B.TECH. COMPUTER SCIENCE AND ENGINEERING 2023

WEB TECHNOLOGIES

Course Code: 23CSE404 **Credits:** 02
L:T:P:E 0:0:4:0 **Contact Hours:** 60
Prerequisite: Java Programming

Course Objectives

The objective of this course is to

- Comprehend the basics of the front end concepts HTML, CSS, Javascript
- Expose to the basic tools and applications used in Web publishing
- Design and development of web-pages and web-applications
- Introduce scripting language concepts for developing client-side applications.
- Practice server-side programming features - PHP

Course Outcomes

At the end of the course, students will be able to

Course Outcomes	Description	Bloom's Taxonomy Level
COl	Discuss the development of web applications and identify its elements and attributes.	Understanding (2)
CO2	Construct web pages using XHTML and Cascading Style Sheets	Applying (3)
CO3	Develop a dynamic webpage by the use of java script and DHTML	Applying (3)
CO4	Implement client and server-side scripting and their applicability	Applying (3)
CO5	Construct XML documents and Schema.	Applying (3)
CO6	Analyze the working on tools and maintain the web server	Analyzing (4)

Course Contents

Module 1 : Introduction to HTML **[12 hours]**

Introduction to HTML, Essential Tags, Tags and Attributes, Text Styles and Text Arrangements, Text, Effects, Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG), Color and Background of Web Pages, Lists and their Types, Attributes of Image Tag, Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External

Documents, Different Section of a Page and Graphics, Footnote and e Mailing, Creating Table, Frame, Form

Module 2 Cascading Style Sheet: [12 hours]

CSS Introduction, selectors, color background cursor. Text Fonts, Lists Tables, Box Model, Display Positioning, Floats

Module 3: DHTML [12 hours]

Dynamic HTML, Document Object Model, Features of DHTML, CSSP (Cascading Style Sheet Positioning) and JSSS (JavaScript assisted Style Sheet), Layers of Netscape, The ID Attribute, DHTML Events.

Module 4 : Java Script [12 hours]

Objects, Methods, Events and Functions. Tags, Operators, Data Types, Literals and Type Casting in JavaScript, Programming Construct, Array and Dialog Boxes, Relating JavaScript to DHTML, Dynamically Changing Text, Style, Content.

Module 5: Introduction to PHP [12 hours]

Server Side Programming , Introduction to PHP, Basic Programming Concepts of PHP: variables, Data-types, Constants, Scope of Variables, Type of Variables, Type Casting, Operators, Operators Precedence, References, Arrays; Control Structures: Branching, If statement. Switch statement; Looping: for Loop, while Loop, do while Loop, for each Loop; Functions: User Defined Functions, Built-in Function, Functions for Variables; Script Controlling Functions, Array Functions, Date and Time Functions, Mathematical Functions, String Functions, PHP Server Variables; Working with form, Uploading files to Web Server using PHP.

Lab Exercises:

1. Create a personal web site with minimum 4 web pages using basic HTML tags.
2. Create a static E-commerce website using Advanced HTML tags.
3. Enhance Exercise-1 with style properties using Inline, internal and external CSS.
4. Enhance Exercise-2 with style properties using Inline, internal and external CSS.
5. Add scientific calculator as a menu in your Exercise-1 using java script.
6. Create registration form, login form for Exercise-2 and validate using java script.

7. Perform Event handling mechanisms Exercise-1 and 2.

8. Perform Form Handling and Form validation for Exercise-1 & 2 using PHP.

9. Create, store, retrieve and display the product details for Exercise 2 using PHP and MySQL.

10. Implement Sessions and cookies to store information to be used across multiple pages in Exercise-2.

Text Books:

[1] **HTML 5 Black Book:** Covers CSS3, Javasvript, XML, XHTML, AJAX, PHP and j Query ,Dreamtech Press (2011)

[2] Robin Nixon, **Learning PHP, My SQL, Java Script & CSS,** 2nd Edition, O'REILLY (2012).

References:

[1] H. M. Deitel and P. J. Deitel, 2008, Internet & World Wide Web How to Program, 5th Edition,PrenticeHall.