5. Presentation by students on best websites

IV Semester
Course 3: Web Technologies

Credits -1

V.WEB TECHNOLOGIES - PRACTICAL

1. Design web pages for your college containing a description of the courses, departments, faculties, library etc, use href, list tags.
2. Create your class timetable using table tag.
3. Create user Student feedback form (use textbox, text area, checkbox, radio button, select box etc.)
4. Write HTML code to develop a webpage having two frames that divide the webpage into two equal rows and then divide the row into equal columns fill each frame with a different background color.
5. Create your resume using HTML tags also experiment with colors, text , link ,size and also other tags you studied.
6. Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).
7. Use Inline CSS to format your resume that you created.
8. Use External CSS to format your class timetable as you created.
9. Use External, Internal, and Inline CSS to format college web page that you created.
10. Develop a JavaScript to display today's date.
11. Develop simple calculator for addition, subtraction, and multiplication and division operation using JavaScript
12. Create HTML Page with JavaScript which takes Integer number as input and tells whether the number is ODD or EVEN.
13. Create HTML Page that contains form with fields Name, Email, Mobile No, Gender, Favorite Color and a button now write a JavaScript code to combine and display the information in textbox when the button is clicked

IV Semester
Course 4: Object Oriented Programming through Java

Credits -3

III. LEARNINGOUTCOMES:

Upon successful completion of the course, a student will be able to:

1. Understand the basic concepts of Object-Oriented Programming and Java Program Constructs
2. Implement classes and objects
2. Understand the benefits of code reusability achieved through inheritance
3. Demonstrate various classes in different packages and can design own packages
4. Learn the syntax and mechanisms of exception handling in Java
5. Learn how to create and manage threads and establish connections to database using JDBC.

II.SYLLABUS:

UNITI

Introduction to Java: Features of Java, The Java virtual Machine, Structure of Java ProgramNaming Conventions and Data Types: Naming Conventions in Java, Data Types in Java, Literals Operators in Java: Operators

Control Statements in Java: if... else Statement, do... while Statement, while Loop, for Loop, for each loop, switch Statement , break Statement, continue Statement, return Statement Input and Output: Accepting

Input from the Keyboard: Reading Input with Scanner and Buffered Reader class, Displaying Output with System. out. Printf (), Displaying Formatted Output with String. format()

UNIT II

Arrays: Types of Arrays, array name. length, Command Line Arguments Strings: Creating Strings, String Class Methods. Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object-Oriented Programming System (OOPS) Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors Methods in Java: Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, The keyword 'this', Instance Methods.

UNIT III

Inheritance: Inheritance, The keyword 'super', The Protected Specifier, Types of Inheritance Polymorphism: Polymorphism with Variables, Polymorphism using Methods, Polymorphism with Final Methods, final Class Type Casting: Casting Primitive Data Types, Casting Referenced Data Types, The Object Class Abstract Classes: Abstract Method and Abstract Class Interfaces: Interface, Multiple Inheritance using Interfaces Packages: Package, Different Types of Packages, Interfaces in a Package

UNIT – IV

Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions, Re – throwing an Exception Streams: Stream, Creating a File using File Output Stream, Reading Data from a File uing File Input Stream, Creating a File using File Writer, Reading a File using File Reader.

UNIT – V

Threads: Introduction, Thread Life Cycle, Creating a Thread and Running it, Terminating the Thread.

Applets: Introduction, Creating an Applet, Uses of Applets, <APPLET> tag, A Simple Applet, Applet Parameters. Java Database Connectivity: Database Servers, Database Clients, JDBC (Java Database Connectivity), Working with Oracle Database, Stages in a JDBC Program,

III.REFERENCES

TEXT BOOKS:

1. CoreJava: An Integrated Approach, Authored by Dr. R. Nageswara Rao & Kogent Learning Solutions Inc.

2. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw-Hill Company

3. John R.Hubbard, Programming with Java, Second Edition, Schaum' soutline Series,TMH.

4. Deitel & Deitel. JavaTM: How to Program, PHI(2007)

IV.SUGGESTEDCO-CURRICULARACTIVITIES:

2. Conduct coding competitions focused on object-oriented programming concepts in Java

3. Provide students with real-world scenarios and ask them to solve the given problems.

4. Assign group projects that require students to work together to create Java programs using OOP concepts

IV Semester

Course 4: Object Oriented Programming through Java

Credits -1

V. OBJECT ORIENTATEDPROGRAMMINGTHROUGH JAVA- PRACTICAL

2. Write a program to read Student Name, Reg.No, Marks [5] and calculate Total, Percentage, Result .Display all the details of students

3. Write a program to perform the following String Operations

a. Read a string

b. Find out whether there is a given sub string or not

c. Compare existing string by another string and display status

d. Replace existing string character with another character
e. Count number of characters in a string
4. JavaprogramtoimplementsAdditionandMultiplicationoftwoNXNmatrices.
5. Java program to demonstrated use of Constructor.
6. Calculate area of the following shapes using method overloading.
    a. Triangle
    b. Rectangle
    c. Circle
    d. Square
7. Implement inheritance between Person (Aadhar, Surname, Name, DOB, and Age)and Student (Admission Number, College, Course, Year)classes where read Data(),display Data()are overriding methods.
8. Java program for implementing Interfaces
9. Java program on Multiple Inheritance.
10. JavaprogramfortodisplaySerialNumberfrom1toNbycreating two Threads
11. Java program to demonstrate the following exception handlings
a. Divided by Zero
b. Array Index OutofBound
c. Arithmetic Exception
d. User Defined Exception
12. Create an Applet to display different shapes such as Circle ,Oval, Rectangle, Square and Triangle.
13. Write a program to create Book (ISBN,Title,Author,Price,Pages,Publisher)tableandperform The following operations
    a. Add book details
    b. Search a book details for a given ISBN and display book details, if available
    c. Update a book detail using ISBN
    d. Delete book details for a given ISBN and display list of remaining Books

V Semester
Course 5: R Programming
Credits -3

I. LEARNINGOUTCOMES:
Upon successful completion of the course, a student will be able to:
1. Gain a solid understanding of R programming language
2. Acquire knowledge on various data structures and control structures in R.
3. Perform vectorized operations in R programming.
4. Develop skills in manipulating and transforming vectors, matrices, arrays and lists in R.
5. Explore and analyze data using data frames and tables.
II. SYLLABUS :
UNITI
Introduction to R: R overview and history, Basic features of R, Benefits of R, data types inR, Installing R, Getting started with the RStudio IDE, Running R, Packages in R, variable names and assignment, operators, Input/output functions, reading and writing data.