common engineering transforms, including intuition in their use, and tools and techniques for applying them to a variety of problems.

Course Description:

UNIT- I

Laplace Transform – Definition – Laplace Transform of Standard functions – Elementary Theorems.

UNIT- II

Laplace Transform of periodic functions – problems.

UNIT- III

Inverse Laplace Transforms – Standard formulae – Basic Theorems –Problems.

UNIT- IV

Solving Ordinary Differential Equations with constant coefficients using Laplace Transform-Problems.

UNIT- V

Solving Ordinary Differential Equations variable coefficients - using Laplace Transform-Problems.

UNIT- VI

Solving Simultaneous linear equations using Laplace Transform-Problems.

UNIT- VII

Fourier Series – Definition – To find the Fourier coefficients of Periodic functions of period 2π.

UNIT- VIII

Even and odd functions in Fourier series – Half range Fourier series – problems.

UNIT- IX

Fourier Transforms – Complex form of Fourier Integral Formula – Fourier Integral theorem.

UNIT- X

Properties of Fourier Transform – Fourier sine and cosine Transforms – Properties.

UNIT- XI

Parsivals Identity In Fourier Transforms- Problems.

UNIT- XII

Z Transforms – Definition – Proprieties – Z Transforms of some basic functions – Problems.

UNIT- XIII

Inverse Z Transforms – Methods to find the inverse Z Transform – Use of Z Transforms.

UNIT- XIV

Transforms to solve finite Difference Equations – problems.

REFERENCES:

1. Calculus Volume III by S.Narayanan and T.K.ManicavachagomPillay, S.Viswanathan (Printers & Publishers) Pvt. Ltd., 2014.
2. Engineering Mathematics 3rd Edition by T.Veerarajan, Tata McGraw Hill Publishing Company Limited, New Delhi.

Learning Outcomes:

After completion of this course the students will:

1. Determine over what domain a complex function is analytic by using a variety of tools.
2. Expand complex functions into power series, and assess region of convergence.
3. Evaluate contour integrals in the complex plane.
4. Understand the underlying representations of linear transforms, based on complete, orthogonal basis sets.
5. Perform forward and inverse Laplace transforms, with or without tables, by a variety of techniques.
6. Apply Laplace transform techniques to a variety of problems, including ordinary and partial differential equations, and system stability.

7. Understand and apply Fourier transform methods to one-dimensional and multi-dimensional problems.
8. Understand bandlimited functions, sampling, and aliasing.
9. Perform forward and inverse Z transforms, with or without tables, by a variety of techniques.
10. Apply Z transform techniques to a variety of problems, including difference equations and discrete-time system stability.
11. Understand the relationships between Laplace transform, Fourier transform, Z transform, and discrete Fourier transform.
12. Understand the relationships between various discrete versions of the Fourier transform

SEMESTER – VI

Course Code	Title of the Course
11361	**PART-III : DISCRETE MATHEMATICS**

Course Objectives:

The general objectives of the course is
students will be able to:

1. Simplify and evaluate basic logic statements including compound statements, implications, inverses, converses, and contrapositives using truth tables and the properties of logic.
2. Express a logic sentence in terms of predicates, quantifiers, and logical connectives.
3. Apply the operations of sets and use Venn diagrams to solve applied problems.
4. Solve problems using the principle of inclusion, exclusion.
5. Apply rules of inference, tests for validity, and methods of proof including direct and indirect proof forms, proof by contradiction, proof by cases, and mathematical induction and write proofs using symbolic logic and Boolean Algebra.
6. Identify the base step and the recursive or inductive step in applied problems and give a recursive and a non -recursive definition for an iterative algorithm.
7. Solve problems using recurrence relations and recursion to analyze algorithms and programs such as finding Fibonacci numbers, the Ackerman function and Tower of Hanoi problems.
8. Determine if a given graph is simple or a multigraph, directed or undirected, cyclic or acyclic, and determine the connectivity of a graph.
9. Represent a graph using an adjacency list and an adjacency matrix and apply graph theory to application problems such as computer networks.
10. Determine if a graph has an Euler or a Hamilton path or circuit.
11. Determine if a graph is a binary tree, N -ary tree, or not a tree; use the properties of trees to classify trees, identify ancestors, descendants, parents, children, and siblings;

determine the level of a node, the height of a tree or subtree and apply counting theorems to the edges and vertices of a tree.

12. Perform tree traversals using preorder, inorder, and postorder traversals and apply these traversals to application problems; use binary search trees or decision trees to solve problems.
13. Evaluate Boolean functions and simplify expression using the properties of Boolean algebra.
14. Apply Boolean algebra to circuits and gating networks.
15. Use finite-state machines to model computer operations

Course Description:

UNIT -I

Logic introduction – Connectives – Atomic and compound statements – Truth table – Problems.

UNIT- II

Tautology – Tautological implications and equivalence of formulae – Replacement Process- Law of duality- Tautological implications.

UNIT -III

Normal forms – Principal normal forms-Problems.

UNIT- IV

Theory of inference- Rules of inference-Open statements –Problems

UNIT- V

Quantifiers – bound and free variables -Theory of inference for predicate calculus.

UNIT-VI

Relations – Representation of a relation – Operations on relations – Equivalence relation.

UNIT -VII

Lattices – Some properties of Lattices, New Lattices – Modular and Distributive Lattices -Boolean Algebra, Boolean Polynomials.

UNIT -VIII

Coding theory – Introduction – Hamming Distance – Encoding a message – Group codes – Procedure for Generating Group codes – Decoding and Error correction.

UNIT -IX

Definition of a Graph – finite & infinite graphs – incidence, degree isolated & pendent vertices – isomorphisms –sub graphs – walks , paths & circuits –Connected & disconnected graphs.

UNIT -X

Matrix representation of a graph – Incidence matrix –Circuit Matrix - Fundamental Circuit Matrix and rank of the circuit matrix – Cut set matrix – adjacency matrix.

UNIT- XI

Chromatic Number - Chromatic partitioning – Chromatic polynomial-Problems.

UNIT -XII

Trees –properties of trees –pendent vertices in a tree – distances & centres in a tree –

Rooted & binary trees.

UNIT -XIII

Spanning trees –Fundamental circuits – Finding all spanning trees of a Graph – Spanning trees in a weighted graph.

UNIT -XIV

Cut sets – Properties of a Cut set – all Cut sets in a graph – Fundamental circuits & Cut sets –Connectivity & separability - Eulerian and Hamiltonian graphs –Problems.

REFERENCES:

1. Venkatraman, Sridharan and Chandrasekaran, Discrete Mathematics, National Publishing House, Chennai, 2003.
2. J.P. Trembley and R.P. Manohar, Discrete Mathematics Structures with applications to Computer Science, Mc.Graw Hill Interamericana,, 1975.
3. S.Arumugam & S.Ramachandran, Scitech Publications, Chennai, 2001.
4. V.K.Balakrishnan, Introductory Discrete Mathematics, Dover Publications, INC. Newyork.
5. A First course in Graph Theory by S.A. Choudum, Macmillan India Ltd. New Delhi, 1987.

Learning Outcomes:

After completion of this course the students will:

1. some fundamental mathematical concepts and terminology;
2. how to use and analyse recursive definitions;
3. how to count some different types of discrete structures;
4. techniques for constructing mathematical proofs, illustrated by discrete mathematics examples.
5. Use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, functions, and integers.
6. Evaluate elementary mathematical arguments and identify fallacious reasoning (not just fallacious conclusions).
7. Synthesize induction hypotheses and simple induction proofs.
8. Prove elementary properties of modular arithmetic and explain their applications in Computer Science, for example, in cryptography and hashing algorithms.
9. Apply graph theory models of data structures and state machines to solve problems of connectivity and constraint satisfaction, for example, scheduling.
10. Apply the method of invariants and well-founded ordering to prove correctness and termination of processes and state machines.
11. Derive closed-form and asymptotic expressions from series and recurrences for growth rates of processes.
12. Calculate numbers of possible outcomes of elementary combinatorial processes such as permutations and combinations.
13. Calculate probabilities and discrete distributions for simple combinatorial processes; calculate expectations.
14. Problem solve and study in a small team with fellow students.

Course Code	Title of the Course
11362	PART-III : FUZZY ALGEBRA

Course Objectives:

The general objectives of the course is
students will be able to:

1. Understand the basic mathematical elements of the theory of fuzzy sets.
2. Find the differences and similarities between fuzzy sets and classical sets theories.
3. Find the relations in fuzzy sets.
4. Find the types of measures and operations in fuzzy sets.
5. Understand the meaning of uncertainty in practical situations.

Course Description:

UNIT-I

Fuzzy sets – Basic types – Basic concepts - α - cuts – Additional prosperities of α - cuts – Extension principle for Fuzzy sets.

UNIT- II

Operations on Fuzzy sets – Types of operations – Fuzzy complements – Fuzzy Union and intersections.

UNIT- III

Combinations of operations – Fuzzy Arithmetic – Fuzzy numbers

UNIT- IV

Arithmetic operations on intervals – Arithmetic operations on Fuzzy numbers.

UNIT- V

Fuzzy relations – Binary fuzzy relations – Fuzzy equivalence and similarity relations – Fuzzy compatibility relations.

UNIT- VI

Fuzzy ordering relations – fuzzy morphisms.

UNIT- VII

Fuzzy measures-Belief and Plausibility measures- Probability measures- Problems.

UNIT- VIII

Possibility measures- Necessity measures- Relationship among classes of fuzzy measures.

UNIT- IX

Types of uncertainity- Measures of fuzziness-Problems.

UNIT- X

Classical measures of uncertainity-Hartley information-Shannon Entropy-Boltzmann Entropy.

UNIT- XI

Measures of Dissonance- Body of evidence-Consonant body of evidence-Problems.

UNIT- XII

Measures of confusion-entropy like measures-Problems.

UNIT- XIII

Measures of nonspecificity - U- uncertainity –Problems.

UNIT- XIV

Uncertain and Information- syntactic, semantic, pragmatic-Problems.

REFERENCES:

1. George J.Klir and Bo Yuan, Fuzzy Sets and Fuzzy Logic, Theory and Applications, Prentice Hall Inc., New Jersey. 1995.
2. George J.Klir and Tina A. Folger, Fuzzy sets, Uncertainity and Information, Prentice Hall of India, New Delhi, 2007.
3. H.J.Zimmermann, Fuzzy Set Theory and its Applications, Allied Publishers Limited, New Delhi, 1991.

Learning Outcomes:

After completion of this course the students will:

1. Be able to distinguish between the crisp set and fuzzy set concepts through the learned differences between the crisp set characteristic function and the fuzzy set membership function.

2. Be able to draw a parallelism between crisp set operations and fuzzy set operations through the use of characteristic and membership functions respectively.

3. Be able to define fuzzy sets using linguistic words and represent these sets by membership functions.

4. Know how to perform mapping of fuzzy sets by a function and also use the α-level sets in such instances.

5. Know fuzzy-set-related notions; such as α-level sets, convexity, normality, support, etc. n Know the concept of a fuzzy number and how it is defined.

6. Become familiar with the extension principle, its compatibility with the α-level sets and the usefulness of the principle in performing fuzzy number arithmetic operations (Additions, multiplications, etc.)

7. Become familiar with fuzzy relations and the properties of these relations.

8. Become capable of representing a simple classical proposition using crisp set characteristic function and likewise representing a fuzzy proposition using fuzzy set membership function.

9. Become aware of the application of fuzzy algebra in real world problems.

10. Have acquired the ability of thinking differently and have become capable, when necessary, to apply a new thinking methodology to real life problems including engineering ones.

Course Code	Title of the Course
11363	**PART-III : COMPLEX ANALYSIS**

Course Objectives:

The general objectives of the course is
students will be able to:

1. Understand how complex numbers provide a satisfying extension of the real numbers;

2. Appreciate how throwing problems into a more general context may enlighten one about a specific context (e.g. solving real integrals by doing complex integration; Taylor series of a complex variable illuminating the relationship between real function that seem unrelated -- e.g. exponentials and trig functions);
3. Learn techniques of complex analysis that make practical problems easy (e.g. graphical rotation and scaling as an example of complex multiplication);
4. Continue to develop proof techniques;
5. Appreciate how mathematics is used in design (e.g. conformal mapping);
6. Unlearn (if ever learned) the notion that mathematics is all about getting "the right answer";
7. Hone the ability to do reality checks on calculations;

8. Hone the ability to communicate mathematics.

Course Description:

UNIT- I

The geometric representation of a complex number – the spherical representation and stereographic projection.

UNIT- II

Definitions of complex analytic function-Complex differentiation 92 3. The Cauchy-Riemann equations.

UNIT-III

Orthogonal trajectories and harmonic functions- Harmonic and Conjucate harmonic – To find an analytic function f(z)=u+iv if a harmonic function u is given – Milne Thomson method– Problems.

UNIT- IV

Power series – radius of convergence – Abel's limit theorem-Examples.

UNIT- V

Generating functions - Fibonacci numbers - An application of power series.

UNIT- VI

Conformal mappings – Bilinear transformations – Fixed point of bilinear transformations – Cross ratio.

UNIT- VII

General bilinear transformations which transforms unit disk onto the unit disk; half plane $Im(z) \square 0$ onto the unit disk.

UNIT -VIII

Complex integration – Cauchy's theorem for a rectangle and for a disk – The index of a point with respect to a closed curve – Cauchy's integral formula-Problems.

UNIT- IX

Higher derivatives in complex integration– Taylor's theorem – Problems.

UNIT- X

Zeros and poles– The local mapping theorem – The maximum principle – Schwarz's lemma – Morera's theorem – Cauchy's estimate – Liouville's theorem.

UNIT- XI

The minimum- maximum theorem, Fundamental theorem of algebra.

UNIT -XII

Series expansions – Taylor's Series , Laurent series – Laurent's theorem- Problems.

UNIT- XIII

Singularities – Cauchy's residue theorem – The argument principle – Rouche's theorem –Problems.

UNIT- XIV

Evaluation of definite integrals for unit circles, Poles lie in the upper half of the plane and real axis.

REFERENCES:

1. Arumugam, Issac & Somasundaram, Complex Analysis, Scitech Publications(India) Pvt. Ltd., 2004.
2. T.K.Manickavasagam Pillai & others, S.Viswanathan(Printers & Publishers) Pvt. Ltd., Chennai, 1997.
3. P.Duraipandian & others, Complex Analysis, Emarald Publishers, Chennai.
4. V.Karunakaran, Complex Analysis, Alpha Science International Ltd., Harrow, U.K, Second Edition, 2005.
5. P.P Gupta – Kedarnath & Ramnath, Complex Variables, Meerut -Delhi
6. J.N. Sharma, Functions of a Complex variable, Krishna Prakasan Media (P) Ltd, 13th Edition, 1996-97.

Learning Outcomes:

After completion of this course the students will:

1. Justify the need for a Complex Number System and explain how is related to other existing number systems.
2. Define a function of complex variable and carry out basic mathematical operations with complex numbers.
3. Know the condition(s) for a complex variable function to be analytic and/or harmonic.
4. State and prove the Cauchy Riemann Equation and use it to show that a function is analytic.
5. Define singularities of a function, know the different types of singularities, and be able to determine the points of singularities of a function.
6. Explain the concept of transformation in a complex space (linear and non linear) and sketch associated diagrams.
7. Understand the concept of sequences and series with respect to the complex numbers system and establish whether a given series/ sequences is convergent/ divergent at a specified point or interval.

Course Code	Title of the Course
11364	PART-III : COMBINATORICS

Course Objectives:

The general objectives of the course is
students will be able to:

1. Familiar with fundamental combinatorial structures that naturally appear in various other fields of mathematics and computer science.
2. Understand the concept of Recurrence relations, Binary operations on Permutation groups.
3. Understand the concept of Inclusion and Exclusion principle
4. Learn how to use these structures to represent mathematical and applied questions, and they will become comfortable with the combinatorial tools commonly used to analyze such structures.
5. Learn how to prove the existence or non-existence of the object, compute the number of such objects, and understand their underlying structure.

Course Description:

UNIT-I

Basic Combinatorial Numbers – Stirling Numbers of the First kind – Stirling Numbers of the Second kind.

UNIT-II

Recurrence Formula for S_n^m – Recurrence formula for P_n^m.

UNIT-III

Patterns of Distributions-Problems.

UNIT-IV

Generating Functions – The Algebra of Formal Power Series – Generating functions for Permutations – Generating functions for Partitions.

UNIT-V

Inventory of Maps – Recurrence Relations.

UNIT-VI

Symmetric functions – The Monomial Symmetric functions K_λ – The complete Homogeneous Symmetric Functions h_λ.

UNIT-VII

The Elementary Symmetric Functions a_λ – The Power sum Symmetric Function s_λ.

UNIT-VIII

Multinomials- Basic concepts- Problems.

UNIT-IX

Inclusion and Exclusion Principle –Theorems and Problems.

UNIT-X

Permutations with Forbidden Positions – The Menage problem

UNIT-XI

Problem of Fibonacci – Polya Theory – Problems

UNIT-XII

Necklace problem and Burnside's Lemma – Cyclic Index of a Permutation Group.

UNIT-XIII

Polya's Theorems and their Immediate Applications – Related problems.

UNIT-XIV

Binary operations on Permutation Groups.

REFERENCES:

1. Combinatorics Theory and Applications by V.Krishnamurthy, Affliated East-West Press Private Limited, New Delhi, 1985.
2. A First Course in Combinatorial Mathematics by IanAnderson, Oxford Applied Mathematics and Computing Science Series, U.K., 1974
3. Combinatorics by V.K.Balakrishnan, Schuam Series, 1996

Learning Outcomes:

After completion of this course the students will:

1. Be able to utilize mathematics and computer applications to solve practical problems in mathematics.

2. Model and analyze practical problems in various areas using the combinatorial tools.

3. Be able to identify, formulate, and solve problems in mathematics, including proofwriting.

4. Understand and deal with enumerative problems.

5. Put to practice problem solving techniques that they know, and learn new ones, such as non-constructive existence proofs and the probabilistic method.

e. 3. Duration of the Programme:

The programme for the Undergraduate degree in Mathematics shall consist of three academic years divided in to six semesters. Each semester consists of four theory Papers. Each theory course carries 4 credits and each semester consist of 16 credits.

e. 4. Faculty and Support Staff Requirements:

The programme for the Undergraduate degree in Mathematics requires the following faculty and supporting staff:

Staff Category	Required
Core Faculty*	3
Faculty – Specialization*	2
Faculty for Language*	2
Clerical Assistant	1

* Faculty may belongs to at least Assistant Professor Level

e. 5. Instructional Delivery Mechanisms:

The instructional delivery mechanisms of the programme includes SLM – study materials, face to face contact session for theory course of the programme, e-content of the study materials in the form of CD, MOOC courses wherever applicable.

e. 6. Identification of Media:

The SLM – designed study materials will be provided in print media as well is in the form of CD which carries electronic version of the study material in addition to MOOC courses.

e. 7. Student Support Services:

The student support services will be facilitated by the head quarter i.e., Directorate of Distance Education, Alagappa University, Karaikudi and its approved Learning Centres located at various parts of Tamil Nadu. The pre-admission student support services like counselling about the programme including curriculum design, mode of delivery, fee structure and evaluation methods will be explained by the staff at head quarter and Learning Centres. The post-admission student support services like issuance of identity card, study materials, etc. will be routed through the Learning Centres. The face to face contact sessions of the programme for both theory and practical courses will be held at the head quarter and Learning Centres. The conduct of end semester examinations, evaluation and issuance of

certificates will be done by office of the controller of examinations, Alagappa University, Karaikudi.

f. Procedure for Admission, curriculum transaction and evaluation:

f. 1. Procedure for Admission:

A candidate who has passed 12th standard (10 + 2 system) / 3 years diploma of any School or Institution accepted by the Syndicate as equivalent there to shall be eligible to appear and qualify for the B.Sc Degree in Mathematics of this University after a course of study of three academic years.

f. 2. Curriculum Transactions:

The classroom teaching would be through chalk and talk method, use of OHP, Power Point presentations, web-based lessons, animated videos, etc. The face to face contact sessions would be such that the student should participate actively in the discussion. Student seminars would be conducted and scientific discussions would be arranged to improve their communicative skill.

The face to face contact sessions will be conducted in following durations;

Course Type	Face to Face Contact Session per Semester (in Hours)
Theory Courses (4 courses with 4 credits each)	64
Total	**64**

f. 3. Evaluation:

The evaluation shall be conducted separately for theory and practical to assess the knowledge acquired during the course of study. There shall be two systems of evaluation viz., internal assessment and end semester examinations.

In the case of theory courses the internal evaluation shall be conducted as Continuous Internal Assessment via. Student assignment preparation. The internal assessment shall comprise of maximum 25 marks for each subject. The end semester examination shall be of three hours duration to each course at the end of each semester. The end semester examinations shall comprise of maximum of 75 marks for each course. The candidate failing in any course(s) will be permitted to appear for each failed course(s) in the subsequent examination.

f. 3.1. Question Paper Pattern:

Answer all questions (one question from each unit with internal choices Time: 3 Hours Max. Marks: 75

Part A- 10 x 2 Marks = 20 Marks

Part B -5 x 5 Marks = 25 Marks

Part C- 3 x 10 Marks = 30 Marks

f. 3.2. Distribution of Marks in Continuous Internal Assessments:

The following procedure shall be followed for awarding internal marks for **theory** courses

Component	**Marks**
Assignments (5 questions per course)	25
Total	**25**

f. 3.3. Passing Minimum:

The candidate shall be declared to have passed the examination if the candidate secures a minimum of 50% (50 marks out of 100 marks) in the University end semester examination. Then the total marks secured by the candidate will be taken and added with his/her internal marks (Maximum marks 25).

Candidate who does not obtain the required minimum marks for a pass in a course shall be required to appear and pass the same at a subsequent appearance.

f. 3.4. Marks and Grades:

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

Range of Marks	Grade Points	Letter Grade	Description
90-100	9.0-10.0	O	Outstanding
80-89	8.0-8.9	D+	Excellent
75-79	7.5-7.9	D	Distinction
70-74	7.0-7.4	A+	Very Good
60-69	6.0-6.9	A	Good
50-59	5.0-5.9	B	Average
00-49	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

C_i = Credits earned for the course i in any semester
G_i = Grade Point obtained for course i in any semester.
n refers to the semester in which such courses were credited

For a semester;

Grade Point Average [GPA] = $\sum_i C_i G_i / \sum_i C_i$

Grade Point Average = Sum of the multiplication of grade points by the credits of the courses

Sum of the credits of the courses in a semester

For the entire programme;

Cumulative Grade Point Average [CGPA] = $\sum_n \sum_i C_{ni} G_{ni} / \sum_n \sum_i C_{ni}$

CGPA = Sum of the multiplication of grade points by the credits of the entire programme

Sum of the credits of the courses for the entire programme

CGPA	Grad	Classification of Final Result
9.5-10.0 9.0 and above but below 9.5	O+ O	First Class- Exemplary*
8.5 and above but below 9.0 8.0 and above but below 8.5 7.5 and above but below 8.0	D++ D+ D	First Class with Distinction*
7.0 and above but below 7.5 6.5 and above but below 7.0 6.0 and above but below 6.5	A++ A+ A	First Class
5.5 and above but below 6.0 5.0 and above but below 5.5	B+ B	Second Class
0.0 and above but below 5.0	U	Re-appear

*The candidates who have passed in the first appearance and within the prescribed semester of the UG Programme are eligible.

f. 3.5. Maximum duration for the completion of the course:

The maximum duration for completion of B.Sc., Degree in Mathematics programme shall not exceed ten semesters from their sixth semester.

f. 3.6. Commencement of this Regulation:

These regulations shall take effect from the academic year 2018-2019 (June session) i.e., for students who are to be admitted to the first year of the course during the academic year 2018-2019 (June session) and thereafter.

f. 4. Fee Structure:

The programme has the following Fee Structure:

Sl. No.	Fees Detail	Amount in Rs.		
		First Year	Second Year	Three Year
1	Admission Processing Fees	**100.00**	-	-
2	Tuition Fees	**2500.00**	**2500.00**	**2500.00**
3	ICT Fees	**150.00**	**150.00**	**150.00**
	TOTAL	**2750.00**	**2650.00**	**2650.00**

The above mentioned fee structure is exclusive of Exam fees.

g. **Requirement of the laboratory support and Library Resources:**

The students who have enrolled themselves in B.Sc., Mathematics Programme shall attend the face to face contact session for Theory Courses at their respective Learning Centres.

Directorate of Distance Education, Alagappa University, Karaikudi housing an excellent Library facility with adequate number of copies of books in relevant titles for B.Sc., Mathematics programme. The Central Library of Alagappa University also having good source of reference books. The books available at both the libraries are only for reference purpose and not for lending services.

h. **Cost estimate of the programme and the provisions:**

The cost estimate of the programme and provisions for the fund to meet out the expenditure to be incurred in connection with B.Sc., Mathematics Programme as follows:

S.No.	Expenditure Heads	Approx. Amount in Rs.
1	Programme Development	10,00,000/-
2	Programme Delivery	20,00,000/-
3	Programme Maintenance	3,00,000/-

i. **Quality assurance mechanism and expected programme outcomes:**

i. 1. University's Moto:

'Excel ence in Action'

i. 2. University's Vision Statement:

Achieving Excellence in all spheres of Education, with particular emphasis on "PEARL"- Pedagogy, Extension, Administration, Research and Learning.

i. 2. University's Objectives:

1. Providing for Instructions and Training in such Branches of Learning as the University may determine.
2. Fostering Research for the Advancement and Dissemination of Knowledge

i. 3. University's Quality Policy:

Attaining Benchmark Quality in every domain of 'PEARL' to assure Stakeholder Delight through Professionalism exhibited in terms of strong purpose, sincere efforts, steadfast direction and skillful execution.

i. 4. University's Quality Quote:

Quality Unleashes Opportunities towards Excellence (QUOTE)

i.5. Programme's Review Mechanism:

The quality of the programme depends on scientific construction of the curriculum, strong-enough syllabi, sincere efforts leading to skillful execution of the course of the study. The ultimate achievement of B.Sc., Mathematics programme of study may reflect the gaining of knowledge and skill in the subject. And all these gaining of knowledge may help the students to get new job opportunities, upgrading in their position not only in employment but also in the society, make students feel thirsty to achieve in research in the fields associated with the discipline- Mathematics achieving in competitive examinations on the subject.

The benchmark qualities of the programme may be reviewed based on the performance of students in their end semester examinations. Apart from the end semester examination-based review feedback from the alumni, students, parents and employers will be received and analyzed for the further improvement of the quality of the B.Sc., Mathematics Programme.---

MINUTES OF THE MEETING OF THE BOARD OF STUDIES IN MATHEMATICS (DDE) HELD ON 17.06.2017 AT 2.00 p. m. IN THE DEPARTMENT OF MATHEMATICS, ALAGAPPA UNIVERSITY, KARAIKUDI.

Members Present

1. Dr. N. Anbazhagan	- Chairman
2. Dr. M. Marudai	- Member
3. Dr. R. Uthayakumar	- Member
4. Dr. R. Asokan	- Member
5. Dr. M. Mullai	- Member
6. Dr. J. Vimala	- Member

The chairman of the Board Dr. N. Anbazhagan welcomed the members.

1. Board of Studies in Mathematics has thoroughly discussed the B. Sc., (Mathematics), M. Sc., (Mathematics) syllabi and made necessary changes and corrections in the existing syllabi of all the above said programmes.

2. The corrected syllabi is enclosed herewith.

Dr. N. Anbazhagan

Dr. M. Marudai

Dr. R. Uthayakumar

Dr. R. Asokan

Dr. M. Mullai

Dr. J. Vimala