

CSE326:INTERNET PROGRAMMING

L:1 T:0 P:2 Credits:2

Course Outcomes: Through this course students should be able to

CO1 :: understand the fundamentals of Internet technologies and HTML5 for web page development.

CO2 :: explain the concept of semantic HTML, web accessibility, and web form concepts.

CO3 :: apply the CSS techniques to design responsive and visually appealing web interfaces.

CO4 :: apply the JavaScript programming concepts to develop dynamic client-side applications.

CO5 :: demonstrate the interactive web applications using DOM manipulation, events, and browser APIs.

CO6 :: analyze and deploy client-side web applications using debugging tools and GitHub Pages.

Unit I

HTML Fundamentals : Introduction to Internet and Web Technologies, Client-Server Architecture, HTML5 Fundamentals, HTML Document Structure, HTML Elements and Attributes, Text Formatting, Lists, Hyperlinks and Images, SVG Graphics, Multimedia Elements Audio, Video and Iframes, SEO fundamentals, HTML Best Practices

Unit II

Semantic HTML and Forms : Semantic HTML Elements, Page Structure and Layout, Accessibility Fundamentals, Forms and Form Controls, Input Types and Attributes, Form Validation Basics, Tables and Data Representation, Accessibility Standards, Responsive Content Structuring

Unit III

Cascading Style Sheets : Introduction to CSS, CSS Selectors and Specificity, Colors and Backgrounds, Units and Measurements, Typography, Text Styling, Box Model, Positioning Techniques, Flexbox Layout, CSS Grid Layout, Pseudo Classes, Pseudo Elements, Attribute Selectors, Form Styling, CSS Variables, Responsive Web Design, CSS Animations, CSS Transitions

Unit IV

JavaScript Fundamentals : Introduction to JavaScript, Variables and Constants, Data Types, Operators and Expressions, Strings and String Methods, Numbers and Boolean Values, Conditional Statements, Functions, Scope, Arrays and Array Operations, Objects and Object Manipulation

Unit V

Interactive Web Development : Loops and Iterative Programming, Higher Order Functions, Callback Functions, DOM Fundamentals, DOM Selection and Manipulation, Event Handling, Dynamic Content Generation, JavaScript Accessibility Practices, Form Validation, Regular Expressions, Date and Time Handling, Audio and Video Events, Browser Storage using Web Storage API (Local Storage and Session Storage), Fetch API and JSON Processing, Geolocation API, Drag and Drop API

Unit VI

Web Application Development and Deployment : Debugging Techniques, Browser Developer Tools, Error Handling, Interactive User Interface Development, Client-Side Application Design, Code Organization, Website Performance Fundamentals, GitHub Repository Management, Website Hosting using GitHub Pages, Web Development Best Practices, Improving Web Applications using GitHub Copilot

List of Practicals / Experiments:

List of Practicals

- Design a user registration form using HTML input controls and apply CSS selectors, the box model, and focus styles.
- Create a web page that includes text formatting, lists, hyperlinks, images, SVG graphics, audio, video, and an iframe using HTML5 elements.
- Build a responsive web page using Flexbox for navigation, CSS Grid for content layout, and media queries for different screen sizes.
- Design a responsive webpage using CSS variables, pseudo-classes, pseudo-elements, transitions, and animations to enhance user interaction.

- Write JavaScript programs demonstrating variables, constants, data types, operators, expressions, and control flow statements.
- Implement JavaScript functions (normal and arrow functions) and perform operations on arrays and objects.
- Handle user events such as clicks, keyboard input, and form changes to dynamically update web page content using JavaScript and DOM manipulation.
- Develop a form validation system using JavaScript and regular expressions to validate user input before form submission.
- Demonstrate JavaScript execution context, scope, closures, loops, callback functions, and higher-order functions using suitable examples.
- Create an HTML5 web page using semantic elements and basic CSS for layout and typography.

Text Books: 1. MASTERING HTML, CSS & JAVA SCRIPT WEB PUBLISHING by LAURA LE MAY, RAFAEL COLBURN, JENNIFER KYRNIN, BPB PUBLICATIONS

References: 1. HTML 5 BLACK BOOK, COVERS CSS 3, JAVASCRIPT, XML, XHTML, AJAX, PHP AND JQUERY by DT EDITORIAL SERVICES, WILEY