THIRUVALLUVAR UNIVERSITY  
BACHELOR OF COMPUTER APPLICATIONS  
DEGREE COURSE  
CBCS PATTERN  
(With effect from 2012-2013)

The Course of Study and the Scheme of Examinations

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**SEMESTER IV**

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BACHELOR OF COMPUTER APPLICATIONS

SYLLABUS
CBCS PATTERN
(With effect from 2012-2013)

SEMESTER I

PAPER - 1

DIGITAL LOGIC AND MICROPROCESSOR

Unit-I: Binary Systems:


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 - multiplexure and demultiplexure - Flip Flops - Registers - Shift registers-Ripple counters - Synchronous Counters - The Memory Unit.

Text Book


Reference Books

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 slides with different fonts and bullets.
4. Create a slide show with animation effect.
5. Create an organization chart for a college.
MATHEMATICAL FOUNDATIONS I

Objectives

To know about

Logical operators, validity of arguments, set theory and set operations, relations and functions, linear operations, Binary algebra, Permutations & Combinations, Differentiation, Straight lines, pair of straight lines, Circles, Parabola, Ellipse, Hyperbola.

UNIT-I : SYMBOLIC LOGIC

proposition, Logical operators, conjunction, disjunction, negation, conditional and bi-conditional operators, converse, Inverse, Contra Positive, logically equivalent, tautology and contradiction. Arguments and validity of arguments.

UNIT-II : SET THEORY

Sets, set operations, venndiagram, Properties of sets, number of elements in a set, Cartesian product, relations & functions,

Relations : Equivalence relation. Equivalence class, Partially and Totally Ordered sets,

Functions: Types of Functions, Composition of Functions.

UNIT-III : BINARY OPERATIONS


UNIT-IV : DIFFERENTIATION

Simple problems using standard limits,

\[
\lim_{x \to a} x^n, \lim_{x \to 0} \sin x, \lim_{x \to 0} \tan x, \lim_{x \to 0} e^x - 1, \lim_{x \to 1/n} (1 + 1/n)^n, \lim_{x \to 0} (1 + n)^{1/n}
\]

Differentiation, successive differentiation, Leibnitz theorem, partial differentiation, Applications of differentiation, Tangent and normal, angle between two curves, Maximum and Minimum values (Second derivative test), Curvature and radius of Curvature (Cartesian coordinates), Envelopes.
Straight Lines - Pair Straight Lines – Circles.

Reference Books

2. U. Rizwan, Mathematical Foundation - SciTech, Chennai
PROGRAMMING IN C

UNIT-I


UNIT-II

Data input and output functions - Simple C programs - Flow of control - if, if-else, while, do- while, for loop, Nested control structures - Switch, break and continue, go to statements - Comma operator.

UNIT-III

Functions -Definition - prototypes - Passing arguments – Function within a function-Recursion.

UNIT-IV

Storage Classes - Automatic, External, Static, Register Variables .Arrays - Defining and Processing - Passing arrays to functions - Multi-dimension arrays - Structures - User defined data types.-unions-bitwise operators.

UNIT-V

Pointers - Declarations - Passing pointers to Functions - Operation on Pointers - Pointer and Arrays - Pointers - Structures and Pointers - Files: Creating, Processing, Opening and Closing a data file.

Text Book


Reference Books

PROGRAMMING IN C LAB

1. Summation of Series : Sin(x) (Compare with built in functions)
2. Summation of Series Cos(x) (Compare with built in functions)
3. Counting the no. of vowels, consonants, words, white spaces in a line of text and array of lines
4. Reverse a string & check for palindrome.
5. \(^nP_r, \ ^nC_r\) in a single program.
6. GCD of two number
7. Bubble Sort
8. Linear Search
9. Demonstration of pointer Arithmetic
10. Finding the maximum number in a set
11. Finding the minimum number in a set
12. Merge two arrays of integers both with their elements in ascending order into a single ordered array.
MATHEMATICAL FOUNDATIONS II

Objectives


UNIT-I : MATRICES

Multiplication of matrices, Singular and Non-Singular matrices, Adjoint of a Matrix, Inverse of a matrix Symmetric and Skew-Symmetric, Hermitian and Skew-Hermition, Orthogonal and unitary matrices, Rank of a matrix, Solution of Simultaneous Linear equations by

(i) Cramer’s rule.
(ii) Matrix Inversion Method.

UNIT-II: MATRICES

Test for Consistency and Inconsistency of linear equations, (Rank Method), characteristic roots and characteristic vectors, Cayley - Hamilton theorem, matrix of linear transformations: reflection about the x, y axes and the line y=x, rotation about the origin through an angle, expansion or compression, shears, translation.

UNIT-III

Integration Simple problems, integration of rational function involving algebraic expressions of the form

\[
\frac{1}{ax^2+bx+c}, \frac{1}{ax^2+bx+c}, \frac{px+q}{ax^2+bx+c}, \frac{px+q}{ax^2+bx+c}
\]

integrations using simple substitutions integrations involving trigonometric functions of the form

\[
\frac{1}{a+b \cos x}, \frac{1}{a^2 \sin^2 x+b^2 \cos^2 x}
\]

Integration by parts.

UNIT-IV

Properties of definite integrals. Reduction formulae for

\[
\int x^n e^{ax} dx, \int \sin^n x dx, \int \cos^n x dx, \int x^m (1-x)^n dx
\]

applications of integration for (i) Area under plane curavles, (ii) Volume of solid of revolution.
Reference Books

2. U. Rizwan, Mathematical Foundation - SciTech, Chennai
UNIT-I

Principles of object oriented programming (oop)-Evolution of C++ -key concepts of oop .
Input and Output in C++-Streams-Stream classes Unformatted console I/O operations-
Member functions of istream class-manipulators-manipulators with parameters

UNIT-II

Introduction to C++; Tokens, Keywords, Identifiers, Variables, Operators, Expressions and
Control Structures: If, If..Else, Switch - Repetitive Statements- for, while, do,, While -
Pointers and arrays

UNIT-III

Functions in C++ - Main Function - Function Prototyping - Parameters Passing in Functions -
Values Return by Functions - inline Functions - Function Overloading
Classes and Objects; Constructors and Destructors; and Operator Overloading - Type of
Constructors

UNIT - IV

Inheritance: Single Inheritance - Multilevel inheritance - Multiple inheritance - Hierarchical
Inheritance - Hybrid Inheritance - Virtual Functions and Polymorphism

UNIT-V

Working with Files: Classes for File Stream Operations - Opening and Closing a File - End-of-
File Detection - Updating a File - Error Handling during File Operations -

Text Books

1. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C ++, Pearson
Education, 2006
2. Bala gurusamy, c++ programming, TMH.
UNIT-I
Definition of a Data structure - primitive and composite Data Types, Arrays, Operations on Arrays, Ordered lists.

UNIT-II
Stacks - Operations - Applications of Stack - Infix to Postfix Conversion.

UNIT-III

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
UNIT-I


UNIT – II


UNIT-III


UNIT-IV


UNIT-V


Text book:

1) COMPUTER NETWORKS - ANDREW TANENBAUM - 3rd Edition PHI
   Reference books

1) Computer networks – WILLIAM STALLING - PHI
1. Program to implement classes, object, constructors and member functions for calculating area and perimeter of a circle.

2. Program to implement the concept of function overloading to compute the volume of a geometric primitive (eg: cylinder, sphere etc)

3. Program to implement the concept of operator overloading to compute addition and subtraction of matrices.

4. Program to incorporate the concept of single, multiple inheritance.

5. Program to create, write read a sequential file using error handling functions.

6. Implement PUSH, POP operations of stack using Arrays.

7. Implement add, delete operations of a queue using Arrays.

8. Creation, insertion, and deletion in Singly linked list.


ALLIED 2
PAPER - 3

FINANCIAL ACCOUNTING I

Objective for Financial Accounting and Cost and management Accounting

To provide wide options for Economics students to enter into the fields like M.A. (Eco.) M.B.E., C.A., I.C.W.A., M.Com., M.B.F., M.I.B., and M.B.A. successfully. As per the University norms students who have studied two Accounts Papers alone are eligible to get admission in M.Com., During the present regime of Globalization to succeed in the business, Trade and in Entrepreneurial activities knowledge in Accounts are very much essential. To create manpower to cater to the needs of the emerging corporate sector.

UNIT-I


UNIT-II

Final Accounts : Meaning - Preparation of Final Accounts - Trading Account - Profit and loss a/c Manufacturing a/c- Balance Sheet - Distinction between Trial Balance and Balance Sheet - Adjustment Entries.

UNIT-III

Depreciation Accounting: Meaning of Depreciation - Methods of Providing Depreciation - Fixed Percentage on Original Cost - Fixed Percentage on Diminishing Balance (including change in the method of depreciation).

UNIT-IV

Average Due Date: Meaning - Practical uses of average due date - basic problems in Average Due Date.

UNIT-V

B.C.A.: Syllabus (CBCS)

FULL BASED SUBJECT
PAPER - 1

MANAGEMENT INFORMATION SYSTEMS

UNIT I:


UNIT II:


UNIT III:


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:

Reference Books:

INTRODUCTION TO INFORMATION TECHNOLOGY

UNIT–I


UNIT–II

Microsoft Word - Microsoft Excel – Microsoft PowerPoint – Microsoft Access

UNIT–III


UNIT–IV

Introduction to Internet – Working of Internet- Internet Services – Internet Addressing – E-Mail Basics- Web Development Tools- Introduction to HTML

UNIT–V


References

5. ITL Edn Solutions,”Introduction to Computer Science“, Pearson Education.
SEMESTER IV

PAPER – 6

JAVA PROGRAMMING

UNIT- I

Introduction to Java - Features of Java - Object Oriented Concepts - Data Types - Variables - Arrays - Operators - Control Statements-Input and output-Scanner and System class-print(), println(), and printf() methods.

UNIT- II

Classes - Objects - Constructors - Overloading method - Access Control - Static and fixed methods - Inner Classes - String Class - Inheritance - Overriding methods - Using super-Abstract class – Type Wrapper classes for primitive types – Auto boxing and auto Unboxing -Recursion.

UNIT- III

GUI components – Common GUI Event types and Listener Interfaces- JoptionPane – JLabel, JTextField, JButton, JCheckBox, JTextarea, JComboBox, JList, JPanel. – Mouse Event Handling - Adapter Classes- Key Event Handling.

UNIT- IV


UNIT- V


Text Books

UNIT I:


UNIT II:


UNIT III:

System design: The analysis to design transition – Specifying application requirements – Objectives in designing an information systems – Design of computer output- Types of output – Design of input and control – Capturing data for input.

UNIT IV:


UNIT V:

Books for Study:


Reference Books:


UNIT-I

Electronic Commerce Framework, Traditional vs. Electronic business applications, the anatomy of E-commerce applications.

UNIT-II


UNIT-III

Network security and firewalls - client server network security - firewalls and network security - data and message security - encrypted documents and electronic mail.

UNIT-IV

Electronic Commerce and world wide web, consumer oriented E-commerce, Electronic payment systems, Electronic data interchange (EDI), EDI applications in business, EDI and E-commerce EDI implementation.

UNIT-V


Text Book


Reference Books

1. Finding area and Perimeter of a circle. Use Scanner class.
2. Determining the order of numbers generated randomly using Random Class.
3. String Manipulation (Substring removal, string replacement etc.,)
4. Drawing Rectangles, Ovals etc using Applet.
5. Implementing Thread based applications & Exception Handling.
6. Application using synchronization such as Thread based, Class based and synchronized statements.
7. Implementing GUI based applications using swing components (Jlabel, JButton, JTextField)
8. Implementing GUI based application using Layout managers and menus.
9. Application using file streams(sequential file)
10. Application using file streams(Random file)
FINANCIAL ACCOUNTING II

UNIT-I

Branch Accounts: Dependent Branches - Stock and Debtors System- Distinction between Wholesale Profit and Retail Profit - independent branch (foreign branches excluded).

UNIT-II

Departmental Accounts: Basis for allocation of expenses - Inter Departmental Transfer at cost or selling price - Treatment of expenses which cannot be allocated.

UNIT-III

Installment Purchase System: Meaning and Legal Position - Distinction between Hire Purchase System and Installment Purchase System - Accounting Treatment.

UNIT-IV

Partnership Accounts: Admission of a partner - Retirement of a Partner - Death of a Partner - Dissolution of Partnership - Insolvency of a Partner - (Garner vs Murray) - Insolvency of all partners - gradual realisation of assets and piecemeal distribution.

UNIT-V

Mechanised System of Accounting: Advantages - Limitations - EDP.
MOBILE COMPUTING

UNIT-I


UNIT-II


UNIT-III


UNIT-IV


UNIT-V:


TEXT BOOK:

1. JOCHEN SCHILER , “Mobile Communication”, Addison Wesley, 2000. REFERENCES:
2. www.awl.com/cseng
3. www.dect.ch
INTERNET AND ITS APPLICATIONS

UNIT - I

Introduction to Computers Programming Language types History of Internet Personal Computers History of World Wide Web- Micro software .NET Java-Web resources.

UNIT - II

Web Browsers- Internet Explorer- connecting to Internet Features of Internet explorer6 Searching the Internet- online help and tutorials- File Transmission Protocol (FTP) Browser settings.

UNIT III

Attaching a file, Electronic mail Creating an E-mail id Sending and Receiving mails-attaching a file-Instance messaging- other web browsers.

UNIT IV

Introduction to HTML headers - Linking- Images-special characters and line breaks-unordered lists- simple HTML programs.

UNIT V

E-marketing consumer tracking Electronic advertising search engine-CRM- credit card Payments- Digital cash – e wallets – smart card.

Textbook

Internet and World Wide Web Third edition H.M.Deital, P.J. Deital and A.B.Goldberg-PHI

Book for Reference

The Internet- Complete Reference Harley hahn, Tata McGraw hill
DATABASE MANAGEMENT SYSTEMS

UNIT-I


UNIT-II

Relational Model - Structure - Formal Query Language - Relational Algebra - Tuple and Domain Relational Calculus.

UNIT-III

Structured Query Language - Basic Structure - Set Operations - Aggregate Functions - Date, Numeric and Character Functions - Nested Sub queries - Modification Of Databases Joined Relations-DDL - Embedded SQL.

UNIT-IV

Relational Database Design - Pitfalls - Normalisation Using Functional Dependencies - First Normal Form-Second Normal Form-Third Normal Form-Fourth Normal Form And BCNF.


Text Books

UNIT -I


UNIT -II

Displaying information-Determinate loops, indeterminate loops -Conditionals Built in function-Function and Procedure.

UNIT -III

Arrays-List-Sorting and searching record - Control arrays-Grid control-Project with multiple form-Do events and sub main –Error trapping.

UNIT -IV


UNIT V:

File and handling-File system control-File system objects.

Books for Study:

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, foreign 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.
PRACTICAL - 6

VISUAL PROGRAMMING LAB

1. Building simple application
2. Application with multiple forms
3. Application with dialogues
4. Application with menus
5. Application using data control
6. Application using format dialogues
7. Drag and Drop events
8. Database Management
9. Creating ActiveX controls
B.C.A.: Syllabus (CBCS)

ELECTIVE (to choose any 1 out of 3)

PAPER - 1

A. OPERATING SYSTEM

UNIT-I

Introduction - types of operating systems - operating system services - system calls and system programs.

UNIT-II

Process management - Process concepts - process scheduling - operation on process Inter process communication - CPU scheduling - scheduling algorithms – Deadlocks

UNIT-III

Memory Management - Single and multiple partitioned allocation – paging -segmentation - Virtual Memory Management - Demand paging and Page Replacement Algorithms

UNIT-IV


UNIT-V

UNIX: Unix system - A Case Study.OR LINEX System case study.

Text Book

Abraham Silberschatz and P. B. Galvin - Operating system concepts - Addison Wesley Publication.
UNIT-I

**Introduction to Software Engineering:** Definitions - Size Factors - Quality and Productivity Factors - Managerial Issues - **Planning a Software Project:** Defining the Problem - Goals and Requirements - Solution Strategy - **Planning the Development Process:** Various Models - Planning an Organizational Structure - Planning Activities.

UNIT- II


UNIT-III


UNIT- IV

**Modern programming Language Features:** - Type Checking - Separate Compilation - User Defined Data Types - Data Abstraction - Scoping Rules - Exception Handling - Currency Mechanism Verification and Validation Techniques.

UNIT-V


**Text Books**

3. Software Engineering Programs Documentation Operating procedures
UNIT 1:


UNIT 2:

Distance based Network Algorithms-Dijkstra’s Algorithm-Floyd’s Algorithm-Minimum spanning tree problem.

UNIT 3:

Search Algorithms: Variable based search algorithms-Branch and Bound Algorithms.

UNIT 4:


UNIT 5:


Text Book:

A. DATA AND COMMUNICATION NETWORKS

UNIT-I

A communications model - Data Communications - Data Communications Networking - computer communication architecture - Analog and Digital - Transmission - Transmission Impairments - Transmission media.

UNIT-II

Data encoding - Digital data Digital signals , Digital data Analog signals,, Analog data Analog signals Data Communications Interface : Asynchronous and synchronous Transmission.

UNIT-III

Data link control: Flow controls - Error Detection - Error Control. MULTIPLEXING - Frequency Division multiplexing - Synchronous time - Division multiplexing - Statistical time division multiplexing.

UNIT-IV


UNIT-V


Text Books


Reference Books

PAPER – 2

ARTIFICIAL INTELLIGENCE

UNIT I:


UNIT II:


UNIT III:


UNIT- IV:


UNIT V:

Game playing – Minimax search procedure – Alpha beta cutoffs – additional refinements – Planning – Components of planning – Goal stack planning – Hierarchical planning.

Books for Study:


Reference Books:

C. SOFTWARE TESTING

UNIT-I:

Introduction: Purpose of testing, Dichotomies, model for testing, consequences of bugs, taxonomy of bugs.

UNIT-II:

Flow graphs and Path testing:- Basics concepts of path testing, predicates, path predicates and achievable paths, path sensitizing, path instrumentation, application of path testing.

UNIT-III:

Transaction Flow Testing:-transaction flows, transaction flow testing techniques. Dataflow testing:- Basics of dataflow testing, strategies in dataflow testing, application of dataflow testing.

UNIT-IV:

Domain Testing:-domains and paths, Nice & ugly domains, domain testing, domains and interfaces testing, domain and interface testing, domains and testability. Paths, Path products and Regular expressions:- path products & path expression, reduction procedure, applications, regular expressions & flow anomaly detection.

UNIT-V:

Logic Based Testing:- overview, decision tables, path expressions, kv charts, specifications. State, State Graphs and Transition testing:- state graphs, good & bad state graphs, state testing, Testability tips.

TEXT BOOKS:


REFERENCE BOOKS:

1. The craft of software testing - Brian Marick, Pearson Education.
2. Software Testing Techniques – SPD(Oreille)
UNIT – I


UNIT – II

Principles of public key cryptosystems - RSA algorithm - Key Management - Diffie-Hellman key exchange - Prime and relatively prime numbers.

UNIT – III

Fermat’s and Euler’s theorems - Testing of Primality - Euclid’s algorithm - Chinese Remainder Theorem.

UNIT – IV

Authentication requirements - authentication functions - message authentication codes - hash functions - Security of Hash functions and MACs.

UNIT – V

Secure Hash Algorithm - Digital Signatures - Authentication Protocols - Digital Signature Standards.

Text Book


Reference

5. V.K. Pachghare, "Cryptography and Infn Security", PHI.
SEMESTER VI
PAPER – 11

OPEN SOURCE SOFTWARE

UNIT I : HTML

Introduction to HTML- List- Creating Table- Linking document frames-Graphics to HTML Doc –Style sheet –Style sheet basic-Adding style to document-Style sheet properties-Font-text-list-color and background color-box-Display Properties.

UNIT II : LINUX


UNIT III : JAVA SCRIPT


UNIT IV : MYSQL

Introduction to MY SQL – The show Databases and Table – The USE command – Create Database and Tables – Describe Table – Select, Insert, Update, and Delete statement – Some Administrative detail – Table Joins – Loading and Dumping a Database.

UNIT V : PHP


2. Deitel & Deitel ,internet & world wide web How to program, Pearson Education
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

UNIT-IV

MM Animation: Computer animation fundamentals - Kinematics - morphing - animation s/w tools and techniques.

UNIT-V

MM Project: stages of project - MM skills - design concept - authoring - planning and costing – MM team

Reference Books

1. Multimedia Magic - S.Gokul revised and updated second edition - BPB
4. Malay k pakhira , Computer graphics, Multimedia and Animation - Printice Hall India.
1. Create a web page with Frames and Tables.

2. Create a web page incorporating CSS (Cascading Style Sheets)

3. Write a shell program to find the factorial of an integer positive number

4. Write a shell program for checking whether a given string is a palindrome or not.

5. Create a simple calculator in Java script.

6. Write a JavaScript program to scroll your name in the scroll bar.

7. Develop a program and check message passing mechanism between pages.

8. Develop a program and check file system functions, date & time functions.

9. Create a student database table in MYSQL and manipulate records
   (insert, delete, update) records in a web browser.

10. Develop a program using cookies and session.
PRACTICAL - 8
MULTIMEDIA LAB

1. Photo Effects:

Decolouring, Changing cloth texture and pattern, Changing background, Applying soft light effect.

2. Photo Retouching:

2.1 Colour correction, Blending Images, smooth skin effects, adding blur effects to background.
2.2 Converting black and white photo to colour photo.

3. Text Effect:

Creating Metatie text, Shining text, Illumines text, Transparent glass text, Marquee, Digital banner.

4. Image Editing:

   a. Editing – resize, change colour depth, resolution, file format, brightness, add and edit layer style, add text.
   b. Stitch and edit two images into single using selection, Lasso and elone stamp tools (masking).

5. Web Graphics:

   a. Creating a gif image using image ready for web
   b. Create a web navigation Image

6. Animation: Text:

   a. Text floating into screen from outside the screen.
   b. Animated Banner using image ready/any other software.
   c. Fade in fade out banners.

7. Animation: Image:

   a. Animated lightening strike.
   b. Mobile wall paper
   c. Icon animation

8. Create a digital clock Animation.
ELECTIVE
(to choose any 1 out of 3)

PAPER - 3

A. DATA WAREHOUSING AND DATA MINING

UNIT - I


UNIT - II


UNIT - III


UNIT - IV

Classification and prediction: Classification – Decision Tree Induction – Bayesian Classification – Prediction –Back Propagation – Accuracy and error measures.

UNIT - V


Text Books

2. Jiawei Han, Micheline Kamber, Data Mining Concepts and Techniques, Morgan Kaufman Publishers, 2009.


PAPER – 3

DIGITAL IMAGE PROCESSING

UNIT I:


UNIT II:


UNIT III:

IMAGE ENHANCEMENT: Point operations – contrast stretching, clipping and these holding density slicing, Histogram equalization, modification and specification, spatial operations – spatial averaging, low pass, high pass, band pass filtering, direction smoothing, medium filtering, generalized cestrum and homomorphism filtering, edge enhancement using 2-D IIR and FIR filters, color image enhancement.

UNIT IV:

IMAGE RESTORATION: Image observation models, sources of degradation, inverse and Wiener filtering, geometric mean filter, non linear filters, smoothing splines and interpolation, constrained least squares restoration.

UNIT V:

IMAGE DATA COMPRESSION AND IMAGE RECONSTRUCTION FROM PROJECTIONS: Image data rates, pixel coding, predictive techniques transform coding and vector DPCM, Block truncation coding, wavelet transform coding of images, color image coding. Random transform, back projection operator, inverse random transform, back projection algorithm, fan beam and algebraic restoration techniques.

Book for Study:

5. Madineri A. Joshi – DIP an algorithmic approach - Printice Hall India.
7. B. Chanda & D. Dutta Majumder, Digital Image Processing, PHI.
UNIT- I


UNIT- II


UNIT- III


UNIT- IV


UNIT- V

Managing Contracts – Types of contract – Stages and terms of a contract - Contract management and acceptance.

Text Book:

UNIT- I

Connecting to the Internet – Domain Name System - Exchanging E-mail – Sending and Receiving Files - Fighting Spam, Sorting Mail and avoiding e-mail viruses – types of viruses – Harmful effects of virus - Chatting and Conferencing on the Internet – Online Chatting.

UNIT – II


UNIT - III


Unit - IV


UNIT - V

What is Intra net – Advantages and disadvantages of intranet –components of intranet – Connecting a small LAN to the internet.

Textbook:

1. Internet and World Wide Web Third edition  H.M.Deital, P.J. Deital and A.B.Goldberg-PHI
3. The Internet- Complete Reference Harley hahn, Tata McGraw hill.
Creating an e-mail ID (create two e-mail ID with two different service provider) ~ Sending e-mail to your friend ~ Receiving e-mail from your friend ~ delete an e-mail ~ Attach a word file to your e-mail and send to your friend ~ Attach a spread sheet file to your e-mail and send to your friend ~ Attach a graph file to your e-mail and send to your friend ~ Attach your photograph to your e-mail and send to your friend ~ Redirect the mail you receive in your e-mail ID to some other e-mail ID.

Search the internet with two different search engines other than Google ~ Search for the blog ~ Search for a news item ~ Search the internet to find the road route from Vellore to Chennai and find out what is the distance in Km. ~ Access the internet with two different browser other than internet explorer ~ Use yahoo messenger ~ Start a chatting session by inviting your friend online ~ Accept others invitation for chatting ~ Access the facebook.

Access the internet and read two newspaper ~ Access the internet and read two news websites ~ Access the website of any one bank in India and find out what is the rate of interest for three years fixed deposit ~ Access the website of any one online bookstore and find out the price, author name, publisher name for a particular book ~ Download music from internet and play ~ Download video from internet and play ~ Access the website of Indian railways and find out the train timings between any two railway stations ~ Access the website of any one Indian car company website and one multinational car company website and write down the difference between them with respect to design, color, menus, user friendliness and content.
QUESTION PAPER PATTERN FOR PRACTICAL EXAMINATIONS:

Answer any **TWO** questions out of three (2/3) for each question 25 marks. 2x25=50 marks.

10 marks for record note book. Total 60 marks.

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