



DEPARTMENT OF COMPUTER SCIENCE (Shift – I)

PROGRAMME OUTCOME

- PO1:** Develop programs in various computer science technologies.
- PO2:** Acquire the knowledge of working principles of computers.
- PO3:** Improve analytical and critical thinking.
- PO4:** Analyze a problem and identify the requirements for solution.

PROGRAMME SPECIFIC OUTCOME

- PSO1:** Identify the software and hardware aspects of computer systems.
- PSO2:** Solve mathematical and statistical problems.
- PSO3:** Define the various stages of software system.
- PSO4:** Acquire in depth knowledge of computer technologies.
- PSO5:** Analyze the various applications of computer science.

SYLLABUS

Subject Name: Problem Solving Using Python

Year: I

Subject Code: SE21A

Semester: I

UNIT 1: Introduction: The essence of computational problem solving – Limits of computational problem solving-Computer algorithms-Computer Hardware-Computer Software-The process of computational problem solving-Python programming language - Literals - Variables and Identifiers - Operators - Expressions and Data types.

UNIT 2: Control Structures: Boolean Expressions - Selection Control - If Statement- Indentation in Python - Multi-Way Selection -- Iterative Control- While Statement- Infinite loops- Definite vs. Indefinite Loops- Boolean Flags and Indefinite Loops. Lists: List Structures - Lists in Python - Iterating over lists in Python.

UNIT 3 : Functions: Program Routines- Defining Functions- More on Functions: Calling Value-Returning Functions- Calling Non-Value-Returning Functions- Parameter Passing - Keyword Arguments in Python - Default Arguments in Python-Variable Scope.

UNIT 4 : Objects and their use: Software Objects - Turtle Graphics – Turtle attributes-Modular Design: Modules - Top-Down Design - Python Modules - Text Files: Opening, reading and writing text files - String Processing - Exception Handling.

UNIT 5 : Dictionaries and Sets: Dictionary type in Python - Set Data type. Object Oriented Programming using Python: Encapsulation - Inheritance – Polymorphism. Recursion: Recursive Functions.

TEXT BOOK:

1. Charles Dierbach, “Introduction to Computer Science using Python - A computational Problem solving Focus”, Wiley India Edition, 2015.

REFERENCE BOOKS:

1. Mark Lutz, “*Learning Python Powerful Object Oriented Programming*”, O’reilly Media 2018, 5th Edition.
2. Timothy A. Budd, “*Exploring Python*”, Tata MCGraw Hill Education Private Limited 2011, 1st Edition.
3. Allen Downey, Jeffrey Elkner, Chris Meyers, “*How to think like a computer scientist: learning with Python*”, 2012.
4. Sheetal Taneja & Naveen kumar, “*Python Programming a Modular approach – A Modular approach with Graphics, Database, Mobile and Web applications*”, Pearson, 2017.
5. Ch Satyanarayana M Radhika Mani, B N Jagadesh, “*Python programming*”, Universities Press 2018.

WEB REFERENCES

- <http://interactivepython.org/courselib/static/pythonds>
- <http://www.ibiblio.org/g2swap/byteofpython/read/>
- <http://www.diveintopython3.net/>
- <http://greenteapress.com/wp/think-python-2e/>
- NPTEL & MOOC courses titled Python programming
- http://spoken-tutorial.org/tutorial-search/?search_foss=Python&search_language=English

➤ <http://docs.python.org/3/tutorial/index.html>

COURSE OUTCOME:

CO1: Describe the core syntax and semantics of Python programming language.

CO2: Interpret the fundamental Python syntax and the use of Python control flow statements

CO3: Explain the need for working with functions in Python.

CO4: Develop simple turtle graphics programs in Python.

CO5: Explain the usage of Dictionaries, Sets and Object-Oriented programming concepts in Python.

LIST OF EXERCISES:

1. Program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.
2. Program to calculate total marks, percentage and grade of a student. Marks obtained in each of the five subjects are to be input by user. Assign grades according to the following criteria:
Grade A: Percentage ≥ 80 Grade B: Percentage ≥ 70 and < 80
Grade C: Percentage ≥ 60 and < 70 Grade D: Percentage ≥ 40 and < 60
Grade E: Percentage < 40
3. Program, to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.
4. Program to display the first n terms of Fibonacci series.
5. Program to find factorial of the given number using recursive function.
6. Write a Python program to count the number of even and odd numbers from array of N numbers.
7. Python function that accepts a string and calculate the number of upper case letters and lower case letters.
8. Python program to reverse a given string and check whether the give string is palindrome or not. 9. Write a program to find sum of all items in a dictionary.
10. Write a Python program to construct the following pattern, using a nested loop
1
22
333
4444
55555
666666
7777777
88888888
999999999
11. Read a file content and copy only the contents at odd lines into a new file.
12. Create a Turtle graphics window with specific size.
13. Write a Python program for Towers of Hanoi using recursion
14. Create a menu driven Python program with a dictionary for words and their meanings.
15. Devise a Python program to implement the Hangman Game.

COURSE OUTCOME:

- CO1:** Develop simple programs using input statements of Python programming language.
CO2: Implement various control structures of Python in simple programs.
CO3: Manipulate files using Python statements.
CO4: Develop simple turtle graphics window and towers of Hanoi using recursion in Python.
CO5: Implement menu driven Python programs and game programs like Hangman.

Subject Name: Allied Mathematics I
Subject Code: SM3AA

Year: I
Semester: I

UNIT 1: Algebra And Numerical Methods:

Algebra: Summation of series - simple problems.

Numerical Methods: Operators E, Δ, ∇ , difference tables- Newton-Raphson method- Newton's forward and backward interpolation formulae for equal intervals, Lagrange's interpolation formula. Chapter 2, Section 2.1.3, 2.2, 2.2.1, 2.3, 2.3.3 Chapter 3, Section 3.4.1 and Chapter 5, Section 5.1 and 5.2.

UNIT 2 : Matrices: Symmetric, Skew-Symmetric, Orthogonal, Hermetian, Skew-Hermetian and Unitary matrices. Eigen values and Eigen-vectors, Cayley-Hamilton theorem (without proof) – verification- Computation of inverse of matrix using Cayley - Hamilton theorem.

Chapter 4, Section 4.1.1 to 4.1.6, 4.5, 4.5.2, 4.5.3.

UNIT 3 : Theory Of Equations: Polynomial equations with real coefficients, irrational roots, complex roots, symmetric functions of roots, transformation of equation by increasing or decreasing roots by a constant, reciprocal equation-simple problems. Chapter 3, Section 3.1 to 3.4.1(omit section 3.2.1)

UNIT 4 : Trigonometry: Expansions of $\sin(n\theta)$ and $\cos(n\theta)$ in a series of powers of $\sin\theta$ and $\cos\theta$ - Expansions of $\sin n\theta$, $\cos n\theta$, $\tan n\theta$ in a series of sines, cosines and tangents of multiples of " θ " - Expansions of $\sin\theta$, $\cos\theta$ and $\tan\theta$ in a series of powers of " θ " – Hyperbolic and inverse hyperbolic functions .

Chapter 6, Section 6.1 to 6.3.

UNIT 5 : Differential Calculus: Successive differentiation, nth derivatives, Leibnitz theorem (without proof) and applications, Jacobians, Curvature and radius of curvature in Cartesian co-ordinates, maxima and minima of functions of two variables- Simple problems

Chapter 1, Section 1.1 to 1.3.1 and 1.4.3.

Content and treatment as in

Allied Mathematics, Volume I and II, by P. Duraipandian and S. Udayabaskaran, S. Chand Publications

Reference:-

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.
2. Allied Mathematics by Dr. A. Singaravelu, Meenakshi Agency.

e-Resources:

1. <http://www.themathpage.com>
2. <http://nptel.ac.in>

COURSE OUTCOME:

CO1: Evaluate the summation of series, Operators, Newton-Raphson Method, Newton's forward and backward formulae, Lagrange's Formula.

CO2: Calculate symmetric, Skew-Symmetric, Hermetian, Eigen Values and Vectors, Cayley – Hamilton theorem.

CO3: Determine Polynomial Equations, irrational and complex roots, transformation of equation, Reciprocal equation.

CO4: Explain the concepts of expansions of $\sin\theta$, $\cos\theta$ and $\tan\theta$ in a series of powers of " θ " Hyperbolic and inverse hyperbolic function.

CO5: Understand the concepts of Successive differentiation, Leibnitz theorem, Jacobians, curvature, radius of curvature and maxima and minima of functions.

Subject Name: Basics Of Retail Marketing
Subject Code: CC5AD

Year: I
Semester: I

Unit 1: Retailing – definition – Retail Marketing – Growth of organized retailing in India – importance of retailing.

Unit 2: Functions of retailing – characteristics of Retailing – Types of Retailing – store retailing – Non-store retailing.

Unit 3: Retail location factors – Branding in Retailing – private labeling – Franchising concept.

Unit 4: Communication tools used in Retailing – Sales promotion, e-tailing – window display

Unit5: Supply chain management – definition – importance – Role of information Technology in retailing.

Reference Books:

1. Modern Retail management – J.N.Jain and P.P. Singh Regal publications New Delhi.
2. Retail Management- SujaNair, Himalaya Publishing House.

COURSE OUTCOME:

CO1: Learn the importance of Retail Marketing

CO2: Discuss the types of Retailing.

CO3: Describe Branding in Retailing.

CO4: Understand the Communication Tools used in Retailing.

CO5: Explain the Role of Information Technology in Retailing.

Subject Name: Computer Organization
Subject Code: SAE2B

Year: I
Semester: II

UNIT 1: Data representation: Data types – Complements- fixed point and floating point representation other binary codes. Register Transfer and Microoperations: Register transfer language- Register transfer- Bus and Memory transfers – Arithmetic, logic and shift micro operations.

UNIT 2: Central processing unit: General register and stack organizations- instruction formats - Addressing modes- Data transfer and manipulation - program control- RISC - Pipelining - Arithmetic and instruction- RISC pipeline - Vector processing and Array processors.

UNIT 3: Microprocessor Architecture and its Operations - 8085 MPU - 8085 Instruction Set and Classifications. Programming in 8085: Code conversion - BCD to Binary and Binary to BCD conversions - ASCII to BCD and BCD to ASCII conversions - Binary to ASCII and ASCII to Binary conversions.

UNIT 4: Programming in 8085:BCD Arithmetic - BCD addition and Subtraction - Multibyte Addition and Subtraction - Multiplication and Division. Interrupts: The 8085 Interrupt – 8085 Vectored Interrupts –

UNIT 5: Direct Memory Access(DMA)and 8257 DMA controller - 8255A Programmable Peripheral Interface. Basic features of Advanced Microprocessors - Pentium - I3 , I5 and I7

COURSE OUTCOME:

CO1: Describe the major components of a computer system and state their function and purpose

CO2: Describe the microstructure of a processor

CO3: Demonstrate the ability to program a microprocessor in assembly language.

CO4: Classify and describe the operation DMA and peripheral Interfaces.

Subject Name: Computer Organization Lab
Subject code: SAE22

Year: I
Semester: II

LIST OF EXERCISES:

I : Addition and Subtraction

1. 8 - bit addition
2. 16 - bit addition
3. 8 - bit subtraction
4. BCD subtraction

II : Multiplication and Division

1. 8 - bit multiplication
2. BCD multiplication
3. 8 - bit division

III: Sorting and Searching

1. Searching for an element in an array.
2. Sorting in ascending order.
3. Finding largest and smallest elements from an array
4. Reversing array elements
5. Block move
6. Sorting in descending order

IV: Code Conversion

1. BCD to Hex and Hex to BCD
2. Binary to ASCII and ASCII to binary
3. ASCII to BCD and BCD to ASCII

V: Applications

1. Square of a single byte Hex number
2. Square of a two digit BCD number
3. Square root of a single byte Hex number
4. Square root of a two digit BCD number

COURSE OUTCOME:

CO1: Implement the arithmetic operations in assembly language programming

CO2: Understand the programming logic of 8085 in various aspects

UNIT 1 : Integral Calculus: Bernoulli's formula – Reduction formulae $\int_0^{\frac{\pi}{2}} \sin^n x dx$, $\int_0^{\frac{\pi}{2}} \cos^n x dx$, $\int_0^{\frac{\pi}{2}} \sin^m x \cos^n x dx$ (m, n being positive integers), Fourier series for functions in $(0, 2\pi)$, $(-\pi, \pi)$.
Chapter 2: Section 2.7 & 2.9, Chapter 4: Section 4.1.

UNIT 2 : Differential Equations: Ordinary Differential Equations: second order non-homogeneous differential equations with constant coefficients of the form $ay'' + by' + cy = X$ where X is of the form $e^{\alpha x} \cos \beta x$ and $e^{\alpha x} \sin \beta x$ -Related problems only.
Partial Differential Equations: Formation, complete integrals and general integrals, four standard types and solving Lagrange's linear equation $Pp + Qq = R$.
Chapter 5: Section 5.2.1, Chapter 6: Section 6.1 to 6.4

UNIT 3 : Laplace Transforms: Laplace transformations of standard functions and simple properties, inverse Laplace transforms, Application to solution of linear differential equations up to second order-simple problems.
Chapter 7: Section 7.1.1 to 7.1.4 & 7.2 to 7.3

UNIT 4 : Vector Differentiation: Introduction, Scalar point functions, Vector point functions, Vector differential operator Gradient, Divergence, Curl, Solenoidal, irrotational, identities.
Chapter 8, Section 8.1 to 8.4.4

UNIT 5 : Vector Integration: Line, surface and volume integrals, Gauss, Stoke's and Green's theorems (without proofs). Simple problems on these.
Chapter 8, Section 8.5 to 8.6.3.

Content and treatment as in

Allied Mathematics, Volume I and II, P. Durairandian and S. Udayabaskaran, S. Chand Publications.

Reference:-

1. S. Narayanan and T.K. Manickavasagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.
2. Allied Mathematics by Dr. A. Singaravelu, Meenakshi Agency.

e-Resources:

1. <http://www.sosmath.com>
2. http://www.analyzemath.com/Differential_Equations/applications.html

COURSE OUTCOME

CO1: Describe the concepts of Bernoulli's Formula, Reduction Formula, Fourier series.

CO2: Determine the Second order non-homogeneous differential equations, P.D.E formation and four standard types, Lagrange's linear equation.

CO3: Evaluate Laplace transformation, Inverse Laplace transforms, Application to solution of linear differential equations up to second order.

CO4: Calculate Scalar and Vector point functions, Gradient, Divergence, Curl, Solenoidal.

CO5: Explain the concepts of Surface and Volume integrals, Gauss, Stoke's and Green's Theorems and Problems.

Subject Name: Basics Of Business Insurance
Subject Code: CNE2B

Year: I
Semester: II

Unit 1: Introduction to Insurance - Type of Insurance - Principles of Insurance.

Unit 2: Salient features of IRDA Act - Administration of IRDA Act- Regulatory measures of IRDA

Unit 3: Life Insurance products — Term, Whole life, Endowment.

Unit 4: Introduction to general Insurance - fire, marine and motor insurance

Unit 5: Government and Insurance companies - LIC India- private players in insurance in India.

Book for Reference:

- i. Dr.N.Premavathy— Elements of Insurance Sri Vishnu Publications, Chennai.
- ii. Dr.A.Muthy — Elements of Insurance, Margham Publications, Chennai.
- iii. M.N.Mishra — Insurance, Principles and practice, S.Chand& Co. Ltd., New Delhi

References

- i. NaliniPravaTripathy, PrabirPaal — Insurance Theory & Practice. Prentice Hall of India.
- ii. AnandGanguly — Insurance Management, New Age International Publishers.

COURSE OUTCOME:

CO1: Discuss the Types of Insurance and Principles of Insurance.

CO2: Understand Administration of IRDA Act.

CO3: Describe Life Insurance Products.

CO4: Learn the introduction of General Insurance.

CO5: Learn the Government and Insurance Companies.

Subject Name: Programming In C++ And Data Structures
Subject Code: SAE3A

Year: II
Semester: III

Unit 1: Introduction to C++; Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++; Pointers - Functions in C++ - Main Function -Function Prototyping - Parameters Passing in Functions - Values Return by Functions - Inline Functions - Friend and Virtual Functions

Unit2: Classes and Objects; Constructors and Destructors; and Operator Overloading and Type Conversions - Type of Constructors - Function overloading. Inheritance : Single Inheritance - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance - Hybrid Inheritance. Pointers, Virtual Functions and Polymorphism; Managing Console I/O operations.

Unit 3: Working with Files: Classes for File Stream Operations - Opening and Closing a File - End-of-File Deduction - File Pointers - Updating a File - Error Handling during File Operations - Command-line Arguments. Data Structures: Definition of a Data structure - primitive and composite Data Types, Asymptotic notations, Arrays, Operations on Arrays, Order lists.

Unit 4: Stacks - Applications of Stack - Infix to Postfix Conversion, Recursion, Maze Problems - Queues- Operations on Queues, Queue Applications, Circular Queue. Singly Linked List- Operations, Application - Representation of a Polynomial, Polynomial Addition; Doubly Linked List - Operations, Applications.

Unit 5 : Trees and Graphs: Binary Trees – Conversion of Forest to Binary Tree, Operations – Tree Traversals; Graph – Definition, Types of Graphs, Hashing Tables and Hashing Functions, Traversal – Shortest Path; Dijkstra’s Algorithm.

1. Recommended Texts

- i. E. Balagurusamy, 1995, Object Oriented Programming with C++, Tata McGraw-Hill Publishing Company Ltd.
- ii. E. Horowitz and S. Shani, 1999, Fundamentals of Data Structures in C++ , Galgotia Pub.

COURSE OUTCOME:

CO1: Define basics OOP concepts of C++.

CO2: Construct object oriented programs using Classes and objects.

CO3: Identify various operations of files.

CO4: Implement data structure concepts such as stacks and queues.

CO5: Design and implement programs using trees and graph.

Subject Name: Data Structures Using C++ Lab
Subject Code: SAE31

Year: II
Semester: III

1. Implement PUSH, POP operations of stack using Arrays.
2. Implement PUSH, POP operations of stack using Pointers.
3. Implement add, delete operations of a queue using Arrays.
4. Implement add, delete operations of a queue using Pointers.
5. Conversion of infix to postfix using stack operations
6. Postfix Expression Evaluation.
7. Addition of two polynomials using Arrays and Pointers.
8. Creation, insertion, and deletion in doubly linked list.
9. Binary tree traversals (in-order, pre-order, and post-order) using linked list.
10. Depth First Search and Breadth first Search for Graphs using Recursion.

COURSE OUTCOME:

- CO1:** Implement Stack operations in C++ using arrays and pointers.
CO2: Implement Queue operations in C++ using arrays and pointers.
CO3: Develop programs for evaluating expressions using infix and postfix operations.
CO4: Apply the concepts of singly linked lists, doubly linked lists and in C++.
CO5: Execute programs for tree traversal and graph search.

Subject Name: Statistical Method And Their Applications-I
Subject Code: SBAOC

Year: II
Semester: III

Unit 1: Nature and scope of statistical methods and their limitations – Classification, tabulation and diagrammatic representation of various types of statistical data - Frequency curves and Ogives – Graphical determination of percentiles, quantiles and their uses, Lorenz curve.

Unit 2: Sampling from finite population – Simple random sampling, Stratified and systematic random sampling procedures – Estimation mean and total and their standard errors. Concepts of sampling and non-sampling errors.

Unit 3: Measures of location – Arithmetic mean, median, mode, Geometric mean, Harmonic mean and their properties – merits and demerits. Measures of dispersion – Range, mean deviation, quartile deviation, standard deviation, coefficient of variation, skewness and kurtosis – and their properties.

Unit 4: Probability of an event – Finitely additive probability space addition and multiplication theorems – independence of events – conditional probability – Bayes' theorem.

Unit 5: Bivariate frequency table and its uses – scatter diagram – Correlation and Regression lines – linear prediction – Rank correlation coefficient – curve fitting by the method of least squares – Partial and multiple correlation coefficients.

Books for study References:

- i. Mode, E.B.: Elements of Statistics – Prentice Hall
- ii. Wilks, S.S.: Elementary Statistical Analysis – Oxford and IBH
- iii. Snedecor, G.W., & Cochran, W.G.(1967): Statistical Methods, Oxford and IBH
- iv. Simpson and Kafka: Basic Statistics
- v. Burr, I.W.: Applied Statistical Methods, Academic Press.
- vi. Croxton, F.E. and Cowden, D.J.: Applied General Statistics, Prentice Hall
- vii. Ostleo, B.: Statistics in Research, Oxford & IBH.

COURSE OUTCOME:

CO1: Understand the concepts of Frequency curves and Ogives-graphical determination of percentiles, quantiles and their uses, Lorenz curve.

CO2: Describes the concepts of Sampling from finite population, types of sampling, concepts of sampling and non-sampling errors.

CO3: Evaluate and Measures of location, measures of dispersion.

CO4: Explain the concepts of Finitely additive probability space addition and multiplication theorems, conditional probability, Bayes' Theorem.

CO5: Compute Bivariate frequency table, Correlation & Regression, Least Square Method.

Subject Name: Programming In Java
Subject Code: SAE4A

Year: II
Semester: IV

Unit 1: Introduction to Java-Features of Java-Basic Concepts of Object Oriented Programming-Java Tokens-Java Statements-Constants-Variables-Data Types- Type Casting-Operators-Expressions-Control Statements: Branching and Looping Statements.

Unit 2: Classes, Objects and Methods-Constructors-Methods Overloading-Inheritance-Overriding Methods-Finalizer and Abstract Methods-Visibility Control –Arrays, Strings and Vectors-String Buffer Class-Wrapper Classes.

Unit 3: Interfaces-Packages-Creating Packages-Accessing a Package-Multithreaded Programming-Creating Threads-Stopping and Blocking a Thread-Life Cycle of a Thread-Using Thread Methods-Thread Priority-Synchronization-Implementing the Runnable Interface .

Unit 4: Managing Errors and Exceptions-Syntax of Exception Handling Code-Using Finally Statement-Throwing Our Own Exceptions-Applet Programming-Applet Life Cycle-Graphics Programming-Managing Input/Output Files: Concept of Streams-Stream Classes-Byte Stream Classes-Character Stream Classes – Using Streams-Using the File Class-Creation of Files-Random Access Files-Other Stream Classes.

Unit 5: Network basics –socket programming – proxy servers – TCP/IP – Net Address – URL – Datagrams -Java Utility Classes-Introducing the AWT: Working with Windows, Graphics and Text-AWT Classes- Working with Frames-Working with Graphics-Working with Color-Working with Fonts-Using AWT Controls, Layout Managers and Menus.

Recommended Texts:

1. E. Balagurusamy ,2004,Programming with JAVA-2nd Edition, Tata McGraw-Hill Publishing Co.Ltd, New Delhi.
2. Herbert Schildt,The Complete Reference Java™, 2- 5thEdition,Tata McGraw-Hill Publishing Co. Ltd,New Delhi.

Reference Books:

1. Y. Daniel Liang,2003, An Introduction to JAVA Programming,Prentice-Hall of India Pvt. Ltd.
2. Cay S. Horstmann and Gary Cornell,2005,Core Java™2 Volume I,Fundamental 7th Edition,Pearson Education.

COURSE OUTCOME:

CO1: Describe the fundamental concepts of Java programming.

CO2: Implement Java classes, interfaces and overriding concepts.

CO3: Develop code using threads and synchronization.

CO4: Identify Errors and Exceptions, execute applet programs.

CO5: Illustrate Abstract Window Toolkit controls and basics of networking concepts.

APPLICATIONS:

1. Substring Removal from a String. Use String Buffer Class.
2. Determining the Perimeter and Area of a Triangle. Use Stream Class.
3. Determining the Order of Numbers Generated randomly using Random Class.
4. Usage of Calendar Class and Manipulation.
5. Implementation of Point Class for Image Manipulation.
6. String Manipulation Using Char Array.
7. Database Creation for Storing E-mail Addresses and Manipulation.
8. Usage of Vector Classes.
9. Interfaces and Packages
10. Implementing Thread based Applications and Exception Handling.
11. Application using Synchronization such as Thread based, Class based and Synchronized Statements.
12. Textfiles (copy, display, counting characters, words and lines)
13. Data file creating and processing for electricity billing.
14. Data file creating and processing for telephone billing

APPLETS:

15. Working with Frames and Various Controls.
16. Working with Dialog Box and Menus.
17. Working with Colors and Fonts.
18. Drawing various shapes using Graphical statements.
19. Working with panel and all types of Layout.
20. Design a simple calculator with minimal of 10 operations
21. Usage of buttons, labels, text components in suitable application
22. Usage of Radio buttons, check box ,choice list in suitable application.

COURSE OUTCOME:

- CO1:** Implement program using built in classes.
CO2: Develop applications with interfaces and packages.
CO3: Create an application with threads and synchronization
CO4: Write a program using files and applet.
CO5: Construct applications with AWT Controls.

Subject Name: Statistical Method And Their Applications-II
Subject Code: SBAOD

Year: II
Semester: IV

Unit 1: Concepts of random variable – Mathematical expectation – Moments of random variable (raw and central moments) – Moment generating function – Chebycheff's inequality – simple problems.

Unit 2: Standard distributions – Binomial, Poisson and Normal distributions – Fitting of distribution.

Unit 3: Concepts of sampling distributions – standard error – Tests of significance based on t, Chi-square and F – distribution with respect to mean, variance and correlation coefficient. Theory of attributes and tests of independence in contingency table.

Unit 4: Principle of scientific experiments – Randomization, replication, and local control. Analysis of variance – One way and two way classification Analysis of CRD and RBD – Latin square design. Concepts of factorial experiments (without confounding).

Unit 5: Non parametric tests – Comparison between parametric and Non-parametric tests – Sign tests – Runs test for one and two sample problems – Wilcoxon signed Rank test – Mann Whitney U test.

Books for Study and References:

- i. Mode, E.B.: Elements of Statistics – Prentice Hall
- ii. Wilks, S.S.: Elementary Statistical Analysis – Oxford and IBH
- iii. Snedecor, G.W., & Cochran, W.G.: Statistical Methods, Oxford and IBH
- iv. Simpson and Kafka: Basic Statistics
- v. Burr, I.W.: Applied Statistical Methods, Academic Press.
- vi. Croxton, FE. And Cowden, D.J.: Applied General Statistics, Prentice Hall
- vii. Ostleo, B.: Statistics in Research, Oxford & IBH.
- viii. Sydney Siegel – Non-parametric Methods for Behavioural Sciences.
- ix. Daniel, W W – Biostatistics.

COURSE OUTCOME:

CO1: Explain the Concepts of Random variable, Mathematical Expectation, Moment generating function.

CO2: Describes the concepts of Standard distribution, Binomial, Poisson and Normal Distribution, Fitting of distribution.

CO3: Analyze the concepts of Sampling Distributions, Standard Error, Test of significance based on t, Chi-square and F-distribution.

CO4: Calculate Principle of scientific experiments, Analysis of variance, one and two way classification of CRD and RBD, Latin square designs

CO5: Compute the Nonparametric tests, sign test, Wilcoxon signed Rank test, MannWhitney U test.

Subject Name: Statistical Method And Their Applications-II
Subject Code: SBAO2

Year: II
Semester: IV

1. Construction of univariate and bivariate frequency distribution with samples of size not proceeding 200.
2. Diagrammatic and graphical representation of various statistical data and frequency distribution.
3. Cumulative frequency curve and Lorenz curves.
4. Computation of various measures of location, dispersion, moments, skewness and kurtosis.
5. Curve fitting by the method of least squares.
(i) $y=ax + b$; (ii) $y= ax^2 + bx + C$; (iii) $y=aebx$ (iv) $y=axb$
6. Computation of correlation coefficients – regression lines (raw data and grouped data) – correlation coefficients, Partial and Multiple Correlation coefficients.
7. Fitting of Binomial, Poisson and Normal distributions and testing goodness of fit.
8. Large sample test – tests for proportions.
9. Exact test based on t, Chi-square, and F distribution with regard to mean, variance and correlation coefficients.
10. Estimation of mean and r total and their standard errors in simple, stratified and systematic random sampling procedure.

COURSE OUTCOME:

CO1: Analyse and compute Univariate and bivariate frequency, Diagrammatic and graphical representation.

CO2: Describe the concepts Cumulative frequency curve and Lorenz curves, Measures of location, dispersion, skewness and kurtosis.

CO3: Explain Curve fitting by Least Square Method, Correlation and Regression lines.

CO4: Illustrate Fitting Binomial, Poisson and Normal distribution, large sample test

CO5: Compute exact test based on t, Chi-square, F-distribution, Correlation coefficients, Standard errors.

CO6: Classify Analysis of variance and classifications, Analysis of CRD, RBD and Latin square designs.

Unit 1: Introduction to Environmental Studies

- Multidisciplinary nature of environmental studies.
- Scope and importance, concept of sustainability and sustainable development.

Unit 2: Ecosystem

What is an Ecosystem? Structure and Function of Ecosystem; Energy flow in an Ecosystem; Food chains, Food webs and Ecological Succession,

- a) Case Studies of the following ecosystem:
- b) Forest Ecosystem
- c) Grassland Ecosystem
- d) Desert Ecosystem
- e) Aquatic Ecosystem (ponds, stream, lakes, rivers, ocean, estuaries)

Unit 3: Natural Resources: Renewable and Non- Renewable Resources

- Land resources and Land use change: Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over – exploitation of surface and ground water, floods, droughts, conflicts over water (international and interstate)
- Energy resources: Renewable and nonrenewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit 4: Biodiversity and Conservation

- Levels of biological diversity: Genetics, species and ecosystem diversity, biogeographic zones of india: biodiversity patterns and global biodiversity hotspots.
- India as a mega biodiversity nation, endangered and endemics species of India.
- Threats to biodiversity: Habitat loss, poaching of wild life, man- wild life conflicts, biological invasions; conservations of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational value.

Unit 5: Environmental Pollution

- Environmental Pollution: Types, causes, effects and controls: Air, water, soil and noise pollution.
- Nuclear Hazards and Human health risks.
- Solid waste management: Control measures of urban and industrial waste
- Pollution case studies.

Unit 6: Environmental Policies and Practices

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.
- Environment Laws: Environment protection act, air (prevention & control of pollution) act; water (prevention and control of pollution) act; wildlife protection act; forest conservation act; International agreements; Montreal and Kyoto protocols and convention on biological diversity (CBD).
- Natural reserves, tribal populations and rights, and human wildlife conflicts in

Indian context.

Unit 7: Human Communities and the Environment

- Human population growth, impacts on environment, human health and welfare.
- Resettlement and rehabilitation of projects affected persons; case studies.
- Disaster management: Floods, earthquake, cyclone and landslides.
- Environmental movements: Chipko, Silent Valley, Bishnois of Rajasthan.
- Environmental Ethics: Role of Indian and other religions and cultures in environmental conservation.
- Environmental communication and public awareness, case studies (e.g. CNG Vehicles in Delhi)

Unit 8: Field Work

- Visit to an area to document environmental assets: river/forest/flora/fauna etc.
- Visit to a local polluted site – Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds and basic principles of identification.
- Study of simple ecosystem- pond, river, Delhi Ridge etc.

Suggested Readings:

1. Carson R 2002 Silent Spring Houghton Mifflin Harcourt
2. Gadgil M. & Guha R. 1993. This Fissured land: An Ecological History of India. Univ. of California Press.
3. Gleeson B and Low N (eds.) 1999. Global Ethics and Environment, London Routledge.
4. Gleick P.H 1993. Water Crisis. Pacific Institute for Studies in Dev., Environment and Security. Stockholm Env. Institute, Oxford Univ. Press.

COURSE OUTCOME:

CO1: Evaluate interactions of environmental components

CO2: Describe Lithosphere, atmosphere, hydrosphere and biosphere.

CO3: Interpret interrelationships between landforms, weather, water and ecosystems.

Subject Name: Operating Systems
Subject Code: SAE5A

Year: III
Semester: V

Unit 1: Introduction: Views –Goals –Types of system – OS Structure –Components – Services - System Structures – Layered Approach -Virtual Machines - System Design and Implementation. Process Management: Process - Process Scheduling – Cooperating Process –Threads -Interprocess Communication. CPU Scheduling : CPU Schedulers – Scheduling criteria – Scheduling Algorithms

Unit 2: Process Synchronization: Critical-Section problem - Synchronization Hardware – Semaphores – Classic Problems of Synchronization – Critical Region – Monitors. Deadlock : Characterization – Methods for handling Deadlocks – Prevention, Avoidance, and Detection of Deadlock - Recovery from deadlock.

Unit 3: Memory Management : Address Binding – Dynamic Loading and Linking – Overlays – Logical and Physical Address Space - Contiguous Allocation – Internal & External Fragmentation . Non Contiguous Allocation:Paging and Segmentation schemes –Implementation – Hardware Protection – Sharing - Fragmentation.

Unit 4: VirtualMemory: Demand Paging – Page Replacement - Page Replacement Algorithms – Thrashing. – File System: Concepts – Access methods – Directory Structure –Protection Consistency Semantics – File System Structures – Allocation methods – Free Space Management.

Unit 5: I/O Systems: Overview - I/O Hardware – Application I/O Interface – Kernel I/O subsystem – Transforming I/O Requests to Hardware Operations – Performance. Secondary Storage Structures: Protection – Goals- Domain Access matrix – The security problem – Authentication – Threats – Threat Monitoring – Encryption..

Recommended Texts

- i. Silberschatz A., Galvin P.B., Gange., 2002 , Operating System Principles,SixthEdition, John Wiley & Sons.

Reference Books

- i. H.M. Deitel,1990, An Introduction to Operating System,- Second Edition,Addison Wesley.

COURSE OUTCOME:

CO1: Describe the components of operating system, process management and CPU scheduling algorithms.

CO2: Analyze the concepts of operating system like process synchronization and deadlock.

CO3: Apply memory management techniques paging and segmentation schemes.

CO4: Develop file handing and protecting mechanism in Operating System.

CO5: Describe the concept of I/O system and secondary storage structures

Subject Name: Database Management Systems
Subject Code: SAE5B

Year: III
Semester: V

Unit 1: Advantages and Components of a Database Management Systems – Feasibility Study – Class Diagrams – Data Types – Events – Normal Forms – Integrity – Converting Class Diagrams to Normalized Tables – Data Dictionary.

Unit 2: Query Basics – Computation Using Queries – Subtotals and GROUP BY Command – Queries with Multiple Tables – Subqueries – Joins – DDL & DML – Testing Queries

Unit 3: Effective Design of Forms and Reports – Form Layout – Creating Forms – Graphical Objects – Reports – Procedural Languages – Data on Forms – Programs to Retrieve and Save Data – Error Handling.

Unit 4: Power of Application Structure – User Interface Features – Transaction – Forms Events – Custom Reports – Distributing Application – Table Operations – Data Storage Methods – Storing Data Columns – Data Clustering and Partitioning.

Unit 5: Database Administration – Development Stages – Application Types – Backup and Recovery – Security and Privacy – Distributed Databases – Client/Server Databases – Web as a Client/Server System – Objects – Object Oriented Databases – Integrated Applications.

Recommended Texts

1. G. V. Post – Database Management Systems Designing and Building Business Application – McGraw Hill International edition – 1999.

Reference Books

1. Raghu Ramakrishnan – Database Management Systems – WCB/McGraw Hill – 1998.
2. C.J. Date – An Introduction to Database Systems – 7th Edition – Addison Wesley - 2000.

COURSE OUTCOME:

CO1: Describe the components of Database Management System and Normal Forms.

CO2: Apply SQL queries for a given problem.

CO3: Illustrate the ways to design forms and reports.

CO4: Perform table operations and data storage methods.

CO5: Analysis of various database development stages, recovery and backup techniques.

Subject Name: Computer Architecture And Organization
Subject Code: SAE5C

Year: III
Semester: V

Unit 1: Computer Evolution: Pentium and Power PC Evolution. Computer System: Components – Function – Interconnection Structures – Bus Interconnection – Basics of PCI Bus. Memory: Characteristics – Hierarchy – Cache Memory – Principles – Cache Design – Locality of Reference.

Unit 2: Main Memory: Static RAM – Dynamic RAM – Types of ROM – Memory Chip Organization – Types of DRAM. External Memory: Magnetic Disk – Basics of RAID – Optical Memory – Magnetic Tapes

Unit 3: Input/Output: External Devices – I/O Module – Programmed I/O – Interrupt Driven I/O – DMA – I/O Channels & Processors. Computer Arithmetic: ALU – Integer Representation and Arithmetic – Floating Point Representation and Arithmetic. Instruction Set: Characteristics – Operand Types – Operation Types – Addressing Modes – Instruction Formats – Pentium and Power PC Operands, Operations, Addressing Modes (Simple Examples).

Unit 4: CPU: Organization of Processors and Registers – Instruction Cycle – Instruction Pipelining – Pentium Processor. RISC: Characteristics – Large Register File – Register Optimization – Architecture – RISC Vs CISC Characteristics – Pipelining.

Unit 5: Control Unit: Micro-Operations – Control of Processors – Hardwired Implementation - Micro Programmed Control Concepts – Microinstruction Sequencing – General Microinstruction Execution.

Recommended Texts

i.W. Stallings ,2003,Computer Organization and Architecture, 6th Edition- PHI,New Delhi.

Reference Books

i. C. Hamacher, Z. Vranesic, S.Zaky, 2002, Computer Organization,5thEdition,Mcgraw Hill.

COURSE OUTCOME:

CO1: Describe the basic architecture of a computer and characteristics of memory.

CO2: Differentiate between static RAM and Dynamic RAM.

CO3: Perform integer and floating point arithmetic operations.

CO4: Define the characteristics of RISC and CISC.

CO5: Illustrate the Microprogrammed control concepts.

Subject Name: Visual Programming
Subject Code: SEE5A

Year: III
Semester: V

Unit 1: Customizing a Form - Writing Simple Programs - Toolbox - Creating Controls - Name Property - Command Button - Access Keys - Image Controls - Text Boxes - Labels - Message Boxes - Grid - Editing Tools - Variables - Data Types - String - Numbers.

Unit 2: Displaying Information - Determinate Loops - Indeterminate Loops - Conditionals - Built-in Functions - Functions and Procedures.

Unit 3: Lists - Arrays - Sorting and Searching - Records - Control Arrays - Combo Boxes - Grid Control - Projects with Multiple forms - DoEvents and Sub Main - Error Trapping.

Unit 4: VB Objects - Dialog Boxes - Common Controls - Menus - MDI Forms - Testing, Debugging and Optimization - Working with Graphics.

Unit 5 : Monitoring Mouse activity - File Handling - File System Controls - File System Objects - COM/OLE - automation - DLL Servers - OLE Drag and Drop.

Recommended Texts

- i. Gary Cornell - Visual Basic 6 from the Ground up - Tata McGraw Hill - 1999.
- ii. Noel Jerke - Visual Basic 6 (The Complete Reference) - Tata McGraw Hill – 1999

COURSE OUTCOME:

CO1: Identify the components of visual basic Integrated Development Environment.

CO2: Design an Event-Driven programming using control structures, functions and procedures.

CO3: Implement projects with multiple forms, Lists and Grid controls.

CO4: Describe Testing, Debugging and optimization tools in VB.

CO5: Discuss file system controls and file system objects

Subject Name: RDBMS Lab
Subject Code: SAE51

Year: III
Semester: V

Create database and performing the operations given below using a Menu Driven program: Insertion, (b)Deletion, (c)Modification, (d)Generating a reports(Simple) for the following Systems using any RDBMS package :

1. Payroll
2. Mark sheet Processing
3. Savings bank account for banking
4. Inventory System
5. Invoice system
6. Library information system
7. Student information system
8. Income tax processing system
9. Electricity bill preparation system
10. Telephone directory maintenance.

COURSE OUTCOME:

CO1: Implement menu driven program using various controls in VB.

CO2: Design applications with database connectivity.

CO3: Develop the project with multiple forms.

CO4: Implement the application using event driven code with appropriate calculations.

CO5: Establish the validation through connectivity and displaying data reports.

Subject Name: Value Education
Subject Code: VAE5Q

Year: III
Semester: V

Unit 1: Value education – its purpose and significance in the present world- Value system – the role of culture and civilization-Holistic Living-Balancing the outer and inner- Body, Mind and intellectual level-Duties and responsibilities.

Unit 2: Salient values for life- Truth, commitment, honesty and integrity, forgiveness and love, empathy and ability to sacrifice, care, unity and inclusiveness, Self-esteem and Self-confidence, punctuality - Time, Task and Resource management- Problem solving and Decision-making skills – Inter personal and Intra personal relationship – Team work – Positive and Creative thinking.

Unit 3: Human Rights – Universal Declaration of Human rights – Human rights violation -National Integration- Peace and non – violence – Dr. A. P.J kalam’ s ten points for enlightened citizenship – Social values and Welfare of the citizen – The role of media in value building.

Unit 4: Environment and Ecological balance – interdependence of wellbeing – living and non – living. The binding of man and nature – Environment conservation and enrichment.

Unit 5: Social Evils – Corruption, Cybercrime, Terrorism – Alcoholism, Drug addiction, Dowry – Domestic violence – Untouchability – Female infanticide – atrocities against Women – How to tackle them.

Books for Reference :

1. MG. Chitakra: Education and Human Values, A.P.H. Publishing Corporation, New Delhi, 2003.
2. Chakravarthy, S.K. : Values and ethics for organization: Theory and Practice,Oxford University Press, New Delhi, 1999.
3. Satchidananda, M.K. : Ethics, Education, Indian Unity and Culture, Ajantha Publications, Delhi, 1991.
4. Das, M.S. & Gupta, V.K.: Social Values among young adults: A changing Scenario, M.D. Publications, New Delhi, 1995.
5. Bandiste, D.D.: Humanist Values: A source book, B.R. Publishing Corporation, Delhi, 1999.
6. Ruhela, S.P.: Human Values and education, Sterling publications, new delhi, 1986.
7. Kaul, G.N.: Values and education in independent indian Associated publishers, Mumbai, 1975.
8. NCERT, Education in values, New Delhi, 1992.
9. Swami Budhananda (1983) How to build character A primer: Ramakrishna mission, New delhi.
10. A Cultural heritage of india (4 vols), Bharatiyavidyabhavan, Bombay. (Selected chapters only)
11. For life, for the future : Reserves and Remains – UNESCO Publication.
12. Values, A Vedanta kesari presentation, Sri Ramakrishna math, Chennai, 1996.
13. Swami Vivekananda, Youth and modern india, Ramakrishna mission, Chennai.
14. Swami Vivekananda, call to the youth for nation building, advaitaAshrama, Calcutta.
15. Awakening Indians to india, Chinmayan and a Mission, 2003.

COURSE OUTCOME:

CO1: Explain basic principles of professional ethics and mass media ethics.

CO2: Compare leadership, ethical business decisions

CO3: Describe value of faith, social awareness and commitment

CO4: Analyze Impact of globalization and consumer awareness

CO5: Discuss Evolution of human rights and the international law in operation.

Subject Name: Data Communication And Networking
Subject Code: SAE6A

Year: III
Semester: VI

Unit 1: Introduction to Data Communication, Network, Protocols & standards and standards organizations - Line Configuration - Topology - Transmission mode - Classification of Network - OSI Model - Layers of OSI Model.

Unit 2: Parallel and Serial Transmission - DTE/DCE/such as EIA-449, EIA-530, EIA-202 and x.21 interface - Interface standards - Modems - Guided Media - Unguided Media - Performance - Types of Error - Error Detection - Error Corrections.

Unit 3: Multiplexing - Types of Multiplexing - Multiplexing Application - Telephone system - Project 802 - Ethernet - Token Bus - Token Ring - FDDI - IEEE 802.6 - SMDS - Circuit Switching - Packet Switching - Message switching - Connection Oriented and Connectionless services.

Unit 4: History of Analog and Digital Network - Access to ISDN - ISDN Layers - Broadband ISDN - X.25 Layers - Packet Layer Protocol - ATM - ATM Topology - ATM Protocol.

Unit 5: Repeaters - Bridges - Routers - Gateway - Routing algorithms - TCP/IP Network, Transport and Application Layers of TCP/IP - World Wide Web.

Recommended Texts

- i. Behrouz and Forouzan, 2001, Introduction to Data Communication and Networking, 2nd Edition, TMH.

Reference Books

- i. Jean Walrand 1998, Communication Networks (A first Course), Second Edition, WCB/McGraw Hill.
- ii. Behrouz and Forouzan, 2006, Data Communication and Networking, 3rd Edition, TMH.

COURSE OUTCOME:

CO1: Describe the fundamentals of Data Communication and Networking and Layers of OSI Model.

CO2: Compare the medium of Transmission, Error Detection and Correction Technique.

CO3: Analyse the Multiplexing and switching concepts.

CO4: Differentiate between Analog and digital Network.

CO5: Explain the functions of various interface devices of Network System.

Unit 1: Introduction to` VBScript - Adding VBScript Code to an HTML Page - VB Script Basics - VBScript Data Types - VBScript Variables - VBScript Constants - VBScript Operators – mathematical-comparison-logical - Using Conditional Statements - Looping Through Code - VBScript Procedures – type casting variables - math functions –date functions – string functions –other functions - VBScript Coding Conventions - Dictionary Object in VBScript - Err Object

Unit 2: Introduction to Javascript – Advantages of Javascript – Javascript syntax - Data type –Variable - Array – Operator & Expression – Looping – control structures - Constructor Function – user defined function Dialog Box .

Unit 3: Javascript document object model – Introduction – Object in HTML – Event Handling – Window object – Document object – Browser object – Form object – Navigator object – Screen object – Build in object – User defined object – Cookies.

Unit 4: ASP.NET Language Structure – Page Structure – Page event , Properties & Compiler Directives . HTML server controls – Anchor, Tables, Forms, Files . Basic Web server Controls – Lable, Text box, Button, Image Links, Check & radio Button, Hyperlink, Data List Web Server Controls – Check box list. Radio button list, Drop down list, List box, Data grid, Repeater.

Unit 5: Request and Response Objects, Cookies, Working with Data – OLEDB connection class, command class, transaction class, data adaptor class, data set class. Advanced issues – email, Application issues, working with IIS and page Directives, error handling. Security – Authentication, IP Address, Secure by SSL & Client Certificates

Recommended Texts

- i.I.Bayross, 2000, Web Enable Commercial Application Development Using HTML, DHTML, Javascript, Perl CGI, BPB Publications.
- ii. A.Russell Jones, Mastering Active Server Pages 3, BPB Publications.

Reference Books

- i. HathleenKalata, Internet Programming with VBScript and JavaScript, ThomsonLearning.
- ii. Mike McGrath, XML Harness the Power of XML in easy steps, Dreamtech Publications.
- iii. T.A. Powell, 2002,Complete Reference HTML , TMH.
- iv. J.Jaworski, 1999, Mastering Javascript, BPB Publications.
- v. Powell, Thomas; Schneider, Fritz, JavaScript: The Complete Reference, 2nd edition2004, TMH.

COURSE OUTCOME:

CO1: Create a web page using HTML and VB Script.

CO2:Describe the basics of Java scripting language.

CO3:Implement the concept of Java script document object model and cookies.

CO4: Develop a web page using ASP.NET programming.

CO5: Discuss the connectivity of OLEDB and IIS page directives.

VB SCRIPT & JAVASCRIPT

1. Write a program outputs the squares, roots, cubes and complements of integers between 1 and 100.
2. Create a calculator.
3. Write a script to Sort numbers and strings
4. Create a program to generate a hit counter
5. Create a program to verify whether email address provided by user is valid or invalid.
6. Write a program to scroll the text on status bar.
7. The form consists of two multiple choice list and one single choice list
 - a. the first multiple choice list display the major dishes available.
 - b. the second Multiple choice list display the stocks available.
 - c. The single choice list display the miscellaneous (Milkshakes, soft drinks, softy available etc.)
8. Write a script to create a digital clock.
9. Create a web page using two image file which switch black and white one another as the mouse pointer moves over the image. Use the On Mouse over and OnMouseEvent, OnDbClick handler.
10. Build a WWW page with an image and 3 buttons, Pick three favorite graphics, Label the buttons and make each one swap in the graphic you have chosen.
11. Create a frameset that has two frames, side by side. Make the left-hand frame contain a form with 3 radio buttons.

The buttons should be for three search engines:

- Yahoo (<http://www.yahoo.com>)
- Altavista (<http://www.altavista.com>)
- Infoseek (<http://www.infoseek.com>)

When the user clicks on of the option buttons, the frame on the right hand side should be loaded with the right search engine.

12. Write a program to implement Employee database with all validation.

ASP

1. Create a login form, to expire, if the user does not type the password within 100 seconds.
2. Create an employee database and manipulate the records using command object in ASP
3. Develop an application to illustrate the usage of Request and Response Objects in ASP.
4. Write an ASP program using Request Object to give the exact list of headers sent by the browser to the Web server.
5. Create an Active Server Page to display the records one by one from a student database. The student database should contain roll no, name, marks & total.
7. Design an ASP application that describes books in the Online Bookshop.(Use AD Rotator Component, Content Rotator Component, Content Linking Component)
8. Create a document and add a link to it. When the user moves the mouse over the link it should load the linked document on its own (User is not required to click on the link).
9. Create a document, which opens a new window without a toolbar, address bar, or a status bar that unloads itself after one minute.
10. Create a document that accepts the user's name in a text field form and displays the same the next time when the user visits the site informing him that he has accessed the site for the second time, and so on.

COURSE OUTCOME:

CO1: Create simple Programs using VBScript and JavaScript.

CO2: Implement cookies and various objects of JavaScript.

CO3: Create simple projects using ASP.NET.

CO4: Design a web page using database connectivity.

CO5: Implement programs for event handling and cookies.

Subject Name: Object Oriented Analysis And Design
Subject Code: SEE6C

Year: III
Semester: VI

Unit 1: System Development - Object Basics - Development Life Cycle - Methodologies - Patterns - Frameworks - Unified Approach - UML.

Unit 2: Use-Case Models - Object Analysis - Object relations - Attributes - Methods - Class and Object responsibilities - Case Studies.

Unit 3: Design Processes - Design Axioms - Class Design - Object Storage - Object Interoperability - Case Studies.

Unit 4: User Interface Design - View layer Classes - Micro-Level Processes - View Layer Interface - Case Studies.

Unit 5: Quality Assurance Tests - Testing Strategies - Object orientation on testing - Test Cases - test Plans - Continuous testing - Debugging Principles - System Usability - Measuring User Satisfaction - Case Studies.

Recommended Texts

1. Ali Bahrami - Object Oriented Systems Development - McGraw Hill International Edition - 1999.
2. Grady Booch- Object Oriented Analysis and design –Addison Wesley.

COURSE OUTCOME:

CO1:Describe object basics and software development life cycle.

CO2:Identify object relationships, attributes and methods.

CO3: Analyze the object oriented Design process and axioms.

CO4: Illustrate the user interface design.

CO5:Apply quality assurance test in the software product.

Subject Name: Software Engineering
Subject Code: SEE6G

Year: III
Semester: VI

Unit 1: Introduction to Software Engineering Some definition – Some size factors – Quality and productivity factors – Managerial issue. Planning a Software Project: Defining the problem – Developing a solution strategy – planning the development process – planning an organization structure – other planning activities.

Unit 2: Software Cost Estimation: Software – Cost factors – Software cost estimation techniques – specification techniques – level estimation – estimating software maintenance costs. The software requirements specification – formal specification techniques - languages and processors for requirements specification.

Unit 3: Software Design: Fundamental Design concepts – Modules and modularizing Criteria – Design Notations – Design Techniques – Detailed Design Consideration – Real time and distributed system design – Test plan – Mile stones walk through and inspection.

Unit4:Implementation issues : Structured Coding techniques – coding style – standards and guidelines – documentation guidelines – type checking – scooping rules – concurrency mechanisms.

Unit5: Quality assurance – walk through and inspection - Static analysis – symbolic exception – Unit testing and Debugging – System testing – Formal verification: Enhancing maintainability during development – Managerial aspects of software maintenance – Configuration management – source code metrics – other maintenance tools and techniques.

Recommended Texts

- i. Richard E.Fairly - Software Engineering Concepts - Tata McGraw-Hill book Company.

Reference Books

- i. R.S.Pressman, 1997, Software Engineering – 1997 - Fourth Ed., McGraw Hill.
- ii. Rajib Mall ,2004,Fundamentals of Software Engineering,2nd Edition, PHI.

COURSE OUTCOME:

CO1: Describe phases of software development life cycle.

CO2: Develop skill for cost estimation of software development.

CO3: Apply different design concepts, notations and techniques.

CO4: Develop the product with structured coding techniques.

CO5: Apply the concepts of software quality assurance.