COURSE 12: WEB PROGRAMMING

Theory   Credits: 3   3 hrs/week

Course Objectives:

1. Learn the basics of creating a website.
2. Understand HTML5 coding conventions
3. Understand the philosophy of how HTML and CSS should fit together
4. Learn how JavaScript came to be.

Course Outcomes: Upon Completion of the course, the students will be able to

1. Understand the Web Design Process.
2. Apply the HTML tags, elements and attributes
3. Apply different types of HTML elements
4. Use of organizational elements, tables and images
5. Use of audio, video files
6. Apply JavaScript concepts

Unit-I:

Introduction to Web Programming: Introduction, creating a website, HTML tags, HTML Elements, HTML attributes, CSS Preview, History of HTML, Differences between old HTML and HTML5, how to check your HTML code

Case Study: Create a web page of your department using standard HTML tags, HTML elements and HTML attributes

Unit-II:

Coding Standards, Block Elements:

HTML coding conventions, Comments, HTML Elements, Should Describe Web Page Content Accurately, Content Model Categories, Block Elements, blockquote Element, Whitespace Collapsing, pre Element, Phrasing Elements, Editing Elements, q and cite Elements, dfn, abbr, and time Elements, Code-Related Elements, br and wbr Elements.

Text Elements, and Character References: sup, sub, s, mark, and small Elements, strong, em, b, u, and i Elements, span Element, Character References, Web Page with Character References, and Phrasing Elements.
Case Study: Create a web page related to famous water reservoir/ famous tourist spots near by your location using block elements, text elements and character references

Unit-III:

Cascading Style Sheet(CSS) : CSS Overview, CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties,

line-height Property, Text Properties, Border Properties, Element Box, padding Property, margin Property,

Case Study: Description of your City or place with the use of CSS and compare it with previous two case studies

Unit-IV:

Organizing a Page's, Content with Lists, Figures, and Various, Organizational Elements: List, Descendant selector, Figure with picture and caption, Organizational elements, Navigation bar, Header and Footer, User agent stylesheet, Child selector, CSS inheritance

Tables and CSS Layout: Data tables vs Layout tables, Table elements, Format table

Links and Images: Implement a link with the a element, different types of href attribute Values, relative URLs, Implement a link that jumps to a particular location within a web page, element's target attribute, Understand the concepts behind GIF, JPEG, and PNG bitmap image formats, implement bitmap image elements within a web page, implement SVG image elements within a web page

Case Study: Create a web page related to your department time table and images of any activity

Unit-V:

Image Manipulations, Audio and Video: Position an image, how to display a shortcut icon in a browser's tab area, iframe, Create an image sprite file, Implement an audio player using the audio element, Handle different audio file formats, Cover a web page's background with an image, web fonts, Implement a video player using the video element, Center a web page's content, Cover a web page's background with a color gradient

Introduction to JavaScript: Button control with an event Handler, Syntax rules for functions, variables, identifiers, and assignments, Document Object Model(DOM), form with a text control and a button, event-handler attributes, rollover using mouse events

Case Study: Create a webpage involving audio and video of your college day activities

Prescribed Text Books:

1. **Web Programming with HTML5,CSS and JavaScript, John Dean, Jones & Bartlett Learning**

Reference Text Books:

1. **HTML & CSS: The Complete Reference, 5th Edition, Thomas. A. Powell**