## DEPARTMENT OF COMPUTER SCIENCE POOMPUHAR COLLEGE(AUTONOMOUS) MELAIYUR COURSE STRUCTURE FOR UG (B.C.A) COURSE

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

SEMESTER	PART	SUBJECT	HRS	CREDIT	EXAM	MARKS
	Ι	Tamil-I	6	3	3	100
	II	English-I	6	3	3	100
	III	First Allied I - Numerical Analysis	5	3	3	100
		First Allied II - PC Package Lab	3			
Ι		CC-I Programming in C	5	4	3	100
-		CP-I Programming in C Lab	3	2	3	100
	IV	Part-IV Value Education	2	2	3	100
		TOTAL	30	17		600
Π	Ι	Tamil-II	6	3	3	100
	II	English-II	6	3	3	100
	III	First Allied- II PC Package Lab	3	3	3	100
		First Allied- III Operations Research	5	4	3	100
		CC-II Programming in C++	5	5	3	100
		CP-II	3	3	3	100
		Programming in C++ Lab				
	IV	Part-IV Environmental Studies	2	2	3	100
		TOTAL	30	23		700

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

SEMESTER	PART	SUBJECT	HRS	CREDIT	EXAM	MARKS
	Ι	Tamil-III	6	3	3	100
	II	English-III	6	3	3	100
	Ш	Second Allied -I Financial Accounting	5	4	3	100
		Second Allied –II Digital logic and Microprocessor	2			
111		CC- III Fundamentals of Data Structure	6	3	3	100
		CP- III Computer applications in Business Tally Lab	3	2	3	100
	IV	NME-1 Working principles of Internet	2	2	3	100
		TOTAL	30	17		600
	Ι	Tamil-IV	6	3	3	100
	II	English-IV	6	3	3	100
IV		Second Allied- II Digital logic and Microprocessor	3	3	3	100
	III	Second Allied- Management of Information System	4	4	3	100
		CC- IV Programming in JAVA	4	4	3	100

	CP- IV Programming	3	3	3	100
	in JAVA Lab				
	SBE- I Web design	2	2	3	100
IV	Lab				
	NME- II Introduction	2	2	3	100
	to information				
	Technology				
	TOTAL	30	24		800

## DEPARTMENT OF COMPUTER SCIENCE POOMPUHAR COLLEGE(AUTONOMOUS) MELAIYUR COURSE STRUCTURE FOR UG (B.C.A) COURSE

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

SEMESTER	PART	SUBJECT	HRS	CREDIT	EXAM	MARKS
	III	CC- V Computer	5	5	3	100
		Graphics				
		CC –VI Database	5	5	3	100
		Systems				
<b>X</b> 7		CC -VII Operating	6	6	3	100
V		System				
		CP- V RDBMS LAB	5	5	3	100
		MBE-1 Mobile	5	5	3	100
		Computing				
	IV	SBE-II Multimedia	2	2	3	100
		SBE-III PC	2	2	3	100
		Assembling Lab				
		TOTAL	30	30		700
		CC –VIII Computer	5	5	3	100
		Network				
		CC- IX PHP	5	5	3	100
		CP- VI PHP- LAB	5	5	3	100

	III	MBE- II Software	5	5	3	100
VI		Engineering				
		MBE- III Data Mining	5	5	3	100
		and Data Warehousing				
	IV	Soft Skills Development	2	2	3	100
		Gender Studies	1	1	3	100
		TOTAL	30	30		700

Note:\*Examination at the end of the even semester

## BCA 2016-2017

# First Allied II -PC PACKAGE LAB(WORD, EXCEL AND POWER POINT)

#### WORD

**1.** Prepare a resume.

- **2.** Prepare an application for a job.
- 3. Prepare an advertisement for a product
- **4.** Prepare a letter head
- 5. Prepare a leave letter
- 6. From Newspaper "appointment pages" take one Advt and type
- 7. Mail Merge Concept
- 8. Copying Text and Picture From Excel
- 9. Creation of Tables, Formatting Tables
- 10. Inserting Symbols in Documents

#### EXCEL

- 1. Aligning, Editing Data in Cell
- **2.** Excel Function (Date , Time, Statistical, Mathematical, Financial Functions)
- **3.** Changing of Column Width and Row Height (Column and Range of Column)
- 4. Moving, copying, Inserting and Deleting Rows and Columns
- 5. Creation of Charts.
- **6.** Import information
- **7.** Export information

## **POWER POINT**

- 1. Create slides with Headers and footers.
- 2. Create a slide show with minimum 5 slides to advertise a product.
- 3. Create slide s with different fonts and bullets.
- 4. Create a slide show with animation effect.
- 5. Create a organization chart for a college.

## CORE COURSE I - Programming in C

## 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 .

## **Text Book:**

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

## **Reference Books**

1. B.W. Kernighan and D.M.Ritehie, The C Programming Language, 2nd Edition, PHI, 1988.

2. H. Schildt, C: The Complete Reference, 4th Edition, TMH Edition, 2000.

3. Kanetkar Y., Let us C, BPB Pub., New Delhi, 1999.

4. M.T.Somashekara , Problem Solving in C, PHI, 2009.

#### **CORE PRACTICAL I- PROGRAMMING IN C LAB**

- 1. Write a Program to find greatest of Three numbers.
- 2. Write a Program to using switch statement to display Monday to Sunday.
- 3. Write a Program to find whether given number is Even or Odd.
- 4. Write a program to find the given text is palindrome or not.
- 5. Write a Program to display first Ten Natural Numbers and their sum.
- 6. Write a Program to find Multiplication of Two Matrices.
- 7. Write a Program to find the maximum number in Array using pointer.
- 8. Write a Program to reverse a number using pointer.
- 9. Write a Program to solve Quadratic Equation using functions.
- 10. Write a Program to find factorial of a number using Recursion.
- 11. Write a Program to handle string function.
- 12. Write a Program to show Call by Value and Call by Reference.
- 13. Write a Program to add two numbers using pointer.
- 14. Write a Program to create a file containing Student Details.

15. Write a Program to update the details of student's information using various file modes.

#### **SECOND ALLIED II - DIGITAL LOGIC AND MICROPROCESSOR**

## **Unit-I: Binary Systems**:

Digital Computers and Digital Systems - Binary Numbers - Number Base Conversion – Octal and Hexadecimal Numbers - Compliments - Binary Codes - Binary Logic - Integrated Circuits.

## Unit-II: Boolean algebra and Logic Gates:

Basic Definitions of Boolean Algebra - Axiomatic Definition of Boolean Algebra - Basic Theorems and Properties of Boolean Algebra - Boolean Functions - Canonical and Standard Forms - Digital Logic Gates.

## **Unit-III: Simplification of Boolean Functions**

The Map Method - Two and Three Variable Maps - Four Variable Map -Product of Sums Simplifications - Don't Care Conditions.

## **Unit-IV: Combinational Logic**

Adders - Subtractors - Binary Adder – Encoder - Decoders – multiplexor and demultiplexture - Flip Flops - Registers - Shift registers-Ripple counters-Synchronous Counters - The Memory Unit.

## **UNIT-V: Microprocessor:**

Microprocessors and Assembly Languages – History of Micro Processor - Micro Processor Architecture and its operations – 8085 MP.

## **Text Book**

1. M. Morris Mano, "Digital Logic and Computer Design", PHI, 1996

## **Reference Books**

1. Louis Neshelsky, "INTRODUCTION TO DIGITAL TECHNOLOGY", John Wiley & Sons, Third

Edition, 1983.Digital Logic Design – Lloyd

2. R.S.Gaonkar, Microprocessor Architecture – Programming and Application with

8085/8080A, Wiley Eastern Limited, 1990.

3. A.Mathur, Introduction to Microprocessor, Third Edition, Tata McGrawHill Publishing

Co.Ltd.,1993.

## CORE COURSE III – FUNDAMENTALS OF DATA STRUCTURE

## UNIT-I

Introduction and overview:Introduction-Basic Terminology- Data Structures-Data Structure Operations-Mathematical Notation and gunctions-Algorithmic Notation-control structures-Complexity of Algorithms.

## UNIT-II

String processing:Introduction-Basic Terminology-Storing strings-Character data type-String operation-Word processing-Arrays,Records and Pointers: Linear Arrays-Represention of Linear Arrays in memory-Inserting and Deleting –Bubble Sort-Binary search-Multidimensional-arrays-pointers arrays.

## UNIT-III

Recursion, Queue- operations - Singly Linked List - Operations, Application – Representation of a Polynomial, Polynomial Addition. Doubly Linked List - Operations.

## UNIT-IV

Trees: Binary Trees - Operations - Recursive Tree Traversals.

## UNIT-V

Graph - Definition, Types of Graphs, Graph Traversal - DFS and BFS. Sorting by selection – Sorting by exchange (Bubble) – Sorting by insertion – Linear Search -Binary Search.

## **Text Books**

1. Data structure by N.Dale, publishers narosa publishing, Edition 2000

#### CP III COMPUTER APPLICATION IN BUSINESS TALLY LAB

- 1. Creating a company profile.
- 2. Creating a groups, editing and deleting a group in a company.
- 3. Creation and alteration of voucher(payment voucher, sales voucher and purchase voucher).
- 4. Generate a simple Trial Balance.
- 5. Generate a simple Profit and loss account.
- 6. Ledger creation using account package.
- 7. To prepare an inventory reports.

#### NON MAJOR ELECTIVE I 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
Text Book :

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.

## SECOND ALLIED III-MANAGEMENT INFORMATION SYSTEMS

## UNIT I:

Management Information: Meaning of Information – Attributes of information

Information needs of managers – Web databases – Data warehousing – Knowledge

management – Information system for decision making.

## UNIT II:

Types of information systems: Transaction processing systems – Office automation

 $systems-Decision\ support\ systems-Executive\ support\ systems-$ 

Management

information systems: Evolution of MIS – Computers and MIS.

## UNIT III:

System analysis – System planning and the mutual investigation – System design – The process and stages of system design - Input/Output forms design – File organization –System implementation.

## UNIT IV:

Management information needs and communication links for marketing system,

Production system, Accounting system, Manufacturing system, Inventory control system and budgetary control system – IS organization – Top managements responsibility –Data processing group's responsibility.

## UNIT V:

Development, maintenances of MIS – Operation of manual information system, Role of computer in MIS – Database concepts, Expert systems – System audit.

## **Text books:**

1. Effy oz, "Management Information Systems", Second edition, Thomson Learning

Course Technology, 2002.

2. Jawadekar W.S, "Management Information Systems", Tata McGraw Hill Publishing

Company Limited, 2002.

3. Kenneth.C Laudon and Jane P.Laudon, "Management Information Systems",

Prentice Hall of India Ltd., 2002.

4. P.t Joseph & Sanjay mohapatra, "Management Information Systems", Prentice

Hall of India Ltd., 2009.

#### **Reference Books:**

1. David Knoenke(1989), "management information systems", Tata McGraw Hill, Delhi.

2. landon K.C. and Landon J.P(2001), "Management Information systems", MaxWell Macmillan publishing company.

## CORE COURSE IV-PROGRAMMING IN JAVA

## 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 – StringBuffer 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 -

Exception and Inheritance – Throwing User-defined Exceptions– Advantages of Exception Handling Mechanism – Multithreading : Introduction – Creating Threads – Thread Life-cycle – Thread Priorities and Thread Scheduling

## Unit V

Files and I/O Streams : Overview – Java I/O – File Streams – FileInputStream and FileOutputStream – File Streams - 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 9

## CORE PRACTICAL IV PROGRAMMING IN JAVA LAB

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.

## **SBE I WEB DESIGN LAB**

- 1. Create Application form using various text formats.
- 2. Create POOMPUHAR COLLEGE website using HTML tags.
- 3. Create Mark sheet preparation using HTML.
- 4.Create a HTML page using order and un order list
- 5. Create a program to display bio data using HTML tag
- 6.Create a Program to illustrate Embedded Multimedia.
- 7. Prepare a newspaper format using HTML tag
- 8. Program to display image tag
- 9. Program to illustrate Hyper link tag.
- 10. Program to illustrate frame tag.

## NON MAJOR ELECTIVE II

#### INTRODUCTION TO 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

Computer Networks - WWW and Internet - Email - Web Design -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

## **CORE COURSE V – COMPUTER GRAPHICS**

#### Unit I

Introduction: Overview – Brief History – Applications of Computer Graphics – Video Display Generation – Input Devices – Hard Copy output Devices – Graphics System Software– Output Primitives: Point Plotting – Line Draw Algorithms – Using Equation of a line – DDA – Bresenham's algorithm – Circle Generation Algorithms – Drawing Ellipse

#### Unit II

Two Dimensional Transformations: Transformation Principles – Basic Transformations – Matrix Representation – Composite Transformations.

#### Unit III

Two dimensional viewing and Clipping: Viewing Transformations – Windows and viewpoints – Aspect Ratio – Clipping and Shielding: Point Clipping – Line Segment Clipping– Convex polygon clipping – Sitherland Hodgman Algorithm.

#### Unit IV

Three Dimensional Transformations: Concepts – Basic Transformations: Translation, Scaling, Rotation and Mirror Reflection – Matrix Representation – Composite Transformation.

#### Unit V

User Interface design: Components of User interface – The User's model – The Command Language – Styles of Command Language – Information Display – Feedback – Examples.

#### **Text Books**

- 1. M. Newman and F.Sproull, Interactive Computer Graphics, McGraw Hill.
- 2. Plastok and Gordon Kalley, Computer Graphics, McGraw Hill.

#### **Reference Book**

1. Foley Feiner, Computer Graphics, Principles and Practice – Addison Wesley.

## CORE COURSE VI DATABASE SYSTEMS

## 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 - 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 COURSE VII OPERATING SYSTEMS

#### **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.

## CORE PRACTICAL V – RDBMS LAB

Creation of a Database and performing various operations given below using a menu driven program. a. Insertion b. Deletion c. Modification d. Generating as simple

report for the following:

- 1. Table creation and simple queries.
- 2. Constraints ( Primary key, forien key, Not Null , Referential integrity).
- 3. Joins (left,right and equi joins).
- 4. Sub queries.
- 5. Built-in functions (Date & time, mathematical functions ).
- 6. Procedures.
- 7. Functions.
- 8. Functions with exception handling capability.
- 9. Cursors.
- 10. Triggers.

## **MBE 1 - MOBILE COMPUTING**

#### Unit I

Introduction: Applications-Mobile and Wireless Devices – Simplified Reference Model – Need for Mobile Computing – Wireless Transmission – Multiplexing – Spread Spectrum and cellular systems – Medium Access Control – Comparisons

#### Unit II

Telecommunications System: Telecommunication System – GSM – Architecture – Protocols – Hand over - Security – UMTS and IMT 2000 – UMTS System Architecture- Satellite

## System

## **Unit III**

Wireless LAN : IEEE S02.11 –System Architecture- Protocol Architecture-Medium Access Control Layer-MAC Frame-MAC Management—Roaming-Bluetooth:Architecture-Link Manager Protocol.

#### Unit IV

Mobile IP: Goals – Packet Delivery – Strategies – Registration – Tunneling and Reverse Tunneling – Adhoc Networks – Routing Strategies **Unit V** 

WIRELESS APPLICATION PROTOCOL: Wireless Application Protocol (WAP) – Architecture – XML – WML Script – Applications

## **Text Books**

1. J.Schiller, Mobile Communication, Addison Wesley, 2000.

#### References

1. William C.Y.Lee, Mobile Communication Design Fundamentals, John Wiley, 1993.

2. William Stallings, Wireless Communication and Networks, Pearson Education, 2003.

3. Singhal, WAP-Wireless Application Protocol, Pearson Education, 2003.

#### SKILL BASED ELECTIVE II – MULTIMEDIA. UNIT- I

Definition - Classification - MM application - MM H/w - MM s/w - CDROM - DVD.

## UNIT-II

MM Audio: Digital medium - Digital audio technology - sound cards recording - editing -MP3 - MIDI fundamentals - Working with MIDI - audio file formats - adding sound to MM project.

#### UNIT-III

MM TEXT: Text in MM - MM graphics: coloring - digital imaging fundamentals development and editing - file formats - scanning and digital photography.

#### Text book

1. Multimedia Making it Work - Tay Vaughen 6th edition - TMH

#### **Reference Books**

1. Multimedia Magic - S.Gokul revised and updated second edition - BPB 2. Kiran Thauras,Prabhut k.andleigu – Multimedia System Design - Printice Hall India.

3. Malay k pakhira, Computer graphics, Multimedia and Animation - Printice Hall India.

#### SKILL BASED ELEICTIVE III-

#### PC Assembling LAB

1. Installing the motherboard.

2.Installing the CPU and heat sink.

3.Installing the RAM.

4Installing the power supply.

5.Installing the hard disk and optical drive.

6.Connecting various cables (ATX power connector, cabinet cables for

power, reset button, front USB/audio panel cable).

7. **<u>BIOS settings</u>** – setting time, changing boot sequence, system password

setting

8. Changing CMOS battery

9.Connecting extra cabinet fan

## CORE COURSE VIII 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- Nework 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 Edison, 2013

## **Reference Book:**

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

#### **CORE COURSE 9 - PROGRAMMING IN PHP**

#### 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** 

#### UIIIt I V Eile Uendlin

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 LAB

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.

#### MBE II SOFTWARE ENGINEERING.

UNIT- I

Introduction to Software Engineering – Some Definition – Some size factors- Quality and productivity factors – Managerial Issues. UNIT- II

Planning a software project Introduction – Defining the problem – Developing a Solution Strategy – Planning the Development process – Planning an Organizational Structure – Other planning activities. UNIT – III

Software Cost Estimation – Software cost Estimation Techniques – Staffing level Estimation – Estimating Software Maintenance Costs. UNIT- IV

Software Design – Fundamental Design Concepts – Modules and Modularization criteria – Design notations – Design Techniques – Details design considerations – Real Time and distributed system design – Test plans – Milestones, Walkthroughs, and Inspections – Design Guidelines. UNIT - V

Verification and validation Techniques – Quality Assurance – Static Analysis – Symbolic Execution – Unit Testing and debugging – System Testing – Formal Verification.

TEXT BOOK:

SOFTWARE ENGINEERING CONCEPTS – RICHARD E.FAIRLY – TATA MCGRAW – HILL EDITION.

#### MBE III – DATA MINING AND DATA WAREHOUSING

#### Unit I INTRODUCTION

Introduction – Basics of Data Mining – Data Mining Versus Knowledge Discovery in Database – Data Mining Issues – Data Mining Metrics – Social Implications of Data Mining – Data Mining from a Database Perspective

#### Unit II

#### **RELATED CONCEPTS**

Database/OLTP Systems – Fuzzy Sets and Fuzzy Logic – Information Retrieval – Decision Support Systems – Dimensional Modeling – OLAP – Web Search Engines

#### DATA MINING TECHNIQUES

Introduction – A Statistical Perspective on Data Mining – Similarity Measures – Decision Trees – Neural Networks – Genetic Algorithms

#### Unit III

#### **ASSOCIATION RULES**

Introduction – Large Item sets – Basic Algorithms – Parallel and Distributed Algorithms – Comparing Approaches – Incremental Rules – Advanced Association Rule Techniques – Measuring the Quality of Rule Techniques – Measuring the Quality of Rules

#### Unit IV

**INTRODUCTION:** What is a data Warehouse?

**DELIVERY PROCESS:** Data warehouse delivery method

**SYSTEM PROCESSES:** Introduction – Overview – Typical process flow within a data warehouse – Extract and load process – Clean and transform data – Backup and archive process – Query management process.

**PROCESS ARCHITECTURE:** Introduction – Load manager – Warehouse manager – Query manager

Unit V

#### SYSTEM AND DATA WARE HOUSE PROCESS MANAGERS

Introduction – Why you need tools to manage a data warehouse – system managers – Data warehouse process managers – Load manager – Warehouse manager – Query manager

#### CAPACITY PLANNING, TUNING AND TESTING

Introduction – Process – Estimating the load

#### TUNING THE DATA WAREHOUSE

Introduction – Assessing performance – Tuning the data load – Tuning queries

#### **Text Books**

- 1. Data Warehousing In The Real World Sam Anahory, Dennis Murray Pearson Education [LPE] Thirteenth Indian Reprint, 2005
- 2. Data Mining Introductory And Advanced Topics Margaret H. Dunham Pearson Education [LPE] First Impression, 2006

#### **Reference Book**

- 1. Insight Into Data Mining Theory And Practice By K.P.Soman Shyam Diwakar V.Vijay PHI Publication
- 2. Data Warehousing, Data Mining, And Olap By Alex Berson And Stephen J.Smith TMH Publication