

3 Constraints - Entity-Relationship Diagrams - Entity-Relationship Design Issues - Weak Entity Sets - Database Design for Banking Enterprise

### Unit V

Relational Database Design: Features of Good Relational Designs - Atomic Domains and First Normal Form - Decomposition Using Functional Dependencies - Functional-Dependency Theory - Decomposition Using Functional Dependencies - Decomposition Using Multivalued Dependencies-More Normal Forms – Database - Design Process.

#### Text Book:

1. Database System Concepts, Sixth edition, Abraham Silberschatz, Henry F. Korth, S. Sudarshan, McGraw-Hill-2010.

#### Reference Books:

1. Database Systems: Models, Languages, Design and Application, Ramez Elmasri, Pearson Education, 2014.

## CORE PRACTICAL - IV DATABASE SYSTEMS (P)

**Objective:** *To Impart Practical Training in MySQL*

1. Create a table and perform the following basic mysql operations
  - a) Set the primary key
  - b) Alter the structure of the table
  - c) Insert values
  - d) Delete values based on constraints
  - e) Display values using various forms of select clause
  - f) Drop the table
2. Develop mysql queries to implement the following set operations
  - a) Union
  - b) Union all
  - c) Intersect
  - d) Intersect all
3. Develop mysql queries to implement the following aggregate functions
  - a) Sum
  - b) Count
  - c) Average
  - d) Maximum
  - e) Minimum
  - f) Group by clause & having clause
4. Develop mysql queries to implement following join operations
  - a) Natural join
  - b) Inner join
  - c) Outer join-left outer, right outer, full outer
  - d) Using join conditions

5. Develop mysql queries to implement nested subqueries
  - a) Set membership (int, not int)
  - b) Set comparison (some, all)
  - c) Empty relation (exists, not exists)
  - d) Check for existence of Duplicate tuples(unique, not unique)
6. Develop mysql queries to create a views and expand it.
7. Develop mysql queries to implement
  - a) String operations using %
  - b) String operations using ‘\_’
  - c) Sort the element using asc, desc
 [\*create necessary reletions with requires attribute]
8. Consider the following database for a banking enterprise BRANCH (branch-name:string, branch-city: string, assets: real) ACCOUNT (accno: int, branch-name: string, balance:real) DEPOSITOR (customer-name: string, accno:int) CUSTOMER (customer-name: string, customer-street: string, customer-city:string) LOAN(loan-number int, branch-name: string, amount: real) BORROWER (customer-name: string, loan-number:int)
  - i. Create the above tables by properly specifying the primary keys and the foreign keys
  - ii. Enter at least five tuples for each relation
  - iii. Find all the customers who have at least two accounts at the *Main* branch.
  - iv. Find all the customers who have an account at *all* the branches located in a specific city.
  - v. Demonstrate how you delete all account tuples at every branch located in a specific city.
  - vi. Generate suitable reports.
  - vii. Create suitable front end for querying and displaying the results.

## CORE COURSE - IV

### DATABASE SYSTEMS

**Objective:** *To provide the basic concepts of the Database Systems including Data Models, Storage Structure, Normalization and SQL*

#### Unit I

Introduction: Database - System Applications - Purpose of Database Systems - View of Data - Database Languages - Relational Databases - Database Design – Object - Based and Semi structured Databases - Data Storage and Querying Transaction Management - Data Mining and Analysis - Database Architecture - Database Users and Administrators - History of Database Systems.

#### Unit II

Relational Model: Structure of Relational Databases - Fundamental Relational-Algebra Operations Additional Relational-Algebra Operations-Extended Relational-Algebra Operations - Null Values - Modification of the Database.

#### Unit III

SQL: Data Definition - Basic Structure of SQL Queries – Set Operations - Aggregate Functions - Null Values - Nested Subqueries - Complex Queries - Views - Modification of the Database - Joined Relations - SQL Data Types and Schemas - Integrity Constraints -Authorization - Embedded SQL.

#### Unit IV

Relational Languages: The Tuple Relational Calculus - The Domain Relational Calculus - Query-by- Example. Database Design and the E-R Model: Overview of the Design Process - The Entity-Relationship Model -

## Semester IV : Short Stories for Effective Communication

### Unit – I

Rabindranath Tagore : *The Auspicious Vision*

Bhabani Bhattacharya : *Glory at Twilight*

### Unit –II

Oscar Wilde : *The Nightingale and the Rose*

John Galsworthy : *Acme*

### Unit – III

Isaac Bashevis Singer : *The Son from America*

Ray Bradbury : *The Pedestrian*

### Unit – IV

Anton Chekhov : *A Nincompoop*

Guy de Maupassant : *The Diamond Necklace*

### Unit –V

Katherine Mansfield : *Sun and Moon*

Saki : *Fur*

### Textbook:

Syamala, V, ed. *Story Time*. Chennai: Anu Chithra Publications, 1988.

## ALLIED PAPER - II COMPUTER APPLICATION IN BUSINESS

### Objective:

*To enable the students to know the importance of computer application in business.*

### Unit I

Computer – Meaning – Characteristics – Areas of application – Components – Memory control unit – Input and output devices – Ms Word – Creating word documents – creating business letters using wizards – editing word documents – inserting objects – formatting documents – spelling and grammar check – word count – thesaurus, auto correct working with tables – opening, saving and closing documents – mail merge.

### Unit II

Spread sheet – Spread sheet programmes and applications – Ms Excel and features – Building work sheets – entering data in work sheets, editing and formatting work sheets – creating and formatting different types of charts – application of financial and statistical function – creating, analyzing and organizing data – opening and closing work books – Introduction to Pivot tables.

### Unit III

Fundamentals of Computerized accounting – Computerized accounting Vs manual accounting - Architecture and customization of Tally – Features of Tally – latest version – Configuration of Tally – Tally screens and menus – Creation of company – Creation of groups – Editing and deleting groups – Creation of ledgers – Editing and deleting ledgers – Introduction to vouchers – Vouchers entry – Payment vouchers – Receipt vouchers – Sales vouchers – Purchase vouchers – Contra vouchers – Journal vouchers – Editing and deleting vouchers.

**Unit IV**

Introduction to Inventories – Creation of stock categories – Creation of Stock groups – Creation of Stock items- Configuration and features of stock item– Editing and deleting stocks – Usage of stocks in Vouchers entry. Purchase orders – Stock vouchers – Sales orders – Stock vouchers – Introduction to cost – creation of cost category – Creation cost centres – Editing and deleting cost centres & categories – Usage of cost category and cost – centres in vouchers entry – Budget and controls – Creation of budgets – Editing and deleting budgets – Generating and printing reports in detailed and condensed format.

**Unit V**

Day books– Trial balance – Profit and Loss account – – Balance sheet. Ratio analysis, Cash flow statement – Fund flow statement – Cost centre report – Inventory report - Bank Reconciliation Statement.

**தமிழ் இலக்கிய வரலாறு****பார்வை நூல்கள்**

(நான்கு பருவங்களுக்கும்)

1. தமிழ் இலக்கிய வரலாறு முனைவர் ச.சுபாஷ் சந்திரபோஸ் இயல்பு பதிப்பகம், 23பி/2739, தொப்புள் பிள்ளையார் கோவில் தெரு, தெற்கலங்கம், தஞ்சாவூர் - 613 001. அலைபேசிஎண் : 9940558934 விலை ரூ.120/-
2. தமிழ் இலக்கிய வரலாறு முனைவர் லட்சுமணன் கிருஷ்ணா வெளியீடு, 7, பிரகாஷ் நகர், திருவெறும்பூர், திருச்சிராப்பள்ளி-13. அலைபேசிஎண் : 9442210128 விலை ரூ.140/-
3. தமிழர் இலக்கிய வரலாறு முனைவர் கி. இராசா பார்த்திபன் பதிப்பகம் 912, எல்.ஐ.சி. காலனி திருச்சிராப்பள்ளி 620 001. விலை ரூ.120/-
4. வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு முனைவர் பாக்யமேரி நியூ செஞ்சூரிபுக் ஹவுஸ் பி. லிமிடெட் 41B, சிட்கோ தொழிற்பேட்டை அம்பத்தூர், சென்னை - 600 098 விலை ரூ.150/-
5. தமிழ் இலக்கிய வரலாறு முனைவர் கா.கோ.வேங்கடராமன் கலையக வெளியீடு 193H, கண்டர்நகர், பரமத்திவேலூர், நாமக்கல் மாவட்டம்-638182 தொலைபேசி: (04268) 223076 அலைபேசி: 9443133076 விலை ரூ.120/-
6. பண்முக நோக்கில் தமிழ் இலக்கிய வரலாறு முனைவர் க. வாசுதேவன் தேவன் பதிப்பகம் 16/43, திருநகர் திருவாணைக்கோவில் திருச்சிராப்பள்ளி - 620 005.

**அலகு - V**

- |                                 |   |  |
|---------------------------------|---|--|
| 1. இலக்கிய வரலாறு               | - | சங்க இலக்கியம்   |
| 2. பொதுக்கட்டுரை<br>தலைப்புகள்: |   | மனித நேயம்<br>வாழ்வியல் அறங்கள்,<br>மொழி உணர்ச்சி,<br>அறிவியல் வளர்ச்சி ஆகியன. |

**NON MAJOR ELECTIVE - II****FUNDAMENTALS OF INFORMATION TECHNOLOGY**

**Objective:** *To Provide the Basic Concepts in Information Technology*

**Unit I**

Introduction to Computers - Generation of Computers - Classification of Digital Computer - Anatomy of Digital Computer.

**Unit II**

CPU and Memory - Secondary Storage Devices - Input Devices - Output Devices.

**Unit III**

Introduction to Computer Software – Programming Language –Operating Systems - Introduction to Database Management System.

**Unit IV**

Computer Networks - WWW and Internet - Email - Web Design

**Unit V**

Computers at Home, Education, Entertainment, Science, Medicine and Engineering - Introduction to Computer Security - Computer Viruses, Bombs, Worms.

**Text Book:**

1. Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikas Publishing House Pvt. Ltd, 2009.

**Reference Book:**

1. Fundamentals of Computers and Information Technology, M.N Doja, 2005.

## ALLIED PAPER - III ORGANIZATIONAL BEHAVIOR

### Objective :

To make the students to understand the behavior of employers in an Organizational

### Unit I

Organisation Behaviour : Definition, Nature and scope Models

### Unit II

Foundation of Individual behavior, Human behavior, Theories of personality - perceptions.

### Unit III

Concept of Attitude, concepts of value - Learning theories.

### Unit IV

Group Behaviour - reasons for group formation - Formal and informal groups - group cohesiveness - Job stress - Meaning, different kinds of stressors, coping strategies.

### Unit V

Leadership - Meaning, definition, functions and styles. Power and Politics - meaning, distinction between power and politics - Organisational politics.

### Text Book Organizational Behaviour

L.M. Prasad, Sultan Chand & Sons.

### Books for Reference

1. Organisational Behavior - S.S Khanka - S.Chand & Co
2. Organisational Behavior - J. Jayasankar - Margham Publications.

### 5. சிறுபாணாற்றுப்படை

1. சிறுபாணாற்றுப்படை முழுவதும்

### அலகு - III

#### 6. அகநானூறு

1. 'அகல் அறை' எனத் தொடங்கும் பாடல் (பா.எ. 105)
2. 'நோகோ' எனத் தொடங்கும் பாடல் (பா.எ. 153)

#### 7. புறநானூறு

1. 'வள்ளியோர்' எனத் தொடங்கும் பாடல் (பா.எ. 47)
2. 'நின்னயந்து' எனத் தொடங்கும் பாடல் (பா.எ. 163)
3. 'உண்டாலம்' எனத் தொடங்கும் பாடல் (பா.எ. 182)
4. 'ஈயென்' எனத் தொடங்கும் பாடல் (பா.எ. 204)
5. 'நினைக்குங்காலை' எனத் தொடங்கும் பாடல் (பா.எ. 217)

### அலகு - IV

#### 8. திருக்குறள்

1. புறங்கூறாமை (அதிகாரம் 19)
2. மானம் (அதிகாரம் 97)
3. நெஞ்சொடு கிளத்தல் (அதிகாரம் 125)

#### 9. நாலடியார்

1. 'அரும்பெறல்' எனத் தொடங்கும் பாடல் (பா.எ. 34)
2. 'கல்லாதுபோகிய' எனத் தொடங்கும் பாடல் (பா.எ. 169)
3. 'கோட்டுப்பூப்போல' எனத் தொடங்கும் பாடல் (பா.எ. 215)
4. 'நன்னிலைக்கண்' எனத் தொடங்கும் பாடல் (பா.எ. 248)
5. 'ஒருநன்றி' எனத் தொடங்கும் பாடல் (பா.எ. 357)

#### 10. பழமொழி நானூறு

1. 'புலமிக்கவரை' எனத் தொடங்கும் பாடல் (பா.எ.. 07)
2. 'முல்லைக்கு' எனத் தொடங்கும் பாடல் (பா.எ. 74)
3. 'பூத்தாலும்' எனத் தொடங்கும் பாடல் (பா.எ. 93)
4. 'செயல்வேண்டா' எனத் தொடங்கும் பாடல் (பா.எ. 263)
5. 'நாடிநமரென்று' எனத் தொடங்கும் பாடல் (பா.எ. 346)

**நான்காம் பருவம் - தாள் - IV**  
பண்டைய இலக்கியம்

**பாட நோக்கம்**

1. பழந்தமிழ் இலக்கிய வளத்தை உணர்த்துதல்.
2. சங்க அக, புற பாடல் மரபுகளைப் பயிற்றுவித்தல்
3. புற இலக்கியங்கள் காட்டும் வாழ்வியல் அறங்களை உணர்த்துதல்.

**மாணவர் பெறும் திறன்**

1. பழந்தமிழ் இலக்கிய மரபை அறிவர்
2. சங்க இலக்கிய மரபை அறிவர்.
3. வாழ்வியல் அறங்கள் மற்றும் வரலாற்றுச் செய்திகளை அறிவர்.

**அலகு - I**

**1. குறுந்தொகை**

1. 'வில்லோன்' எனத் தொடங்கும் பாடல் (பா.எ. 07)
2. 'அகவன்' எனத் தொடங்கும் பாடல் (பா.எ. 23)
3. 'கான்' எனத் தொடங்கும் பாடல் (பா.எ. 38)
4. 'தலைப்புணை' எனத் தொடங்கும் பாடல் (பா.எ. 222)
5. 'பாலும்' எனத் தொடங்கும் பாடல் (பா.எ. 396)

**2. நற்றிணை**

1. 'நின்றசொல்லர்' எனத் தொடங்கும் பாடல் (பா.எ. 01)
2. 'தடமருப்பு' எனத் தொடங்கும் பாடல் (பா.எ. 120)

**3. ஐங்குறுநூறு**

1. பாலைத்திணை - தலைவி இரங்கு பத்து  
(331 முதல் 340 வரை) - 10 பாடல்கள்

**அலகு II**

**4. கலித்தொகை**

1. குறிஞ்சிக்கலி  
'சுடர்தொடஇ' எனத் தொடங்கும் பாடல் (பா.எ. 15)
2. நெய்தற்கலி  
'மாமலர்' எனத் தொடங்கும் பாடல் (பா.எ. 16)

**DESKTOP PUBLISHING**  
**SKILL BASED ELECTIVE - I (SEMESTER IV)**  
**PAGE MAKER**

**Unit I**

Getting started with Adobe Page Maker 7.0, Creating a Publication, Working with Text.

**Unit II**

Modifying Text, Working with Multiple Pages.

**Unit III**

Working with Graphics, Formatting Text

**Unit IV**

Using Advanced Graphics, Adding Color and Using Mail Merge.

**Unit V**

Working with Long Publications, Publishing Electronically.

**Text Book**

Adobe Page Maker 7.0, Kevin Proot, Cengage Learning.

**CORE COURSE - V**  
**DATA STRUCTURES AND ALGORITHMS**

**Objective:** *To understand the concepts of Data Structures and Algorithms.*

**Unit I**

Arrays and sequential representations – ordered lists – Stacks and Queues – Evaluation of Expressions – Multiple Stacks and Queues – Singly Linked List – Linked Stacks and queues – Polynomial addition.

**Unit II**

Trees – Binary tree representations – Tree Traversal – Threaded Binary Trees – Binary Tree Representation of Trees – Graphs and Representations – Traversals, Connected Components and Spanning Trees – Shortest Paths and Transitive closure – Activity Networks – Topological Sort and Critical Paths.

**Unit III**

Algorithms – Priority Queues - Heaps – Heap Sort – Merge Sort – Quick Sort – Binary Search – Finding the Maximum and Minimum.

**Unit IV**

Greedy Method: The General Method – Optimal Storage on Tapes – Knapsack Problem – Job Sequencing with Deadlines – Optimal Merge Patterns.

**Unit V**

Back tracking: The General Method – The 8-Queens Problem – Sum of Subsets – Graph Coloring.

**Text Books:**

1. Fundamentals of Data Structure – Ellis Horowitz, Sartaj Sahni, Galgotia Publications, 2008.
2. Computer Algorithms – Ellis Horowitz, Sartaj Sahni and Sanguthevar Rajasekaran, University Press, 2008.

**Reference Book:**

1. Data Structures – Seymour Lipschutz, Tata Mcgraw Hill, Schaum's Outline Series, 2014.

**NON MAJOR ELECTIVE - I**  
**WORKING PRINCIPLES OF INTERNET**

**Objective:** *To understand the working Principles of Internet*

**Unit I**

What is Internet? The Internet's underlying Architecture

**Unit II**

Connecting to the Internet – Communicating on the Internet

**Unit III**

How the World Wide Web works. Common Internet tools

**Unit IV**

Multimedia on the Internet – Intranet and shopping on the Internet

**Unit V**

Safeguarding the Internet

**Text Book:**

1. How the Internet Works, Preston Gralla, Pearson Education, Eighth Edition, 2006.

**Reference Book:**

1. Internet for Everyone, Alexis Leon, S. Chand (G/L) & Company Ltd; Second Edition 2012.



## LIST OF PRACTICALS

### Unit I

1. Creating business letters
2. Creating an application for the job with the bio-data
3. Creating Circular letter with mail-merge options
4. Creating a Table by using the split and merge options MS-Excel

### Unit II

1. Creating a work sheet like mark sheet, Pay Slip, PF Contribution list etc.
2. Creating Charts
3. Creating a list for the enclosures
4. Filtering the date using Auto filter custom filters using comparison operations.
5. Creating Pivot tables Accounting Package

### Unit III,IV and V

1. Preparing voucher entries for the given transactions.
2. Preparing final accounts from the trial balance given with any ten adjustments
3. Inventory report
4. Bank Reconciliation Statement

### Text and Reference Books (Latest revised edition only)

1. Computer Applications in Business – S.V. SrinivasaVallabhan – Sultan Chand Publication.
2. Microsoft office – Jones Derek – Comdex Computer Publication.
3. Implementing Tally – K.K. Nandhani Publication, BPB Publication.
4. Computer Application in Business – R. Paramasivam – S.Chand & Co.,
5. Computer Application in Business: Dr.Joseph Anbarasu, Learntech Press Theory & Practical.

### Examination Internal Assessment:

Theory -15 Marks,

Practical -10 Marks

University Examination :

Theory -45 Marks,

Practical -30 Marks

## CORE COURSE - VI OPERATING SYSTEMS

**Objective:** *To provide the Fundamental Concepts in an Operating System.*

### Unit I Introducing Operating Systems

Introduction - What Is an Operating System-Operating System Software - A Brief History of Machine Hardware -Types of Operating Systems -Brief History of Operating System Development-Object-Oriented Design

### Unit II Memory Management

Early Systems: Single - User Contiguous Scheme - Fixed Partitions-Dynamic Partitions-Best-Fit versus First-Fit Allocation - Deallocation - Relocatable Dynamic Partitions. Virtual Memory: Paged Memory Allocation-Demand Paging-Page Replacement Policies and Concepts - Segmented Memory Allocation-Segmented / Demand Paged Memory Allocation - Virtual Memory-Cache Memory

### Unit III Processor Management

Overview-About Multi-Core Technologies-Job Scheduling Versus Process Scheduling-Process Scheduler-Process Scheduling Policies-Process Scheduling Algorithms -A Word About Interrupts-Deadlock-Seven Cases of Deadlock -Conditions for Deadlock-Modeling Deadlock-Strategies for Handling Deadlocks -Starvation - Concurrent Processes: What Is Parallel Processing-Evolution of Multiprocessors-Introduction to Multi-Core Processors-Typical Multiprocessing Configurations--Process Synchronization Software

### Unit IV Device Management

Types of Devices-Sequential Access Storage Media-Direct Access Storage Devices-Magnetic Disk Drive Access Times - Components of the I/O Subsystem-Communication among Devices-Management of I/O Requests

**Unit: V File Management**

The File Manager -Interacting with the File Manager - File Organization - Physical Storage Allocation - Access Methods - Levels in a File Management System - Access Control Verification Module

**Text Book:**

1. Understanding Operating Systems, Ann McIver McHoes and Ida M. Flynn, Course Technology, Cengage Learning, 2011

**Reference Book:**

1. Operating Systems, Achyut Godbole and Atul Kahate, McGraw Hill Publishing, 2010.

**Unit IV**

Introduction to Inventories – Creation of stock categories – Creation of Stock groups – Creation of Stock items- Configuration and features of stock item– Editing and deleting stocks – Usage of stocks in Vouchers entry. Purchase orders – Stock vouchers – Sales orders – Stock vouchers – Introduction to cost – creation of cost category – Creation cost centres – Editing and deleting cost centres & categories – Usage of cost category and cost – centres in vouchers entry – Budget and controls – Creation of budgets – Editing and deleting budgets – Generating and printing reports in detailed and condensed format.

**Unit V**

Day books– Trial balance – Profit and Loss account – – Balance sheet. Ratio analysis, Cash flow statement – Fund flow statement – Cost centre report – Inventory report - Bank Reconciliation Statement.

## **ALLIED PAPER - II**

### **COMPUTER APPLICATION IN BUSINESS**

#### **Objective:**

*To enable the students to know the importance of computer application in business.*

#### **Unit I**

Computer – Meaning – Characteristics – Areas of application – Components – Memory control unit – Input and output devices – Ms Word – Creating word documents – creating business letters using wizards – editing word documents – inserting objects – formatting documents – spelling and grammar check – word count – thesaurus, auto correct working with tables – opening, saving and closing documents – mail merge.

#### **Unit II**

Spread sheet – Spread sheet programmes and applications – Ms Excel and features – Building work sheets – entering data in work sheets, editing and formatting work sheets – creating and formatting different types of charts – application of financial and statistical function – creating, analyzing and organizing data – opening and closing work books – Introduction to Pivot tables.

#### **Unit III**

Fundamentals of Computerized accounting – Computerized accounting Vs manual accounting - Architecture and customization of Tally – Features of Tally – latest version – Configuration of Tally – Tally screens and menus – Creation of company – Creation of groups – Editing and deleting groups – Creation of ledgers – Editing and deleting ledgers – Introduction to vouchers – Vouchers entry – Payment vouchers – Receipt vouchers – Sales vouchers – Purchase vouchers – Contra vouchers – Journal vouchers – Editing and deleting vouchers.

## **CORE COURSE - VII**

### **DIGITAL COMPUTER FUNDAMENTALS**

**Objective :** *To understand the concepts in Digital Computer System*

#### **Unit I**

Number Systems and Codes: Binary Number System – Binary to Decimal Conversion – Decimal to Binary Conversion – Binary Addition – Binary Subtraction – Binary Multiplication and Division – Octal Numbers – Hexadecimal Numbers – Binary Codes – Error Detecting Codes – Error Correcting Codes.

#### **Unit II**

Logic Gates and Circuits: Boolean Algebra and Logic Gates – AND, OR, NOT, NAND, NOR, Exclusive OR and Exclusive OR Gates – Applications of XOR Gate – The Exclusive NOR Gate – Positive and Negative Logic – Logic Characteristics – Bipolar Logic Families – Integrated Circuits – Boolean Algebra: Definitions – Fundamentals of Boolean Algebra – Boolean Functions – Minterms and Maxterms – Laws and Theorems of Boolean Algebra – DeMorgan's Theorem – Universal Building Blocks (UBB) – NAND Gate as UBB – NOR Gate as UBB.

#### **Unit III**

Boolean Algebra: Simplifying Logic Circuits – Sum of Products – AND-OR Networks – Sum of Products and Product of Sums Forms – Karnaugh Maps – Product of Sums Simplification – NAND and NOR Implementation – AND-OR-INVERT Implementation – OR-AND-INVERT Implementation – Don't Care Conditions – Overlapping Groups – Rolling the Map – Eliminating Redundant Groups.

#### **Unit IV**

Combinational Logic Circuits: Introduction – Adders – The Half Adder – The Full Adder – Subtractors – BCD Adder – Multiplexers – Demultiplexers – Decoders – Encoders – Floating Point Number System – Range of Stored Numbers.

**Unit V**

Sequential Logic Circuits: Flip Flops – RS Flip Flop – Clocked RS Flip Flop – D Flip Flop – JK Flip Flop – T Flip Flop – Triggering of Flip Flops – Master Slave Flip Flop – Conversion of D Flip Flop – Conversion of T Flip Flop – Transfer Circuit – Clock – Counters and Shift Registers: Counters – Asynchronous or Ripple Counter – Ring Counter – Twisted Ring Counter – State Diagrams and State Tables – Magnitude Comparator – Programmable Arrays of Logic Cells – Shift Registers.

**Text Book:**

1. Principles of Digital Electronics, Dr. K. Meena, PHI Learning Private Limited, New Delhi, 2009.

**Reference Book:**

1. Digital Logic Design, M. Morris Mano, Pearson Education, 2010.

**ACCOUNTING & ORGANIZATIONAL BEHAVIOR  
ALLIED PAPER - I  
PRINCIPLES OF ACCOUNTING**

**Objective:**

*To enable the students to understand the basic principles of accounting.*

**Unit I**

Accounting concepts - Conventions - Rules of Double entry book keeping. Journal - Ledger - Trial Balance.

**Unit II**

Final Accounts of Sole Traders : Trading and Profit and Loss Account, Balance Sheet

**Unit III**

Cash Book - Three Column Cash Book Bank Reconciliation statement.

**Unit IV**

Errors disclosed by Trial Balance and Not disclosed by Trial Balance - Rectification of errors, Suspense Account

**Unit V**

Bills of Exchange - Renewal of Bill - Retiring of Bills - Notary charges.

**Text Book:**

1. Financial Accounting - T.S Reddy and A. Murthy - Margham Publications

**Books for Reference**

1. Financial Accounting - R.L. Gupta and Radhaswamy- S.Chand Publishers Delhi.
2. Financial Accounting by T.S Reddy and A.Murthy – Margham Publications
3. Introduction to Accounting by P.C. Tulasian, Pearson Editions.
4. Financial Accounting by Jain & Narang Kalyani Publishers.

### **CORE PRACTICAL - III**

#### **PROGRAMMING IN JAVA (P)**

**Objective:** *To Impart Practical Training in Java Programming Language*

1. Write a program to sort the given numbers using arrays.
2. Write a program to implement the FIND and REPLACE operations in the given multiple text.
3. Write a program to implement a calculator to perform basic arithmetic Operations.
4. Write a program to find the area of a rectangle using constructor
5. Write a program to find the student's percentage and grade using command line arguments.
6. Write a program to draw circle or triangle or square using polymorphism and inheritance.
7. Implement multiple inheritance concepts in java using interface, you can choose your own example of a company or education institution or a general concept which requires the use of interface to solve a particular problems.
8. Write a program to create threads and assign priorities to them
9. Write a program to develop an applet to play multiple audio clips using multithreading.
10. Write a program to create a window with three check boxes called red, green and blue. The applet should change the colors according to the selection.

### **CORE PRACTICAL - V**

#### **COMPUTER GRAPHICS AND ANIMATION (P)**

**Objective:** *To Impart Practical Training in Computer Graphics and Animation related problems*

**Photoshop:**

1. (i) Handling different file formats and interchanging them, changing the resolution, color, grayscales and size of the images  
(ii) Using brushes and creating multicolor real life images
2. Cropping, rotating, overlapping, superimposing, pasting photos on a page
3. Creation of a single image from selected portions of many
4. Developing a commercial brochure with background tints
5. Creating an image with multi-layers of images and texts.
6. Applying masks and filtering on images

**Flash:**

Develop an image(s) and do the following.

1. Basic Drawing and Painting
2. Working with Strokes and Fills
3. Creating Custom Colors, Gradients, and Line Styles Transforming and Grouping Objects
4. Creating and Managing Multiple Layers
5. Converting Text into Shapes
6. Animate using motion, shape, Tweening, and actions

## **MAJOR BASED ELECTIVE - I (A)**

### **COMPUTER GRAPHICS**

**Objective:** *To understand the concepts on basic Graphical Techniques, Raster Graphics, Two Dimensional and Three Dimensional Graphics*

#### **Unit I**

Overview of Computer Graphics System: Video Display Devices – Raster Scan Systems – Random – Scan Systems - Graphics Monitors and Workstations – Input Devices – Hardcopy Devices – Graphics Software.

#### **Unit II**

Output Primitives: Line Drawing Algorithms – Loading the Frame Buffer – Line Function – Circle – Generating Algorithms. Attributes of Output Primitives: Line Attributes – Curve Attributes – Color and Grayscale levels – Area fill Attributes – Character Attributes – Bundled Attributes – Inquiry Functions.

#### **Unit III**

2D Geometric Transformations: Basic Transformation – Matrix Representations – Composite Transformations – Window to View port Co-Ordinate Transformations. Clipping: Point Clipping – Line Clipping – Cohen-Sutherland Line Clipping – Liang Barsky Line Clipping – Polygon Clipping – Sutherland – Hodgman Polygon Clipping – Curve Clipping – Text Clipping.

#### **Unit IV**

Graphical User Interfaces and Interactive Input Methods: The User Dialogue – Input of Graphical Data – Input Functions – Interactive Picture Construction Techniques. Three Dimensional Concepts: 3D-Display Methods – #Three Dimensional Graphics Packages

#### **Unit V**

Files and I/O Streams: Overview – Java I/O – File Streams – FileInputStream and FileOutputStream – File Streams – RandomAccess File – Serialization - Applets: Introduction – Java Applications versus Java Applets – Applet Life-cycle – Working with Applets – The HTML APPLET Tag – The java.Applet package.

#### **Text Book:**

1. Object Oriented Programming through Java, P.Radha Krishna, University Press, 2011.

#### **Reference Book:**

1. Java Programming, K. Rajkumar, Pearson India, 2013.

## **CORE COURSE - III**

### **PROGRAMMING IN JAVA**

**Objective:** *To understand the basic concepts of Object Oriented Programming with Java language*

#### **Unit I**

Object Oriented Programming: Introduction to OOP – Objects and Classes – Characteristics of OOP – Difference between OOP and Procedure Oriented Language – Introduction to java Programming: Introduction – Features of Java – Comparing java and Other Languages – Applications and Applets – Java Development Kit – Complex Programs – Java Source File Structure – Prerequisites for Compiling and Running Java Programs

#### **Unit II**

Java Language Fundamentals : The Building Blocks of Java – Data Types – Variable Declarations – Wrapper Classes – Operations and Assignment – Control Structures – Arrays – Strings – String Buffer Class

#### **Unit III**

Java as an OOP Language: Defining Classes – Modifiers – Packages - Interfaces

#### **Unit IV**

Exception Handling : Introduction – Basics of Exception Handling – Exception Hierarchy – Constructors and Methods in Throwable Class - Unchecked and Checked Exceptions – Handling Exceptions in Java – Exception and Inheritance – Throwing User-defined Exceptions – Redirecting and Rethrowing Exceptions – Advantages of Exception Handling Mechanism – Multithreading: Introduction – Creating Threads – Thread Life-cycle – Thread Priorities and Thread Scheduling – Thread Synchronization – Daemon Threads – Tread Groups – Communication of Threads.

#### **Unit V**

3D Geometric and Modeling Transformations: Translation – Scaling – Rotation – Other Transformations. Visible Surface Detection Methods: Classification of Visible Surface Detection Algorithm – Back face Detection – Depth-Buffer Method – A-Buffer Method – Scan-Line Method – Applications of Computer Graphics.

#### **Text Book:**

1. Donald Hearn M. Pauline Baker, Computer Graphics C Version, Second Edition, Pearson Education, 2014.

#### **Reference Book:**

1. Computer Graphics, Sunil Kumar Sharma, Manoj Singhal, Pearson Education, 2014.

**MAJOR BASED ELECTIVE - I (B)**  
**SOFTWARE ENGINEERING**

**Objective:** *To provide knowledge of the various phases of Software Engineering Process*

**Unit I**

Introduction: Introduction to Software Engineering - Software Process - Software Process Models - Software Model - Requirements Engineering Principles: Requirements Engineering - Importance of Requirements - Types of Requirements - Steps involved in Requirements Engineering

**Unit II**

Requirements Analysis Modeling: Analysis Modeling Approaches - Structured Analysis - Object Oriented Analysis - Design and Architectural Engineering : Design Process and Concepts - Basic Issues in Software Design - Characteristics of Good Design - Software Design and Software Engineering - Function Oriented System vs Object Oriented System - Modularity, Cohesion, Coupling, Layering - Real Time Software Design - Design Models - Design Documentation

**Unit III**

Object Oriented Concepts: Fundamental Parts of Object Oriented Approach - Data Hiding and Class Hierarchy Creation - Relationships - Role of UML in OO Design - Design Patterns - Frameworks - Object Oriented Analysis - Object Oriented Design - User Interface Design: Concepts of User Interface - Elements of User Interface - Designing the User Interface - User Interface Evaluation - Golden Rules of User Interface Design - User Interface Models - Usability

**Semester III : Drama for Effective Communication**

William Shakespeare : *The Merchant of Venice*

**Textbook:**

Romagil. *The Merchant of Venice*. Delhi: Oxford UP, 1992.



## முன்றாம் பருவம் - தாள் - III

### காப்பியமும் நாடகமும்

#### பாட நோக்கம்

1. தமிழ்க் காப்பியங்களை அறிமுகப்படுத்துதல்.
2. காப்பியங்கள் கூறும் வாழ்வியல் அறங்கள் உணர்த்துதல்.
3. நாடக இலக்கியங்களின் இலக்கியச் சுவையைப் பயிற்றுவித்தல்
4. நாடக இலக்கியத்தின் தனித்துவத்தைக் கற்பித்தல்.
5. காலந்தோறும் நாடக இலக்கியம் தந்த சமூகப் பங்களிப்பை உணர்த்துதல்.

#### மாணவர் பெறும் திறன்

1. காப்பிய இலக்கியத்தின் சிறப்புகளை அறிவர்.
2. காப்பியக் கதைகள் வழி அறச்சிந்தனை பெறுவர்.
3. பல்வேறு காப்பிய வடிவங்களைப் பற்றிய அறிவு பெறுவர்.
4. நாடகப் படைப்பாக்கத்திற்கான தூண்டுதலைப் பெறுவர்.
5. தமிழ்ச் சமூக வளர்ச்சியோடு நாடகக்கலை தொடர்ந்து வரும் தன்மையை உணர்வர்.

#### அலகு - I

1. சிலப்பதிகாரம் - அடைக்கலக் காதை
2. மணிமேகலை - சிறைக்கோட்டம் அறக்கோட்டமாகிய காதை
3. சீவகசிந்தாமணி - விமலையார் இலம்பகம்

#### அலகு - II

4. கம்பராமாயணம் - குகப் படலம்
5. வில்லிபாரதம் - உலாகன் தூதுச் சருக்கம்

#### அலகு - III

6. பெரிய புராணம் - திருநாளைப்போவார் நாயனார் புராணம்
7. சீறாப்புராணம் - ஈத்தங்குலை வரவழைத்த படலம்
8. தேம்பவாணி - நீர் வரம் அடைந்த படலம்

#### அலகு - IV

நாடகம் : சாபம்?... விமோசனம்.  
மு. இராமசுவாமி, செண்பகம் இராமசுவாமி  
பாவை பிரிண்டர்ஸ் பி லிட்,  
ஜானிஜான்கான் சாலை, சென்னை. 14  
அலைபேசி : 94425 88495, 4437 78719

#### அலகு - V

#### இலக்கிய வரலாறு:

பக்தி இலக்கியங்கள்  
சிற்றிலக்கியங்கள்  
இரட்டைக் காப்பியங்கள்  
காப்பியங்கள்  
நாடக இலக்கியம்

## Unit IV

Software Coding - Introduction to Software Measurement and Metrics - Software Configuration - Project Management Introduction - Introduction to Software Testing - Software Maintenance

## Unit V

Web Engineering: Introduction to Web - General Web Characteristics - Web Application Categories - Working of Web Application - Advantages and Drawbacks of Web Applications - Web Engineering - Emerging Trends in Software Engineering - Web 2.0 - Rapid Delivery - Open Source Software Development - Security Engineering - Service Oriented Software Engineering - Web Service - Software as a Service - Service Oriented Architecture - Cloud Computing - Aspect Oriented Software Development - Test Driven Development - Social Computing

#### Textbook:

1. Software Engineering, Chandramouli Subramanian, Saikat Dutt, Chandramouli Seetharaman, B.G. Geetha, Pearson Publications, 2015

#### Reference Books:

1. Software Engineering, Jibitesh Mishra, Pearson Education, 2011

## **MAJOR BASED ELECTIVE - I (C)**

### **SOFTWARE TESTING**

**Objective:** *To understand the basics of Software Testing*

#### **Unit I**

Software Development Life Cycle models: Phases of Software project – Quality, Quality Assurance, Quality control – Testing, Verification and Validation – Process Model to represent Different Phases - Life Cycle models. White-Box Testing: Static Testing – Structural Testing – Challenges in White-Box Testing.

#### **Unit II**

Black-Box Testing: What is Black-Box Testing? - Why Black-Box Testing? – When to do Black-Box Testing? – How to do Black-Box Testing? – Challenges in White Box Testing -Integration Testing: Integration Testing as Type of Testing – Integration Testing as a Phase Testing – Scenario Testing – Defect Bash.

#### **Unit III**

System and Acceptance Testing: system Testing Overview – Why System testing is done? – Functional versus Non-functional Testing – Functional testing - Non-functional Testing – Acceptance Testing – Summary of Testing Phases.

#### **Unit IV**

Performance Testing: Factors governing Performance Testing – Methodology of Performance Testing – tools for Performance Testing – Process for Performance Testing – Challenges. Regression Testing: What is Regression Testing? – Types of Regression Testing – When to do Regression Testing – How to do Regression Testing – Best Practices in Regression Testing.

12. Mckinney, M.L. & Schoch R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition 639 p.
13. Mhaskar A.K. Matter Hazardous, Techno-Science Publications (TB)
14. Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB).
15. Odum, E.P. 1971 Fundamentals of Ecology. W.B. Saunders Co. USA. 574 p.
16. Rao MN & Datta, A.K. 1987 Waste Water treatment, Oxford & IBH Publication Co. Pvt Ltd 345 p.
17. Sharma B.K. 2001 Environmental chemistry Goel Publ House, Meerut.
18. Survey of the Environment, The Hindu (M ).
19. Townsend C. Harper, J and Michael Begon, Essentials of Ecology, Blackwell science (TB)
20. Trivedi R.K. Handbook of Environmental Laws, Rules, Guidelines, Compliances and Standards, Vol. I and II, Enviro Media (R).
21. Trivedi R.K. and P.K. Goel, Introduction to air pollution, Techno-Science Publications (TB).
22. Wagner K.D. 1998 Environmental Management. W.B. Saunders Co. Philadelphia USA 499 p (M) Magazine (R) Reference (TB) Textbook.
23. <http://nbaindia.org/uploaded/Biodiversityindia/Legal/33%20Biological%20Diversity%20Rules,%202004.pdf>.

**Unit: 7 Human Population and the Environment**

- Population growth, variation among nations.
- Population explosion – Family Welfare Programmes
- Environment and human health
- Human Rights - Value Education
- HIV/ AIDS - Women and Child Welfare
- Role of Information Technology in Environment and human health
- Case studies.

**Unit: 8 Field Work**

- Visit to a local area to document environmental assets-river / forest / grassland/ hill / mountain.

**References:**

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Public Ltd Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt Ltd, Ahmedabad – 380013, India, E-mail: mapin@icenet.net(R)
3. Brunner R.C. 1989, Hazardous Waste Incineration, McGraw Hill Inc 480 p.
4. Clark R.S. Marine Pollution, Clarendon Press Oxford (TB)
5. Cunningham, W.P.Cooper, T.H.Gorhani E & Hepworth, M.T. 2001.
6. De A.K. Environmental Chemistry, Wiley Eastern Ltd
7. Down to Earth, Centre for Science and Environment (R)
8. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford University, Press 473p.
9. Hawkins, R.E. Encyclopedia of India Natural History, Bombay Natural History Society, Bombay (R).
10. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment. Cambridge University Press 1140 p.
11. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws Himalaya Pub. House, Delhi 284 p.

**Unit V**

Test Planning, Management, Execution and Reporting: Test Planning – Test Management – Test Process – Test Reporting –Best Practices. Test Metrics and Measurements: Project Metrics – Progress Metrics – Productivity Metrics – Release Metrics.

**Text Book**

1. Software Testing Principles and Practices – Srinivasan Desikan & Gopalswamy Ramesh, Pearson Education, 2014.

**Reference Book**

1. Foundations of Software Testing, Aditya P. Mathur, Pearson Education, 2013.

**SKILL BASED ELECTIVE - II (SEMESTER V)****COREL DRAW****Unit I**

CorelDraw Basics.

**Unit II**

Drawing and Selecting.

**Unit III**

Working with Text.

**Unit IV**

Working with Images.

**Unit V**

Page Layout and Background.

**Text Book**

DTP Course Kit, Vikas Gupta, Dreamtech Press, 2009.

- e. Noise pollution
- f. Thermal Pollution
- g. Nuclear hazards
  - Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
  - Role of an individual in prevention of pollution
  - Pollution case studies
  - Disaster management: floods, earthquake, cyclone and landslides.
  - Ill-Effects of Fireworks: Firework and Celebrations, Health Hazards, Types of Fire, Firework and Safety

(8 lectures)

**Unit: 6 Social Issues and the Environment**

- From Unsustainable to Sustainable development.
- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people; its problems and concerns.

Case studies

- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and Control of Pollution) Act.
- Wildlife Protection Act.
- Forest Conservation Act.
- Issues involved in enforcement of environmental legislation
- Public awareness.

(7 lectures)

- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession.
- Food chains, food webs and ecological pyramids
- Introduction, types, characteristic features, structure and function of the following ecosystem:-
  - a. Forest ecosystem
  - b. Grassland ecosystem
  - c. Desert ecosystem
  - d. Aquatic ecosystems, (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lectures)

**Unit: 4 Biodiversity and its conservation**

- Introduction – Definition : Genetic, species and ecosystem diversity
- Biogeographical classification of India
- Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values
- Biodiversity at global, National and local levels
- India as a mega-diversity nation
- Hot-spots of biodiversity
- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Biological Diversity Act 2002/ BD Rules, 2004

(8 lectures)

**Unit: 5 Environmental Pollution**

Definition

Causes, effects and control measures of :

- a. Air Pollution
- b. Water Pollution
- c. Soil Pollution
- d. Marine Pollution

**SKILL BASED ELECTIVE - III (SEMESTER V)****DREAM WEAVER****Unit I**

Introduction to Dreamweaver CS4, Working with Dreamweaver Websites.

**Unit II**

Working with Web Pages, Working with HTML Tables, Framesets and Frames.

**Unit III**

Introduction to Cascading Style Sheets.

**Unit IV**

Working with Templates, Working with Flash Contents and HTML Forms.

**Unit V**

Working with JavaScript, Finalizing the Site.

**Text Book**

Dreamweaver CS4 in Simple Steps, Kogent Learning Solutions Inc., Dreamtech Press, 2010.

## SOFT SKILLS DEVELOPMENT

### Learning Objectives

Today's world is all about relationship, communication and presenting oneself, one's ideas and the company in the most positive and impactful way. This course intends to enable students to achieve excellence in both personal and professional life.

#### Unit I

Know Thyself / Understanding Self

Introduction to Soft skills – Self discovery – Developing positive attitude – Improving perceptions – Forming values.

#### Unit II

Interpersonal Skills / Understanding Others

Developing interpersonal relationship – Team building – group dynamics – Networking – Improved work relationship.

#### Unit III

Communication skills / Communication with others

Art of listening – Art of reading – Art of speaking – Art of writing – Art of writing e-mails – e-mail etiquette.

#### Unit IV

Corporate Skills / Working with Others

Developing body language – Practising etiquette and mannerism – Time management – Stress management.

#### Unit V

Selling Self / Job Hunting

Writing resume / cv – interview skills – Group discussion – Mock interview – Mock GD – Goal setting – Career planning.

## ENVIRONMENTAL STUDIES

(Applicable to the candidates admitted from the Academic year 2019-20 onwards)

- Unit: 1** The Multidisciplinary nature of environmental studies  
Definition, scope and importance. (2 lectures)  
Need for public awareness
- Unit: 2** Natural Resources:  
Renewable and non-renewable resources:  
Natural resources and associated problems.
- Forest resources: use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
  - Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems.
  - Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
  - Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
  - Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
  - Land resources: Land as a resources, land degradation, man induced Landslides, soil erosion and desertification.
    - Role of an individual in conservation of natural resources.
    - Equitable use of resources for sustainable lifestyles.
 (8 lectures)
- Unit: 3** **Ecosystems**
- Concept of an ecosystem.
  - Structure and function of an ecosystem.

## **ALLIED COURSE - III**

### **OPERATIONS RESEARCH**

#### **Objectives:**

1. *To train the students to solve assignment problems, transportation problems*
2. *To train the students in network problems.*

#### **UNIT I**

Operations Research: Introduction - Basics of OR –OR & decision making – Role of Computers in OR - Linear programming formulations & graphical solution of two variables –Canonical & standard forms of LPP.

#### **UNIT II**

Simplex Method: Simplex Method for  $<$ ,  $=$ ,  $>$  constraints – Charne's method of penalties–Two phase Simplex method.

#### **UNIT III**

Transportation problem: Transportation algorithm –Degeneracy algorithm – Degeneracy in Transportation Problem, Unbalanced transportation problem - Assignment algorithm –Unbalanced Assignment problem.

#### **UNIT IV**

Sequencing problem: Processing of  $n$  jobs through two machines –Processing of  $n$  jobs through 3 machines –processing of two jobs through  $m$  machines.

#### **UNIT V**

Networks: Network – Fulkerson's-measureruleofactivity – PERT computation – CPM computation - Resource scheduling.

#### **TEXT BOOK(S)**

1. Manmohan & Gupta, Operations Research, Sultan Chand Publishers, New Delhi

#### **REFERENCE(S)**

1. Prem Kumar Gupta and D.S. Hira, Operations Research: An Introduction, S. Chand and Co., Ltd. New Delhi.
2. Hamdy A. Taha, Operations Research (7<sup>th</sup> Edn.), McMillan Publishing Company, New Delhi, 1982.

#### **Text Books**

Meena. K and V. Ayothi (2013) A Book on Development of Soft Skills (Soft Skills: A Road Map to Success), P.R. Publishers & Distributors, No. B-20 & 21, V.M.M. Complex, Chatiram Bus Stand, Tiruchirappalli-620 002.

(Phone No: 0431-2702824; Mobile No: 94433 70597, 98430 74472)

Alex K. (2012) Soft Skills – Know Yourself & Know the World, S. Chand & Company Ltd., Ram Nagar, New Delhi-110 055.

Mobile No: 94425 14814 (Dr. K. Alex

#### **Reference Books**

- (i) Developing the leader within you John C Maxwell.
- (ii) Good to Great by Jim Collins.
- (iii) The seven habits of highly effective people Stephen Covey.
- (iv) Emotional Intelligence Daniel Goleman.
- (v) You can win Shive Khera.
- (vi) Principle centred leadership Stephen Covey.

## CORE COURSE - VIII

### COMPUTER NETWORKS

**Objective:** *To understand the Design and Organization of Computer Networks.*

#### Unit I

Overview and Physical Layer: Introduction: Data Communications - Networks - Network Types, Network Models: TCP/IP Protocol Suite- The OSI Model, Bandwidth utilization: Multiplexing- Spread Spectrum, Transmission Media: Guided Media-Unguided Media, Switching: Circuit Switched Network-Packet Switching-Structure of a switch

#### Unit II

DataLinkLayer: Error Deduction and Correction: Introduction- Cyclic codes-Forward error correction, Data link Control: Datalink layer protocols-Media Access Control: Random Access- Controlled Access, Wireless Networks: IEEE 802.11- Bluetooth-Cellular Telephone- Satellite network-Connection devices,

#### Unit III

Network Layer Services: Packet Switching - Network layer performance-IPV4 Addresses- Internet Protocol-Routing Algorithms - IPV6 Addressing

#### Unit IV

Transport Layer: Transport Layer Protocols – User Datagram Protocol - TCP: TCP Services TCP features - Windows in TCP - Flow Control - Error Control- TCP Congestion Control - TCP timers

#### Unit V

Application Layers: Client Server Programming - Word Wide Web & HTTP – FTP - Email - DNS

#### Text Book:

1. Data Communications and Networking, Behrouz A Forouzan, Tata McGraw Hill, Fifth Edition, 2013.

#### Reference Book:

1. Data Communications and Networks, Achyut Godbole and Atul Kahate, McGraw Hill Education, 2011.

## ALLIED COURSE - II

### NUMERICAL ANALYSIS AND STATISTICS

#### Objectives:

3. To train the students in the numerical problems
4. To train the students in solving statistical problems

#### UNIT I

Algebraic & Transcendental equations: Bisection Method, Newton Raphson Method, Iteration method - Finite differences – Forward, Backward differences – Newton's forward & backward difference interpolation of polynomial.

#### UNIT II

Numerical differentiation - Numerical Integration using Trapezoidal rule and Simpson's second first rules (proof & not needed) - Solutions to Linear Systems – Gaussian Elimination Method – Jacobi & Gauss Seidel iterative methods – Theory and problems.

#### UNIT III

Numerical solution of ODE: Solution by Taylor Runge - Kutta 2<sup>nd</sup> order method- Adam's Predictor Corrector Method Predictor Corrector Methods.

#### UNIT IV

Arithmetic Mean – Geometric Mean – Harmonic Mean - Median, Mode, Standard Deviation - Quartile Deviation – Percentiles - Expectation – Variance and covariance.

#### UNIT V

Correlation and Regression – Properties of Simple Correlation and regression coefficients – Simple Numerical Problems only.

#### TEXT BOOK(S)

3. S.S. Sastry, Numerical Analysis (Unit 1, 2, 3)
4. Gupta. S.C. & Kapoor, V.K., Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi -1994. (Units 4 & 5)

#### REFERENCE(S)

3. M.K. Jain, S.R.K. Iyengar and R.K. Jain, Numerical Methods for Scientific and Engineering Computation, New Age International Private Limited, 1999.
4. C.E. Froberg, Introduction to Numerical Analysis, II Edn., Addison Wesley, 1979.



**7. Files**

Prepare Students Mark List in a file with Student Number, Mark in four subjects and Mark Total. Write a program to arrange these records in the ascending order of Mark Total and write them in the same file overwriting the earlier records.

**8. Exception Handling**

Prepare Electricity Bill for customers generating and handling any two Exceptions.

**CORE COURSE - IX**  
**PROGRAMMING IN PHP**

**Objective:** *To understand the Concepts of PHP and Ajax.*

**Unit I**

Essentials of PHP - Operators and Flow Control - Strings and Arrays.

**Unit II**

Creating Functions - Reading Data in Web Pages - PHP Browser – Handling Power.

**Unit III**

Object-Oriented Programming –Advanced Object-Oriented Programming .

**Unit IV**

File Handling –Working with Databases – Sessions, Cookies, and FTP

**Unit V**

Ajax – Advanced Ajax – Drawing Images on the Server.

**Text Book:**

1. The PHP Complete Reference, Steven Holzner, McGraw Hill Education, 2007.

**Reference Books:**

1. PHP: A. Beginner's Guide, Vikram Vaswani, McGraw Hill Education, 2008.

## CORE PRACTICAL - VI PROGRAMMING IN PHP (P)

**Objective:** *To Impart Practical Training in PHP Programming Language*

1. Write a program to find the factorial of a number.
2. Write a program using Conditional Statements.
3. Write a program to find the maximum value in a given multi dimensional array.
4. Write a program to find the GCD of two numbers using user-defined functions.
5. Design a simple web page to generate multiplication table for a given number.
6. Design a web page that should compute one's age on a given date.
7. Write a program to download a file from the server.
8. Write a program to store the current date and time in a COOKIE and display the 'Last Visited' date and time on the web page.
9. Write a program to store page views count in SESSION, to increment the count on each refresh and to show the count on web page.
10. Write a program to draw the human face.
11. Write a program to design a simple calculator.
12. Design an authentication web page in PHP with MySQL to check username and password.

## CORE PRACTICAL - II PROGRAMMING IN C++ (P)

**Objective:** *To Impart Practical Training in C++ Programming Language*

### 1. Classes

Write a Program using a class to represent a Bank Account with Data Members – Name of depositor, Account Number, Type of Account and Balance and Member Functions – Deposit Amount – Withdrawal Amount. Show name and balance. Check the program with own data.

### 2. Constructor & Destructor

Write a program to read an integer and find the sum of all the digits until it reduces to a single digit using constructor, destructor and default constructor.

### 3. Default & Reference Argument

Write a program using function overloading to read two matrices of different data types such as integers and floating point numbers. Find out the sum of the above matrices separately and display the total sum of these arrays individually.

### 4. Operator Overloading

- a. Addition of Two Complex Numbers.
- b. Matrix Multiplication

### 5. Inheritance

Prepare Pay Roll of an employee using Inheritance.

### 6. Pointers

- a. Write a Program to find the number of vowels in a given text
- b. Write a Program to check for Palindrome

## **CORE COURSE - II**

### **PROGRAMMING IN C++**

**Objective:** *To impart basic knowledge of Programming Skills in C++ language.*

#### **Unit I**

Principles of Object - Oriented Programming – Beginning with C++ - Tokens, Expressions and Control Structures – Functions in C++

#### **Unit II**

Classes and Objects – Constructors and Destructors – New Operator – Operator Overloading and Type Conversions.

#### **Unit III**

Inheritance: Extending Classes – Pointers- Virtual Functions and Polymorphism

#### **Unit IV**

Managing Console I/O Operations – Working with Files – Templates – Exception Handling

#### **Unit V**

Standard Template Library – Manipulating Strings – Object Oriented Systems Development

#### **Text Book**

1. Balagursamy E, Object Oriented Programming with C++, Tata McGraw Hill Publications, Sixth Edition, 2013.

#### **Reference Books**

1. Ashok Kamthane, Programming in C++, Pearson Education, 2013.

## **MAJOR BASED ELECTIVE - II(A)**

### **CLOUD COMPUTING**

**Objective:** *To understand the concepts in Cloud Computing and its Security*

#### **Unit I**

Cloud Computing Foundation : Introduction to Cloud Computing – Move to Cloud Computing – Types of Cloud – Working of Cloud Computing

#### **Unit II**

Cloud Computing Architecture: Cloud Computing Technology – Cloud Architecture – Cloud Modeling and Design - Virtualization: Foundation – Grid, Cloud and Virtualization – Virtualization and Cloud Computing

#### **Unit III**

Data Storage and Cloud Computing: Data Storage – Cloud Storage – Cloud Storage from LANs to WANs – Cloud Computing Services: Cloud Services – Cloud Computing at Work

#### **Unit IV**

Cloud Computing and Security: Risks in Cloud Computing – Data Security in Cloud – Cloud Security Services – Cloud Computing Tools : Tools and Technologies for Cloud – Cloud Mashaps – Apache Hadoop – Cloud Tools

#### **Unit V**

Cloud Applications – Moving Applications to the Cloud – Microsoft Cloud Services – Google Cloud Applications – Amazon Cloud Services – Cloud Applications

#### **Text Book**

1. Cloud Computing – A Practical Approach for Learning and Implementation, A.Srinivasan and J.Suresh, Pearson India Publications, 2014.

#### **Reference Book**

1. Cloud Computing: Principles and Paradigms, edited by Rajkumar Buyya, James Broberg, Andrzej, Wiley India Publications, 2011.

**MAJOR BASED ELECTIVE - II(B)**  
**BUSINESS PROCESS OUTSOURCING**

**Objective:** *To provide the Knowledge about the working environment of Business Process Outsourcing Industry*

**UNIT I**

Search For Competitiveness - Need For Outsourcing - BPOs: Beyond Call Centres

**UNIT II**

Transition Management - BPO Business Models - BPO Governance

**UNIT III**

Legal Issues in BPO Contracts – BPO - Regulatory Issues - Service Supplier Selection

**UNIT IV**

Service Level Agreement - BPO Legal Contract - BPO to KPO: Up In The Value Chain

**UNIT V**

HR Challenges in BPO Industry - Performance Evaluation In BPO – BPO - Prerequisites And Precautions - Service Quality Issues in BPO

**Text Book**

1. Business Process Outsourcing: A Supply Chain of Expertises, Vinod V. Sople, Prentice Hall of India, 2011.

**Reference Book:**

1. Business Process Outsourcing, Sarika Kulkarni, Jaico Publishing House, Delhi 2005.

**Semester II : Poetry for Effective Communication**

**Unit – I**

William Shakespeare : “All the World’s a Stage”  
Robert Frost : “Road Not Taken”

**Unit – II**

P.B. Shelley : “Ode to the West Wind”  
John Keats : “La Belle Dame sans Merci”

**Unit – III**

Alfred Tennyson : “Ulysses”  
Robert Browning : “My Last Duchess”

**Unit – IV**

W.B. Yeats : “A Prayer for My Daughter”  
T.S. Eliot : “Journey of the Magi”

**Unit – V**

W.H. Auden : “The Unknown Citizen”  
Nissim Ezekiel : “Night of the Scorpion”

**Textbook:**

Ambiga, Sen Gupta, ed. *Selected College Poems*. Chennai: Orient BlackSwan, 2009.

1. பலபட்டடைச் சொக்கநாதப்புலவர்-1  
பாடல்:படிக்காசுப் புலவர்பாடல் சிறப்பு

#### அலகு- IV

##### புதினம்

1. ஆத்தங்கரைஓரம் - வெ.இறையன்பு, இ.ஆ.ப. நியூ செஞ்சரிபுக் ஹவுஸ்  
(பி) லிமிடெட் 41B, சிட்கோதொழிற்பேட்டை அம்பத்தூர், சென்னை - 600 098  
விலை ரூ.80/-

#### அலகு- V

##### தமிழ்ச் செம்மொழி வரலாறு

மொழிவிளக்கம் - மொழிக் குடும்பங்கள் - உலகச் செம்மொழிகள் -  
இந்தியச் செம்மொழிகள் - செம்மொழித் தகுதிகள் - வரையறைகள் -  
வாழும் தமிழ்ச் செம்மொழி - தமிழின் தொன்மை - தமிழின் சிறப்புகள் -  
தமிழ்ச் செம்மொழி நூல்கள் - பரிதிமாற் கலைஞர் அவர்கள் முதல்  
பல்வேறு அறிஞர்கள் அமைப்புகள் - நிறுவனங்கள் - இயக்கங்கள்  
ஆகியவற்றின் தொடர்முயற்சிகள் - அறப்போராட்டங்கள்- தமிழ்ச் செம்மொழி  
அறிந்தேற்பு.

##### மொழிபெயர்ப்பியல்

##### பார்வை நூல்கள்:

1. உலகச்செவ்வியல் மொழிகளின் வரிசையில் தமிழ்-  
வா.செ.குழந்தைசாமி
2. செம்மொழிகள் வரிசையில் தமிழ் - ஜி.ஜான் சாமுவேல்
3. செம்மொழி - உள்ளும் புறமும், மணவை முஸ்தபா “அறிவியல்  
தமிழ் அறக்கட்டளை”, சென்னை.
4. சாலினி இளந்திரையன், தமிழ் செம்மொழி ஆவணம், மணிவாசகர்  
பதிப்பகம், சென்னை.
5. தமிழ்ச் செம்மொழி வரலாறு, முனைவர் மு. சாதிக்பாட்சா, ராஜா  
பப்ளிகேஷன்ஸ், திருச்சி.23

##### இணைய முகவரிகள்:

1. www.tamilheritage.org
2. www.thehistoryofsrivaishnavam.weebly.com
3. www.sivasiva.dk
4. www.shaivam.org
5. www.periyapuraana.minhinduism.blogspot.com
6. www.thevaram.org
7. www.ta.wikipedia.org/wiki/

## MAJOR BASED ELECTIVE - II(C)

### MOBILE COMPUTING

**Objective:** *To understand the Architectures, Synchronization Process and Operating Systems in Mobile Computing*

#### Unit I

Mobile Communications - An Overview: Mobile Computing - Mobile Computing Architecture - Mobile Devices - Mobile System Networks - Data Dissemination - Mobility Management - Security

#### Unit II

Mobile Devices and Systems: Mobile Phones - Digital Music Players - Handheld Pocket Computers - Handheld Devices with Operating Systems - Smart Systems - Limitations of Mobile Devices - Automotive Systems

#### Unit III

GSM and Similar Architectures : GSM Services and System Architecture - Radio Interfaces - Protocols - Localization - Calling - Handover - Security - New Data Devices - General Packet Radio Service - High Speed Circuit Switched Data

#### Unit IV

Data Synchronization in Mobile Computing Systems : Synchronization - Synchronization Software for Mobile Devices - Synchronization Protocols - Mobile Devices Server and Management: Mobile Agent - Application Server - Gateways - Portals - Service Discovery - Device Management - Mobile File Systems – Security

#### Unit V

Mobile Operating Systems: Operating System - Palm OS - Windows CE - Symbian OS - Linux for Mobile Devices

#### Text Book:

1. Mobile Computing, Rajkamal, Oxford University Press, 2011.

#### Reference Book:

1. Mobile Computing, Kumkum Garg, Pearson Education, 2010.

## MAJOR BASED ELECTIVE - III(A) MINI PROJECT

Students to do Mini Project in their respective Colleges. The **objective** of the Mini Project is to enable the students to work in convenient groups of not more than Four members on a project with a Latest Software.

## இரண்டாம் பருவம் - தாள் - II இடைக்கால இலக்கியமும் புதினமும்

### பாடநோக்கம்

- 1 சமய இலக்கியத் தோற்றத்திற்கான வரலாற்றுப் பின்புலத்தை அறிவித்தல்
- 2 தமிழ் சைவ, வைணவ இலக்கியங்களை அறிமுகப்படுத்தல்
- 3 தமிழ் மொழியின் செம்மொழிப் பண்புகளை அறியச் செய்தல்
- 4 தமிழ்ச் சிற்றிலக்கியங்களின் இலக்கியச் சிறப்பைக் கற்பித்தல்

### மாணவர் பெறும் திறன்

1. தமிழ்ப் பக்தி இலக்கியங்கள் பற்றி அறிவர்
2. நாயன்மார், ஆழ்வார்களின் பக்தியில் விளைந்த கவிச்சுவை உணர்வர்
3. சிற்றிலக்கியங்களின் இலக்கியச் சுவையையும் கட்டமைப்பையும் அறிவர்
4. தமிழ்மொழி, செம்மொழி என்பதையும் அதன் பண்புகளையும் அறிவர்.

### அலகு- I

#### பன்னிரு திருமுறைகள்

1. திருநாவுக்கரசர் தேவாரம் - திருப்பூந்துருத்தி (திருஅங்கமாலை)
2. சுந்தரர்தேவாரம் - திருவையாற்றுப் பதிகம்
3. மாணிக்கவாசகர் திருவாசகம் - சிவபுராணம்
4. திருமூலர்திருமந்திரம் - இளமைநிலையாமை

### அலகு- II

#### நாலாயிரதிவ்வியப் பிரபந்தம்

1. பெரியாழ்வார் திருமொழி - நற்றாய் புலம்பல்
2. தொண்டரடிப் பொடியாழ்வார் - திருமாலை
3. திருப்பாணாழ்வார் - அமலன் ஆதிபிரான்
4. மதுரகவியாழ்வார் - கண்ணிநுண்சிறுத்தாம்பு

### அலகு- III

அ) முத்துக்குமாரசுவாமிபிள்ளைத்தமிழ் : 2 பாடல்கள்

1. செங்கீரைப் பருவம் - பாடல் 8 - விரல்குவைஉண்டு
2. அம்புலிப் பருவம் - பாடல் 6 - ஒழியாதபுவனத்து

ஆ) நந்திக்கலம்பகம் : 5 பாடல்கள்

1. வாடைநோக
2. உரைவரம்பு
3. மயில்கண்டால்
4. சூழிவன்
5. கோலக்கொடி

இ) தமிழ்விடுதாது : 17முதல் 46வரை - 30 கண்ணிகள்

ஈ) குற்றாலக் குறவஞ்சி : குறத்திமலைவளம் கூறல்-3 பாடல்கள்

1. வானரங்கள்
2. முழங்கு
3. ஆடும் இரவு

உ) கலிங்கத்துப் பரணி-களம் பாடியது - 4 பாடல்கள்

1. ஆடல்
2. நெருங்கு
3. வாய்மடித்து
4. தரையகளும்

ஊ) தனிப்பாடல்கள் : 5 பாடல்கள்

1. காளமேகப் புலவர் - 3 பாடல்கள்

1. கத்துகடல்
2. பூநக்கி
3. பண்பு

2. ஓளவையார்- 1 பாடல் : மதியாதார்முற்றம்

**BOOKS FOR REFERENCES:**

1. Thirukkural with English Translation of Rev. Dr. G.U. Pope, Uma Publication, 156, Serfoji Nagar, Medical College Road, Thanjavur 613 004.
2. திருக்குறள் - ஜி.யு.போப் - ஆங்கில மொழியாக்கத்துடன் உடமா நூல். வெளியீட்டகம், தஞ்சாவூர்.
3. Leah Levin, Human Rights, NBT, 1998
4. V.R. Krishna Iyer, Dialectics and Dynamics of Human Rights in India, Tagore Law Lectures.
5. Yogic Therapy - Swami Kuvalayananda and Dr.S.L.Vinekar, Government of India, Ministry of Health, New Delhi.
6. SOUND HEALTH THROUGH YOGA - Dr.K.Chandrasekaran, Prem Kalyan Publications, Sedappti, 1999.
7. Right to Information Act, 2005-  
Website:[www.tnpsc.gov.in/RTI%20ACT%202005.pdf](http://www.tnpsc.gov.in/RTI%20ACT%202005.pdf)
8. The Consumer Protection Act, 1986 –  
Website:[http://ncdrc.nic.in/bare\\_acts/consumer%20Protection%20Act-1986.html](http://ncdrc.nic.in/bare_acts/consumer%20Protection%20Act-1986.html)

**MAJOR BASED ELECTIVE - III(B)****LINUX (P)**

**Objective:** *To Impart Practical Training in Linux Operating System*

**Write Shell Programs for the following using the Linux Operating System**

1. Check whether the given number is prime or not.
2. Find the biggest of given two numbers
3. Write a program to check the given number is odd or even
4. Write a program to generate Fibonacci Series
5. Write a program to prepare electric bill for domestic consumers.  
For first 100 units - Rs.0.75/ unit For next 100 units - Rs.1.50/unit  
Above 200 units - Rs.3.00/unit.

Prepare the bill for the following format:

Customer No. -----  
Customer Name -----  
Pre. Reading-----  
Cur. Reading-----  
Units Consumed -----  
Charge-----

Signature

6. Write a program to display the result PASS or FAIL using the information given below:  
Student Name, Student Reg. No. Mark1, Mark2, Mark3, Mark 4.  
The minimum pass for each subject is 50.
7. Write a program to prepare a Payroll with Basic Pay, DA, Allowances, PF and Gross Pay.
8. Using Case Statement, write a program to check the files ending with vowels.
9. Write a single program to sort the names and numbers in alphabetical, ascending and descending order.
10. Write a menu driven program to print Bio-data for five persons.

## MAJOR BASED ELECTIVE - III(C)

### DOT NET (P)

**Objective:** *To Impart Practical Training in Dot Net Programming Language*

1. Design ASP.Net web form using Html Server Controls to enter job seeker's details.
2. Create an ASP.Net web form using Web control to enter E-Mail registration form.
3. Apply appropriate validation techniques in E-Mail registration form using validation controls.
4. Write an ASP.Net application to retrieve form data and display it the client browser in a table format.
5. Create a web application using ADO.Net that uses which performs basic data manipulations:
  - (i). Insertion (ii) Updating (iii) Deletion (iv) Selection
 Hint: Do operations using Ms-Access and SQL-Server
6. Create an application using Data grid control to access information's from table in SQL server.
7. Create an application using Data list control to access information's from table in SQL server and display the result in neat format.

**Case Studies (Must include basic database operations such as Insertion, Deletion, Modication, Selection and Searching)**

8. Job Search Portal.
9. College Portal.
10. Company Portal.

## PART IV - VALUE EDUCATION

### Unit I : Philosophy of Life and Social Values

Human Life on Earth (Kural 629) Purpose of Life (Kural 46) Meaning and Philosophy of Life (Kural 131, 226) Family (Kural 45), Peace in Family (Kural 1025) Society (Kural 446), The Law of Life (Kural 952), Brotherhood (Kural 807) Five responsibilities / duties of Man (a) to himself (b) to his family (c) to his environment (d) to his society, (e) to the Universe in his lives (Kural 43, 981).

### Unit II : Human Rights and Organizations

Definitions, Nature of Human Rights. Universal Declaration of Human Rights, International covenant on Civil and Political Rights - International covenant of Economic, Social and Cultural Rights. Amnesty International Red Cross.

Contemporary Challenges: Child Labour – Women's Right - Bonded Labour - Problems of refugees - Capital punishment. National and State Human Rights Commissions

### Unit III : RTI Act, 2005 & Consumer Protection Act, 1986

Definition of RTI Act, 2005 and obligations of Public Authorities – The Central Information Commission – The State Information Commission – Powers and Functions of the Information Commissions – Appeal and Penalties.

Definition of The Consumer Protection Act, 1986 – State and Central Consumer Protection Councils – Consumer Disputes Redressal Agencies.

### Unit IV : Yoga and Health

Definition, Meaning, Scope of Yoga - Aims and objectives of Yoga - Yoga Education with modern context - Different traditions and schools of Yoga - Yoga practices: Asanas, Pranayama and Meditation.

### Unit V : Role of State Public Service Commission

Constitutional provisions and formation - Powers and Functions - Methods of recruitment -Rules and notification, syllabi for different exams - written and oral - placement.



## UNIT 5: CRITICAL THINKING SKILLS

**Listening** : Listening comprehension- Listening for information.

**Speaking** : Making presentations (with PPT - practice).

**Reading** : Comprehension passages – Note making.

Comprehension: Motivational article on Professional Competence, Professional Ethics and Life Skills)

**Writing** : Problem and Solution essay - Creative writing – Summary writing

**Vocabulary**: Register specific - Incorporated into the LSRW tasks.

## GENDER STUDIES

### Objectives

- *To make boys and girls aware of each others strengths and weakness.*
- *To develop sensitivity towards both genders in order to lead an ethically enriched life.*
- *To promote attitudinal change towards a gender balanced ambience and women empowerment.*

### Unit – I

Concepts of Gender: Sex – Gender – Biological Determinism – Patriarchy – Feminism – Gender Discrimination – Gender Division of labour – Gender Stereotyping – Gender Sensitivity – Gender Equity – Equality – Gender Mainstreaming – Empowerment.

### Unit – II

Women’s Studies vs Gender Studies: UGC’s Guidelines – VII to XI Plans – Gender Studies: Beijing Conference and CEDAW – Exclusiveness and Inclusiveness.

### Unit – III

Areas of Gender Discrimination: Family – Sex Ratio – Literacy – Health – Governance – Religion Work vs. Employment – Market – Media – Politics – Law – Domestic Violence – Sexual harassment – State Policies and Planning.

### Unit – IV

Women Development and Gender Empowerment: Initiatives – International Women’s Decade – International Women’s year – National Policy for Empowerment of Women – Women Empowerment year 2001 – mainstreaming Global Policies.

### Unit – V

Women’s Movements and Safeguarding Mechanism: In India National / State Commission for Women (NCW) – All Women Police Station – Family Court – Domestic Violence Act – Prevention of Sexual Harassment at Work Place Supreme Court Guidelines – Maternity Benefit Act – PNDT Act – Hindu Succession Act 2005 – Eve Teasing Prevention Act – Self Help Groups – 73<sup>rd</sup> and 74<sup>th</sup> Amendment for PRIS 2.

## References

1. Bhasin Kamala, Understanding Gender: Gender Basics, New Delhi: Women Unlimited, 2004.
2. Bhasin Kamala, Exploring Masculinity: Gender Basics , New Delhi: Women Unlimited, 2004.
3. Bhasin Kamala, What is Patriarchy?: Gender Basics, New Delhi: Women Unlimited, 1993.
4. Pernau Margrit, Ahmad Imtiaz, Reifeld Hermut (ed.,) Family and Gender: Changing Values in Germany and India, New Delhi: Sage Publications, 2003.
5. Agarwal Bina, Humphries Jane and Robeyns Ingrid (ed.,) Capabilities, Freedom, and Equality: Amartya Sen's Work from a Gender Perspective, New Delhi: Oxford University Press, 2006.
6. Rajadurai. S.V, Geetha. V, Themes in Caste Gender and Religion, Tiruchirappalli: Bharathidasan University, 2007.
7. Misra Geetanjali, Chandiramani Radhika (ed.,) Sexuality, Gender and Rights: Exploring Theory and Practice in South and Southeast Asia, New Delhi: Sage Publication, 2005.
8. Rao Anupama (ed.,) Gender & Caste: Issues in Contemporary Indian Feminism, New Delhi: Kali for Women, 2003.
9. Saha Chandana, Gender Equity and Gender Equality: Study of Girl Child in Rajasthan, Jaipur: Rawat Publication, 2003.
10. Krishna Sumi (ed.,), Livelihood and Gender: Equity in Community Resource Management, New Delhi: Sage Publication, 2004.
11. Pludi. A Michele (ed.,) Praeger Guide to the Psychology of Gender, London: Praeger Publisher, 2004.
12. Wharton. S Amy, The Sociology of Gender: An Introduction to Theory and Research, USA: Blackwell Publishing, 2005.
13. Mohanty Manoranjan (ed.,) Class, Caste, Gender: Readings in Indian Government and Politics – 5, New Delhi: Sage Publications, 2004.
14. Arya Sadhna Women, Gender Equality and the State, New Delhi: Deep & Deep Publication, 2000.

## PROFESSIONAL ENGLISH

### UNIT 1: COMMUNICATION

**Listening** : Listening to audio text and answering questions -  
Listening to Instructions

**Speaking** : Pair work and small group work.

**Reading** : Comprehension passages - Differentiate between facts and opinion

**Writing** : Developing a story with pictures.

**Vocabulary**: Register specific - Incorporated into the LSRW tasks

### UNIT 2: DESCRIPTION

**Listening** : Listening to process description. - Drawing a flow chart.

**Speaking** : Role play (formal context)

**Reading** : Skimming/Scanning-

**Reading** : Passages on products, equipment and gadgets.

**Writing** : Process Description - Compare and Contrast  
Paragraph-Sentence Definition and Extended definition-  
Free Writing.

**Vocabulary**: Register specific - Incorporated into the LSRW tasks.

### UNIT 3: NEGOTIATION STRATEGIES

**Listening** : Listening to interviews of specialists / Inventors in fields  
(Subject specific)

**Speaking** : Brainstorming.(Mind mapping).  
Small group discussions (Subject - Specific)

**Reading** : Longer Reading text.

**Writing** : Essay Writing (250 words)

**Vocabulary**: Register specific - Incorporated into the LSRW tasks

### UNIT 4: PRESENTATION SKILLS

**Listening** : Listening to lectures.

**Speaking** : Short talks.

**Reading** : Reading Comprehension passages

**Writing** : Writing Recommendations  
Interpreting Visuals inputs

**Vocabulary**: Register specific - Incorporated into the LSRW tasks

## ALLIED COURSE - II

### NUMERICAL ANALYSIS AND STATISTICS

#### Objectives:

1. To train the students in the numerical problems
2. To train the students in solving statistical problems

#### UNIT I

Algebraic & Transcendental equations: Bisection Method, Newton Raphson Method, Iteration method - Finite differences – Forward, Backward differences – Newton's forward & backward difference interpolation of polynomial.

#### UNIT II

Numerical differentiation - Numerical Integration using Trapezoidal rule and Simpson's second first rules (proof & not needed) - Solutions to Linear Systems – Gaussian Elimination Method – Jacobi & Gauss Seidel iterative methods – Theory and problems.

#### UNIT III

Numerical solution of ODE: Solution by Taylor Runge - Kutta 2<sup>nd</sup> order method- Adam's Predictor Corrector Met Predictor Corrector Methods.

#### UNIT IV

Arithmetic Mean – Geometric Mean – Harmonic Mean - Median, Mode, Standard Deviation - Quartile Deviation – Percentiles - Expectation – Variance and covariance.

#### UNIT V

Correlation and Regression – Properties of Simple Correlation and regression coefficients – Simple Numerical Problems only.

#### TEXT BOOK(S)

1. S.S. Sastry, Numerical Analysis (Unit 1 , 2 , 3 )
2. Gupta. S.C. & Kapoor, V.K., Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi -1994. (Units 4 & 5)

#### REFERENCE(S)

1. M.K. Jain, S.R.K. Iyengar and R.K. Jain, Numerical Methods for Scientific and Engineering Computation, New Age International Private Limited, 1999.
2. C.E. Froberg, Introduction to Numerical Analysis, II Edn., Addison Wesley, 1979.

## பாலின சமத்துவம்

#### அலகு – I

பாலினம் தொடர்பான கோட்பாடுகள்: பாலியல் - பாலினம் - உடற்கூறுரீதியாக நிர்ணயித்தல் - ஆணாதிக்கம் - பெண்ணியம் - பாலின பாகுபாடு – பாலின வேலைப்பாகுபாடு – பாலின ஒருபடித்தானவைகள் - பாலின உணர்வுட்டல் - பாலின சமவாய்ப்பு – பாலின சமத்துவம் - பாலின மையநீரோட்டமாக்கல் - அதிகாரப்படுத்துதல்.

#### அலகு – II

மகளிரியல் vs பாலின சமத்துவக்கல்வி – பல்கலைக்கழக மானியக்குழுவின் வழிக்காட்டுதல்கள் - ஏழாவது ஐந்தாண்டுத்திட்டம் முதல் பதினோராவது ஐந்தாண்டுத்திட்டம் - பாலின சமத்துவக்கல்வி: பெய்ஜிங் மாநாடு மற்றும் பெண்களுக்கு எதிரான அனைத்து வன்முறைகளையும் ஒழிப்பதற்கான சர்வதேச உடன்படிக்கை - இணைத்தல் / உட்படுத்துதல் - ஒதுக்கல்.

#### அலகு – III

பாலியல் பாகுபாட்டிற்கான தளங்கள்: குடும்பம் - பாலின விகிதாச்சாரம் - கல்வி – ஆரோக்கியம் - ஆளுமை – மதம் - வேலை vs வேலைவாய்ப்பு – சந்தை – ஊடகங்கள் - அரசியல் - சட்டம் - குடும்ப வன்முறை – பாலியல் துன்புறுத்தல் - அரசு கொள்கைகள் மற்றும் திட்டங்கள்.

#### அலகு – IV

பெண்கள் மேம்பாடு மற்றும் பாலின சமத்துவ மேம்பாடு: முயற்சிகள், சர்வதேச பெண்களுக்கான தசாப்தம் - சர்வதேச பெண்கள் ஆண்டு – பெண்களின் மேம்பாட்டிற்கான தேசிய கொள்கை – பெண்கள் அதிகார ஆண்டு 2001 – சர்வதேச கொள்கைகளை மைய நீரோட்டமாக்கல்.

#### அலகு – V

பெண்கள் இயக்கங்கள் மற்றும் பாதுகாப்பு நிறுவன ஏற்பாடுகள்: தேசிய மற்றும் மாநில மகளிர் ஆணையம் - அனைத்து மகளிர் காவல் நிலையங்கள் - குடும்ப நீதிமன்றங்கள் - குடும்ப வன்முறையிலிருந்து பெண்களைப் பாதுகாக்கும் சட்டம் 2005 – பணியிடங்களில் பெண்கள் மீதான பாலியல் துன்புறுத்தல்களை தடுப்பதற்கான உச்சநீதிமன்ற வழிகாட்டுதல்கள் - தாய்சேய் சேமநலச்சட்டம் - பெண்சிசுவை கருவிலேயே

கண்டறியும் தொழில்நுட்பம் (முறைப்படுத்துதல் மற்றும் தவறாக பயன்படுத்துதலை தடை செய்திடும்) சட்டம் - ஈவ்ஷிங் (பெண்களை தொல்லை செய்தல்) தடுப்புச் சட்டம் - சுய உதவிக்குழுக்கள் - பஞ்சாயத்து அமைப்புகளுக்கான 73வது மற்றும் 74வது சட்டத்திருத்தம்.

### References

1. Bhasin Kamala, Understanding Gender: Gender Basics, New Delhi: Women Unlimited, 2004.
2. Bhasin Kamala, Exploring Masculinity: Gender Basics, New Delhi: Women Unlimited, 2004.
3. Bhasin Kamala, What is Patriarchy?: Gender Basics, New Delhi: Women Unlimited, 1993.
4. Pernau Margrit, Ahmad Imtiaz, Reifeld Hermut (ed.,) Family and Gender: Changing Values in Germany and India, New Delhi: Sage Publications, 2003.
5. Agarwal Bina, Humphries Jane and Robeyns Ingrid (ed.,) Capabilities, Freedom and Equality: Amartya Sen's work from a Gender Perspective, New Delhi: Oxford University Press, 2006.
6. Rajadurai, S.V., Geetha, V., Themes in Caste Gender and Religion, Tiruchirappalli, Bharathidasan University, 2007.
7. Misra Geetanjali, Chandiramani Radhika (ed.,) Sexuality, Gender and Rights: Exploring Theory and Practice in South and Southeast Asia, New Delhi: Sage Publication, 2005.
8. Rao Anupama (ed.,) Gender & Caste: Issues in Contemporary Indian Feminism, New Delhi: Kali for Women, 2003.
9. Saha Chandana, Gender Equity and Gender Equality: Study of Girl Child in Rajasthan, Jaipur: Rawat Publication, 2003.
10. Krishna Sumi (ed.,) Livelihood and Gender: Equity and Community Resource management, New Delhi: Sage Publications, 2004.
11. Pludi, A. Michele (ed.,) Praeger Guide to the Psychology of Gender, London: Praeger Publisher, 2004.

### TEXT BOOK(S)

1. T.K. Manickavasagam Pillai & others, Algebra, Volume I, S.V Publications, 1985 Revised Edition (Units I, II)
2. S. Narayanan, T.K. Manicavachagam Pillai, Calculus, Vol. II, S.Viswanathan Pvt. Limited, 2003. (Units III, IV and V)

### REFERENCE(S)

1. M.L. Khanna, Differential Calculus, Jaiprakashnath and Co., Meerut-2004.

**ALLIED COURSE - I**  
**ALGEBRA AND CALCULUS**

**Objectives:**

1. To lean the basic concepts in the integration
2. To train the students to solve the problems in Theory of Equations

**UNIT I**

Theory of Equations: Relation between roots & coefficients – Transformations of Equations – Diminishing, Increasing & multiplying the roots by a constant - Forming equations with the given roots – Rolle’s Theorem, Descart Signs (statement only) –simple problems.

**UNIT II**

Matrices: Singular matrices – Inverse of a non-singular matrix using adjoint method - Rank of a Matrix – Consistency - Characteristic equation, Eigen values, Eigen vectors – Cayley Hamilton’s Theorem–Simple (proof applications only

**UNIT III**

Differentiation: Maxima & Minima – Concavity, Convexity – Points of inflexion - Partial differentiation – Euler’s Theorem - Total differential coefficients (proof not needed) – Simple problems only.

**UNIT IV**

Integration: Evaluation of integrals of types  
Evaluation using Integration by parts –Properties of definite integrals – Fourier series in the range  $(0, 2\pi)$  - Odd & Even Functions – Fourier Half range Sine & Cosine Series

**UNIT V**

Differential Equations: Variables Separables – Linear equations –Second order of types  $(aD^2 + bD + c)y = F(x)$  where a, b, c are constants and F(x) is one of the following types (i)  $e^{kx}$  (ii)  $\sin(kx)$  or  $\cos(kx)$  (iii)  $x^n$ , n being an integer (iv)  $e^{kx} f(x)$

12. Wharton, S. Amy, The Sociology of Gender: An Introduction to Theory and Research, USA: Blackwell Publishing, 2005.
13. Mohanty Manoranjan (ed.) Class, Caste, Gender: Readings in Indian Government and Politics – 5, New Delhi: Sage Publications, 2004.
14. Arya Sadhna Women, Gender Equality and the State, New Delhi: Deep & Deep Publications, 2000.
15. பாலியலை புரிந்து கொள்வோம், மதுரை: ஏக்தா, ...
16. Mishra, O.P., Law Relating to Women & Child, Allahabad: Central Law Agency, 2001.
17. Chari Leelavathi, Know Your Rights, Madras: Tamilnadu Social Welfare Board, 1987.
18. Bhattacharya Malini, Sexual Violence and Law, Kolkata; West Bengala Commission for Women, 2002.
19. Sexual Harassment at the Workplace – A Guide, New Delhi, Sakshi, 1999.
20. அஜிதா, குடும்ப வன்முறையிலிருந்து பெண்களை பாதுகாக்கும் சட்டம், 2005, மதுரை: ஏக்தா, 2005.
21. கு. சாமிதுரை & இராதாகிருட்டிணன், பெண்கள் நலன் காக்கும் சட்டங்கள், மதுரை: Account Test Center: 2007.
22. பொன். கிருஷ்ணசாமி, ஜே. பால் பாஸ்கர் & ஆ. ஜான் வின்சென்ட், பெண்களும் உச்சநீதிமன்றமும், மதுரை: சோக்கோ வாசகர் வட்டம், 2004.
23. வனஜா & சியாமா சுந்தரி, பெண்களுக்கான சட்டங்கள், செகந்திராபாத்: உலகத்தோழமை மையம்.
24. க. உமாசங்கர், பி. பாலசுந்தர், க. சசிகலா, செ. பழனிச்சாமி, சூரியன் (பெண்கள் தொடர்பான சட்டங்கள் குறித்த தொடக்கநிலை கையேடு: செகந்திராபாத்: உலகத்தோழமை மையம், 2006.
25. குடும்ப வன்முறையிலிருந்து பெண்களை பாதுகாக்கும் சட்டம் 2005–கையேடு, திருச்சி.
26. Women’s Integrated National Development Trust.
27. ரவீந்திரநாத் ஜி.ஆர்., ‘ராகிங் ஒழிப்போம்!’ ‘ஈவ்ஊசிங் ஒழிப்போம்!’, சென்னை I.D.P.D. வெளியீடு.

**NON MAJOR ELECTIVES (ARTS)**  
**(For the candidates admitted from the**  
**academic year 2016-2017)**

S. No.	Department Offering the Non-Major Elective Courses	Title of the Non-Major Elective Courses
1.	Applied Tamil	I. தமிழ் நடைக்கூறுகள் II. சிந்தனையியல்
2.	B.Litt.	
3.	Pulavar Degree	
4.	Tamil	
5.	B.B.A. (Bachelor of Business Administration)	I. Management Principles (or) Stock Exchange Practices II. Banking Practices (or) International Business
6.	B.Com.	I. Personal Investment (or) Elements of Insurance II. Introduction to Accountancy (or) Salesmanship
7.	B.Com. (Applied)	
8.	B.Com. (Computer Applications)	
9.	B.Com. (Bank Management)	I. Banking Practices (or) Indian Banking System II. Rural Banking (or) Elements of Insurance
10.	Economics	I. Advertisement Management II. Economics of Transportation
11.	English	I. Presentation Skills II. Functional Skills
12.	History	I. Freedom Movement in India II. Working of Indian Constitution

**CORE PRACTICAL - I**  
**PROGRAMMING IN C (P)**

**Objective:** *To Impart Practical Training in C Programming Language*

- Write a Program to convert temperature from degree Centigrade to Fahrenheit.
- Write a Program to find whether given number is Even or Odd.
- Write a Program to find greatest of Three numbers.
- Write a Program to using switch statement to display Monday to Sunday.
- Write a Program to display first Ten Natural Numbers and their sum.
- Write a Program to find Multiplication of Two Matrices.
- Write a Program to find the maximum number in Array using pointer.
- Write a Program to reverse a number using pointer.
- Write a Program to solve Quadratic Equation using functions.
- Write a Program to find factorial of a number using Recursion.
- Write a Program to show Call by Value and Call by Reference.
- Write a Program to add two numbers using pointer.
- Write a Program to create a file containing Student Details.
- Write a Program to update the details of student's information using various file modes.

**CORE COURSE – I**  
**PROGRAMMING IN C**

**Objective:** *To impart basic knowledge of Programming Skills in C language.*

**Unit I**

Introduction to C – Constants, Variables, Data types – Operator and Expressions.

**Unit II**

Managing Input and Output operations – Decision Making and Branching – Decision making and Looping.

**Unit III**

Arrays – Character Arrays and Strings – User defined Functions.

**Unit IV**

Structures and unions – Pointers – File management in C.

**Unit V**

Dynamic memory allocation – Linked lists- Preprocessors – Programming Guide lines.

**Text Book:**

1. Balagurusamy E., Programming in ANSI C, Sixth Edition, McGraw-Hill, 2012.

**Reference Book:**

1. R.S. Bichkar, Programming with C, University Press, 2012.

S. No.	Department Offering the Non-Major Elective Courses	Title of the Non-Major Elective Courses
13.	Journalism & Mass Communication	I. Basic Photography II. Freelance Journalism
14.	Public Administration	I. Public Administration for Civil Services II. Indian Government and Administration
15.	Sanskrit	I. Introduction to Early Sanskrit Literature (or) History of Fables & Popular tales and Didactic Literature Pub. R.S. Vadhyer Pub. Palakad. II. Scientific Literature (or) Indian Aesthetics
16.	Social Work	I. Human Rights II. Contemporary Social Issues and Problems
17.	Sociology	I. Dynamics of Society II. Women Empowerment
18.	Tourism and Travel management	I. Basics of Tourism II. Cultural Tourism

**NON MAJOR ELECTIVES (SCIENCE)**  
**(For the candidates admitted from the**  
**academic year 2016-2017)**

S. No.	Department Offering the Non-Major Elective Courses	Title of the Non-Major Elective Courses
1.	Apparel and Fashion Technology	I. Hand Embroidery (P) II. Jewellery Making (P)
2.	BCA	I. Working Principles of Internet II. Fundamentals of Information Technology
3.	Biochemistry	I. Health and diseases II. Hospital Management
4.	Biotechnology	I. Biotechnology for Human Welfare II. Food Processing
5.	Botany	I. Biofertilizers & Biopesticides II. Horticulture
6.	Chemistry	I. Chemistry in Everyday Life II. Health Chemistry
7.	Computer Science	I. Working Principles of Internet II. Fundamentals of Information Technology
8.	Electronics	I. Principles of Electronics II. Everyday Electronics
9.	Fashion Technology & Costume Designing	I. Fashion Accessories Designing II. Visual Merchandising
10.	Geography	I. Geography of Tourism II. Disaster Management
11.	Geology	I. Fundamentals of Geology II. Introduction to Minerals, Rocks and Fossils

**PART - II ENGLISH**

(Applicable to the candidates admitted from the  
Academic year 2016 -2017 onwards)

**Semester I : Prose for Effective Communication**

**Objectives:**

- To make learners read, understand and appreciate texts from various genres of literature
- To familiarize learners with various rhetoric devices
- To help learners read and comprehend literary texts to communicate effectively
- To train learners to improve their comprehension and composition skills

**Unit – I**

C.E.M. Joad : “Civilization and History”

Issac Asimov : “The Fun They Had”

**Unit – II**

George Gamow : “Big Numbers and Infinities”

G.C. Thornley : “Oil”

**Unit – III**

Desmond Morris : “An Observation and an Explanation”

M.W. Thring : “A Robot about the House”

**Unit – IV**

Rabindranath Tagore : “A Wrong Man in Worker’s Paradise”

Horace Shipp : “Making Surgery Safe”

**Unit – V**

Swami Vivekananda’s Chicago : i) “Response to Welcome”

Addresses ii) “Why We Disagree”

**Textbook:**

W.W.S. Bhaskar and N.S. Prabhu. *English through Reading* Vol.I Laxmi Publications. (for Unit I to Unit IV)



**அலகு- IV****சிறுகதை**

கைவண்ணம்...(தேர்ந்தெடுக்கப்பட்ட சிறுகதைகள்)  
தொகுப்பாசிரியர் முனைவர் தங்க. செந்தில்குமார்  
அய்யாநிலையம்  
கதவுஎண், 1603, ஆரோக்கியநகர்  
ஐந்தாம் தெரு, E.B.காலனி,  
நாஞ்சிக்கோட்டைச் சாலை,  
தஞ்சாவூர் - 613 006  
விலை ரூ.70/-

**உரைநடை**

சிந்தனைச்சுடர்  
பேராசிரியர் பி.விருத்தாசலம்  
தென்காவேரிப் பதிப்பகம்  
9, கனகசபைநகர்  
மருத்துவக் கல்லூரிச்சாலை  
தஞ்சாவூர் - 613 007  
விலை ரூ.50/-

**அலகு- V****இலக்கியவரலாறு**

1. மரபுக் கவிதை
2. புதுக்கவிதை
3. உரைநடை
4. சிறுகதை

**மனப்பாடப் பகுதி**

பாரதியார் கவிதைகள் 1. துடிக்கின்ற நெஞ்சம்  
2. புதிய ஆத்திசூடி பரம்பொருள் வாழ்த்து  
3. தமிழ் 4. கேட்பன  
5. வேண்டும்.

பாரதிதாசன் கவிதைகள் 1. தமிழ் வளர்ச்சி 2. இன்பத்தமிழ்  
3. தென்றல் 4. செந்தாமரை  
5. வள்ளுவர் வழங்கிய முத்துக்கள்.

**இணைய முகவரிகள்**

1. www.tamilvu.org
2. www.sirukathaigal.com
3. www.noolulagam.com
4. www.katuraitamilblogspot.com

S. No.	Department Offering the Non-Major Elective Courses	Title of the Non-Major Elective Courses
12.	Home Science	I. Bakery and Food Preservation II. Apparel Designing
13.	Hospital Administration	I. Personal Hygiene II. Role of Hospital Services
14.	Hotel Management & Catering Science	I. Basic Tamil / Special Tamil II. Basic Tamil / Special Tamil
15.	Information Technology	I. Fundamentals of Information Technology II. Information Security: Principles and Practices
16.	Mathematics	I. Quantitative Aptitude I II. Quantitative Aptitude II
17.	Microbiology	I. Mushroom Technology II. Biofertilizer Technology
18.	Nutrition & Dietetics	I. Nutrition for Women II. Nutrition for Health and Fitness
19.	Physics	I. Energy Physics II. Laser Physics
20.	Software Development	I. Working Principles of Internet II. Fundamentals of Information Technology
21.	Textile Science	I. Management and Entrepreneurship II. Marketing and Merchandising
22.	Visual Communication	I. Basics of Communication II. Communication Personality Development
23.	Zoology	I. Public Health and Hygiene II. Ornamental Fish Farming

**SKILL BASED ELECTIVE PAPERS  
(2016-17 ONWARDS)**

Sl. No.	Skill Based Elective Paper	Paper	Semester	Title of the Paper
1.	Clinical Microbiology	I	IV	Clinical Bacteriology
		II	V	Clinical Mycology and Virology
		III	V	Clinical Parasitology
2.	Computer Application	I	IV	Hardware Troubleshooting
		II	V	Ruby on Rails
		III	V	Web Services
3.	Customer Relationship Management	I	IV	Overview of Customer Relationship
		II	V	CRM in Services Marketing & its
		III	V	E – CRM (Virtual Marketing)
4.	Desktop Publishing	I	IV	Page Maker
		II	V	Corel Draw
		III	V	Dream weaver
5.	Herbal Medicine	I	IV	Ethno Medicine
		II	V	Pharmacognosy
		III	V	Herbs and Drug Action
6.	Journalism and Public Relations	I	IV	Journalism and Mass Media
		II	V	Reporting and Editing
		III	V	Public Relations
7.	Office Management	I	IV	Introduction to Office
		II	V	Office Management Tools
		III	V	Communication & Interpersonal

**கண்ணதாசன்**

1. அனுபவம்
2. நட்பு

**வாணிதாசன்**

1. வாழ்க இளம்பரிதி
2. உயிர்வாட்டும் காலம்

**அலகு- III**

**நாட்டுப்புறப் பாடல்கள்**

1. தாலாட்டுப் பாடல்
2. தொழிற் பாடல்
3. ஒப்பாரிப் பாடல்

**புதுக்கவிதைகள்**

1. அப்துல் ரகுமான் - வெற்றி
2. அரங்கமல்லிகா - அக்குளுக்கு அல்ல இடைத்துண்டு
3. அறிவுமதி - நட்புக்காலம்
4. ஆண்டாள் பிரியதர்ஷினி - நிலாச்சோறு
5. ஈரோடு தமிழன்பன் - மறைக்க இடம் தேடும் மனம்
6. சிற்பி - ஓடு சங்கிலி ஓடு
7. தாமரை - தீர்ப்பு
8. மீரா - தலைகுனிவு
9. மேத்தா.மு - வெளிச்சம் வெளியே இல்லை
10. வைரமுத்து - ருசி

**ஐக்கூ கவிதைகள்**

1. இராசன்.எ.மு.
2. புதுவைதமிழ் நெஞ்சன்
3. செந்தமிழினியன்
4. அரிமதி இளம்பரிதி
5. உயிர்வேலி ஆலா
6. அன்பாதவன்
7. கார்முகில்
8. அமுதபாரதி
9. அரிமதிதென்னகன்
10. புதுவை இளவேனில்

**முதற்பருவம் - தாள் I**  
**இக்கால இலக்கியம்**

**பாடநோக்கம்**

1. இக்காலத் தமிழ்க்கவிதை, சிறுகதை முதலானவற்றை அறிமுகப்படுத்துதல்
2. புதுக்கவிதை, ஹைகூ கவிதை முதலான புதிய இலக்கிய வடிவங்களை அறிமுகப்படுத்துதல்
3. தமிழ் இலக்கியத்தின் மீதான ஈர்ப்பை மிகுவித்தல்

**மாணவர்பெறும் திறன்**

1. தமிழ் இலக்கியத்தின் மீதான ஆர்வம் மிகுகிறது.
2. புதிய இலக்கிய வடிவங்களை அறிவர்.
3. சிறுகதை, கவிதை எழுத முயல்வர்.

**அலகு- I**

- பாரதியார்
1. செந்தமிழ்நாடு
  2. புதுமைப்பெண்

- பாரதிதாசன்
1. அழகு
  2. தமிழனுக்கு வீழ்ச்சியில்லை

**கவிமணி தேசிகவிநாயகம் பிள்ளை**

1. சுகாதாரக்கும்மி
2. தொழிலாளியின் முறையீடு

**சுரதா**

1. கலப்பை
2. போலி உடும்பு

**அலகு- II**

**நாமக்கல் கவிஞர்**

1. தமிழ் வாழ்க
2. தருணம் இதுவே

**கவிகாழு ஷெரீப்**

1. தமிழே!
2. நிலவே சொல்
3. அறிய முயல்

Sl. No.	Skill Based Elective Paper	Paper	Semester	Title of the Paper
8.	Sales and Marketing Management	I	IV	Introduction to Marketing Management
		II	V	Sales Management
		III	V	Retail Management
9.	Tourism and Travel Management	I	IV	Tourism and Travel Agency
		II	V	Cultural Tourism in India
		III	V	Tourism Product – 3
10.	Yoga and Stress Management	I	IV	Fundamentals of Yogic Practices
		II	V	Stress Management Through Yoga
		III	V	Asanas and Pranayamas – Practical
11.	அச்ச ஊடகங்கள்	I	IV	தமிழ் இதழியல் வரலாறு
		II	V	நாளிதழ் உருவாக்கமும் வடிவமைப்பும்
		III	V	இலக்கிய இதழ்கள்
12.	Biotechnology	I	IV	Aqua Culture!
		II	V	Biofertilizer
		III	V	Mushroom Cultivation and Value Addition
13.	Chemistry	I	IV	Food and Nutrition
		II	V	Agricultural Chemistry
		III	V	Dyeing Techniques and Water Treatment
14.	Electronics	I	IV	Home Appliance Maintenance and Servicing
		II	V	Computer Hardware and Networking
		III	V	Mobile Servicing

Sl. No.	Skill Based Elective Paper	Paper	Semester	Title of the Paper
15.	Hotel Management and Catering Science	I	IV	Hospitality Marketing
		II	V	Information Technology in Hotel Industry
		III	V	Information Technology in Hotel Industry (P)
16.	Microbiology	I	IV	Microbial Nanotechnology
		II	V	Diagnostic Microbiology
		III	V	Antimicrobial agents
17.	Zoology	I	IV	Apiculture
				Aquaculture
		II	V	Sericulture
				Poultry Farming
		III	V	Vermiculture
Dairy farming				

**BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI - 620 024**

**UG Programme - Part-1 Tamil Syllabus Under CBCS**

**(Applicable to the candidates admitted from the Academic year 2016-2017 onwards)**

பருவம்	பகுதி	பாடம்	பயிற்றுக் காலம் மணிகள்	தரப் புள்ளி	தேர்வுக் காலம் மணிகள்	மதிப்பெண்கள்		கூட்டு மதிப்பெண்
						அகம்	புறம்	
1	1	இக்கால இலக்கியம்	6	3	3	25	75	100
2	1	இடைக்கால இலக்கியமும் புதினமும்	6	3	3	25	75	100
3	1	காப்பியமும் நாடகமும்	6	3	3	25	75	100
4	1	பண்டைய இலக்கியம்	6	3	3	25	75	100

\*for those who studied Tamil upto 10<sup>th</sup> +2 (Regular Stream)

+ Syllabus for other Languages should be on par with Tamil at degree level

# those who studied Tamil upto 10<sup>th</sup> +2 but opt for other languages in degree level under Part I should study special Tamil in Part IV

\*\* Extension Activities shall be out side instruction hours

Non Major Elective I & II – for those who studied Tamil under Part I

a) Basic Tamil I & II for other language students

b) Special Tamil I & II for those who studied Tamil upto 10<sup>th</sup> or +2 but opt for other languages in degree programme

**Note:**

	Internal Marks	External Marks
1. Theory	25	75
2. Practical	40	60
3. Separate passing minimum is prescribed for Internal and External marks		

**FOR THEORY**

The passing minimum for CIA shall be 40% out of 25 marks

[i.e. 10 marks]

The passing minimum for University Examinations shall be 40% out of 75 marks [i.e. 30 marks]

**FOR PRACTICAL**

The passing minimum for CIA shall be 40% out of 40 marks

[i.e. 16 marks]

The passing minimum for University Examinations shall be 40% out of 60 marks [i.e. 24 marks]

**SUBJECT CODE DETAILS**

SEMESTER	SUBJECT CODE	TITLE
I	16LCT1	Tamil
	16ELCE1	General English
	16SCCCA1	CC I - Programming in C
	16SCCCA1P	Cp I - Programming in C Lab
	16SACMA1	First Allied Course I - Algebra and Calculus
	18UGVED	Value Education
II	16LCT2	Tamil
	16ELCE2	General English
	16SCCCA2	CC II - Programming in C++
	16SCCCA2P	CP II - Programming in C++ Lab
	16SACMA2	First Allied Course II - Numerical Analysis and Statistics
	16SACMA3	First Allied Course III - Operation Research
	16UGCES	Environmental Science
III	16LCT3	Tamil
	16ELCE3	General English
	16SCCCA3	CC III - Programming in Java
	16SCCCA3P	CP III - Programming in Java Lab
	16SACAOB1	Second Allied Course I
	16SACAOB2*	Second Allied Course II
	16NMEZO1	Non Major Elective I

SEMESTER	SUBJECT CODE	TITLE
IV	16LCT4	Tamil
	16ELCE4	English
	16SCCCA4	CC IV- Data Base Systems
	16SCCCA4P	CP IV- Data Base Systems Lab
	16SACA0B2	Second Allied Course II
	16SACA0B2P	Second Allied Course (II P)
	16SACA0B3	Second Allied Course III
	16NMEZO2	Non Major Elective II
	16RSBE4:1	Skill Based Elective I
V	16SCCCA5	CC V - Data Structure and Algorithm
	16SCCCA6	CC VI - Operating Systems
	16SCCCA7	CC VII - Digital Computer Fundamentals
	16SCCCA5P	CP V - Computer Graphics and Animation Lab
	16SMBECA1:2	Major Based Elective I - Software Engineering
		Skill Based Elective II
		Skill Based Elective III
		Soft Skill Development Course
VI	16SCCCA9	CC VIII - PHP Scripting Language
	16SCCCA8	CC IX - Computer Networks
	16SCCCA6P	CP VI - PHP Lab
		MBE II
		MBE III Mini Project
		Gender Studies

Language Part – I	-	4
English Part –II	-	4
Core Paper	-	9
Core Practical	-	6
Allied Paper	-	4
Allied Practical	-	2
Non-Major Elective	-	2
Skill Based Elective	-	3
Major Based Elective	-	3
Environmental Studies	-	1
Value Education	-	1
Soft Skill Development	-	1
Gender Studies	-	1
Extension Activities -	-	1 (Credit only)

IV	I	Language Course –IV (LC) - Tamil*/Other Languages ** #		6	3	3	25	75	100	
	II	English Language Course–IV (ELC)		6	3	3	25	75	100	
		Core Course – IV (CC)	Database Systems		5	5	3	25	75	100
	III	Core Practical - IV (CP)	Database Systems (P)		3	2	3	40	60	100
		Second Allied Course– II (AC)			3	3	3	40	60	100
		Second Allied Course–III (AC)			3	2	3	25	75	100
	IV	Non Major Elective II - for those who studied Tamil under Part I								
		a) Basic Tamil for other language students	Fundamentals of Information Technology		2	2	3	25	75	100
		b) Special Tamil for those who studied Tamil upto +2 but opt for other languages in degree Programme								
		Skill Based Elective – I	Skill Based Elective - I		2	2	3	25	75	100
<b>Total</b>				<b>30</b>	<b>22</b>				<b>800</b>	
V	III	Core Course V [CC]	Data Structures and Algorithms	5	5	3	25	75	100	
		Core Course VI [CC]	Operating Systems	5	5	3	25	75	100	
	IV	Core Course VII [CC]	Digital Computer Fundamentals	5	5	3	25	75	100	
		Core Practical V [CP]	Computer Graphics and Animation (P)	4	3	3	40	60	100	
		Major Based Elective – I	Computer Graphics / Software Engineering / System Testing	5	5	3	25	75	100	
		Skill Based Elective II	Skill Based Elective - II	2	2	3	25	75	100	
		Skill Based Elective III	Skill Based Elective – III	2	2	3	25	75	100	
		Soft Skills Development	Soft Skills Development	2	2	3	25	75	100	
	<b>Total</b>				<b>30</b>	<b>29</b>				<b>800</b>
VI		Core Course VIII [CC]	Computer Networks	6	6	3	25	75	100	
		Core Course IX [CC]	Programming in PHP	6	6	3	25	75	100	
		Core Practical VI [CP]	Programming in PHP (P)	5	4	3	40	60	100	
	III	Major Based Elective – II	Cloud Computing / Business Process Outsourcing / Mobile Computing	6	6	3	25	75	100	
		Major Based Elective – III	Mini Project (Students to do it in their respective Colleges) / Linux Lab/ Dot Net Lab	6	6	3	40	60	100	
	V	Extension Activities	Extension Activities	-	1	-	-	-	-	
		Gender Studies	Gender Studies	1	1	3	25	75	100	
	<b>Total</b>				<b>30</b>	<b>30</b>				<b>600</b>
<b>Grand Total</b>				<b>180</b>	<b>140</b>	-	-	-	<b>4100</b>	

**List of Allied Courses**Allied Course I  
**Mathematics**Allied Course II  
**Accountancy**\* **Organizational Behaviour****EVALUATION PATTERN****Internal Marks External Marks**

1. Theory	25	75
2. Practical / Mini Project	40	60

3. Separate passing minimum is prescribed for internal and external marks  
The passing minimum for CIA shall be 40% out of 25 marks [i.e. 10 marks]

The passing minimum for University Examinations shall be 40% out of 75 marks [i.e. 30 marks]

Theory internal marks 25 can be divided into 3 categories

1. Test	:	15 Marks
2. Assignment	:	05 Marks
3. Group Activity	:	05 Marks
<b>Total</b>	:	<b>25 Marks</b>

Practical internal marks 40 can be divided into 3 categories

1. Model Exam 1	:	20 Marks
2. Observation note	:	15 Marks
3. Attendance	:	05 Marks

Mini Project internal marks 40 is calculated as follows

1. Review 1	:	10 Marks
2. Review 2	:	10 Marks
3. Dissertation	:	20 Marks

“If you don’t build your dream, someone else will hire you to help them build theirs.”-*DhirubhaiAmbani*

## FACILITIES AVAILABLE IN OUR DEPARTMENT

Well Equipped Lab with Net facilities

- Charles Babbage Lab
- Steve Jobs Lab
- Sergey Brin Lab
- Grace Hopper lab
- ICT lab

### Browser Statistics

The most popular browsers as follow in terms of market share:

- Google Chrome (61.36%)
- Mozilla Firefox (23.6%)
- Internet Explorer (8.0%)
- Safari (3.7%)
- Opera (1.6%)

## BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI – 620 024.

**Bachelor of Computer Applications - Course Structure under CBCS  
(For the Candidates admitted from the Academic year 2016-2017 onwards)**

Semester	Part	Course	Title	Instru. Hours/Week	Credit	Exam Hours	Marks		Total
							Int		
I	I	Language Course – I (LC) – Tamil*/Other Languages ** #		6	3	3	25	75	100
	II	English Language Course – I (ELC)		6	3	3	25	75	100
	III	Core Course – I (CC)	Programming in C	6	5	3	25	75	100
		Core Practical - I (CP)	Programming in C (P)	3	2	3	40	60	100
		First Allied Course – I (AC)		4	4	3	25	75	100
		First Allied Course – II (AC)		3	-	-	-	-	-
	IV	Value Education	Value Education	2	2	3	25	75	100
<b>Total</b>				<b>30</b>	<b>19</b>				<b>600</b>
II	I	Language Course – II (LC) – Tamil*/Other Languages ** #		6	3	3	25	75	100
	II	English Language Course – II (ELC)		6	3	3	25	75	100
		Core Course – II (CC)	Programming in C++	6	6	3	25	75	100
		Core Practical - II (CP)	Programming in C++ (P)	3	2	3	40	60	100
	III	First Allied Course – II (AC)		3	3	3	25	75	100
		First Allied Course – III (AC)		4	2	3	25	75	100
	IV	Environmental Studies	Environmental Studies	2	2	3	25	75	100
<b>Total</b>				<b>30</b>	<b>21</b>				<b>700</b>
III	I	Language Course – III (LC) – Tamil*/Other Languages ** #		6	3	3	25	75	100
	II	English Language Course - III (ELC)		6	3	3	25	75	100
	III	Core Course – III (CC)	Programming in Java	6	5	3	25	75	100
		Core Practical - III (CP)	Programming in Java (P)	3	2	3	40	60	100
		Second Allied Course – I (AC)		4	4	3	25	75	100
		Second Allied Course – II (AC)		3	-	-	-	-	-
		Non Major Elective I - for those who studied Tamil under Part I a) Basic Tamil for other language students b) Special Tamil for those who studied Tamil upto +2 but opt for other languages in degree Programme	Working Principles of Internet	2	2	3	25	75	100
<b>Total</b>				<b>30</b>	<b>19</b>				<b>600</b>

*“They alone live, who live for others.” - Swami Vivekananda*



50.	Dot Net (P) (MBE-III(C))	84
51.	Part - IV: Gender Studies	85
52.	Non Major Electives (Arts)	90
53.	Non Major Electives (Science)	92
54.	Skill Based Elective Papers	95
55.	Subject Code Details	98
56.	Evaluation Pattern	100
57.	Facilities Available in our Department	101
58.	Top IT Companies in India	103
59.	Top 10 Programming Language and their Inventors	104

### All Computer Parts Glossary

<b>Compact disc</b>	: It stores information many times more than a floppy disk.
<b>CPU</b>	: The processing device in a computer.
<b>Data</b>	: It is the information given to the computer.
<b>Electronic machine</b>	: It is the machine that runs with the help of electricity.
<b>Floppy disk</b>	: It stores a small amount of information.
<b>Hard disk</b>	: It stores a large amount of information.
<b>Headphones</b>	: The device for listening to the recorded sounds without disturbing others.
<b>Input devices</b>	: These help us put data into the computer.
<b>Joystick</b>	: It is used for playing computer games.
<b>Keyboard</b>	: This is used to enter data into the computer system.
<b>Microphone</b>	: It is used for recording sound.
<b>Monitor</b>	: It shows whatever you type on the keyboard or draw with the mouse.
<b>Mouse</b>	: It is pointing device.
<b>Output devices</b>	: These help us to show the results of processing.
<b>Processing device</b>	: Helps to store, sort, arrange and change the inputs on a computer.
<b>Scanner</b>	: It copies pictures and pages and turns into images that can be saved on a computer.
<b>Speakers</b>	: These are used for listening to recorded sound.
<b>Storage devices</b>	: These are form the memory of the computer.
<b>Wed camera</b>	: It is used for taking live photos and videos.

*“You have to dream before your dreams can come true.”–*

**Dr.A.P.J.AbdulKalam**

## TOP IT COMPANIES IN INDIA

- 1st Place: TCS –**Mr.Rajesh Gopinathan**
- 2nd Place: Infosys - **Mr.Salil Sathish Parekh**
- 3rd Place: Wipro - **Mr.Abidali Z. Neemuchwala**
- 4th Place: HCL Technologies - **Mr. C Vijayakumar**
- 5th Place: Tech Mahindra - **Mr.C. P. Gurnani**
- 6th Place: L&T Infotech - **Mr.Sanjay Jalona**
- 7th Place: Oracle Financial Services - **Mr.Chet Kamat**
- 8th Place: Mindtree - **Mr.Rostow Ramanan**
- 9th Place: Mphasis - **Mr. Nitin Rakesh**
- 10th Place: Rolta India - **Mr.Kamal K. Singh**

*“One child, One teacher, One book, One pen Can change the world”*

<b>SEMESTER – IV</b>		
24.	Part - I: Tamil	46
25.	Part - II: English	50
26.	Database Systems (CC-IV)	51
27.	Database Systems (P) (CP-IV)	53
28.	Computer Application in Business (AP-II)	55
29.	Fundamentals of Information Technology (NME-II)	57
30.	Organisational Behaviour (AC-III)	58
31.	Skill Based Elective - I	59
<b>SEMESTER – V</b>		
32.	Data Structures and Algorithms (CC-V)	60
33.	Operating Systems (CC-VI)	61
34.	Digital Computer Fundamentals (CC-VII)	63
35.	Computer Graphics and Animation (P) (CP-V)	65
36.	Computer Graphics (MBE-I(A))	66
37.	Software Engineering (MBE-I(B))	68
38.	Software Testing (MBE-I(C))	70
39.	Skill Based Elective - II	72
40.	Skill Based Elective - III	73
41.	Soft Skills Development	74
<b>SEMESTER – VI</b>		
42.	Computer Networks (CC-VIII)	76
43.	Programming in PHP (CC-IX)	77
44.	Programming in PHP (P) (CP-VI)	78
45.	Cloud Computing (MBE-II(A))	79
46.	Business Process Outsourcing (MBE-II(B))	80
47.	Mobile Computing (MBE-II(C))	81
48.	Mini Project (MBE-III(A))	82
49.	Linux (P) (MBE-III(A))	83

## CONTENT

S. NO.	TITLE	PAGE NO.
1.	Course Structure	7
<b>SEMESTER – I</b>		
2.	Part - I: Tamil	12
3.	Part - II: English	15
4.	Programming in C (CC-I)	16
5.	Programming in C (P) (CP-I)	17
6.	Algebra and Calculus (AC-I)	18
7.	Numerical Analysis and Statistics (AC-II)*	20
8.	Part - IV: Value Education	21
<b>SEMESTER – II</b>		
9.	Part - I: Tamil	23
10.	Part - II: English	25
11.	Programming in C++ (CC-II)	26
12.	Programming in C++ (P) (CP-II)	27
13.	Numerical Analysis and Statistics (AC-II)	29
14.	Operation Research (AC-III)	30
15.	Part - IV: Environmental Studies	31
<b>SEMESTER – III</b>		
16.	Part - I: Tamil	36
17.	Part - II: English	37
18.	Programming in JAVA (CC-III)	38
19.	Programming in JAVA (P) (CP-III)	40
20.	Principles of Accounting (AP-I)	41
21.	Computer Application in Business (AP-II)*	42
22.	List of Practicals	44
23.	Working Principles of Internet (NME-I)	45

## TOP 10 PROGRAMMING LANGUAGE AND THEIR INVENTORS

- ✓ Java - James Gosling - 1995
- ✓ C - Dennis Ritchie - between 1969 and 1973
- ✓ C++ - Bjarne Stroustrup - 1979
- ✓ Python - Guido van Rossum - 1989
- ✓ PHP - Rasmus Lerdorf - 1994
- ✓ Perl - Larry Wall - 1994
- ✓ JavaScript - Brendan Eich - 1995
- ✓ Ruby - Yukihiro Matsumoto - mid-1990s
- ✓ Lisp - John McCarthy - 1958
- ✓ Pascal - Niklaus Wirth – 1970

*“To succeed in your mission, you must have single-minded devotion to your goal.”*

**Dr.A.P.J.AbdulKalam**