Introduction to Web Technologies

Course Objectives:
- To learn the fundamentals of web designing.
- To design and develop standard and interactive web pages.

Learning Outcomes:
Upon completion of this course, students will be able to:
- Understand Internet, Internet Protocols, and World Wide Web
- Understand HTML and its tags
- Learn the design and development of web pages
- Learn the styles/layouts of web pages using CSS & client-side scripting using JavaScript

UNIT-1:
- Introduction to Internet, Internet Protocols, World Wide Web (WWW): Introduction, History, HTTP, Web Browser, Web Server with example, Web page, working principles of WWW. Web Development: Introduction, Front-end and Backend Development Technologies. Concepts of Client-Server communication.

- Introduction to HTML: Introduction, Characteristics, Advantages and Disadvantages of HTML, HTML Editors, Understanding elements in HTML, Container and empty elements, Basic Tags and Attributes: <!DOCTYPE>, <HTML>, <HEAD>, <TITLE>, <BODY>, <P>, Attributes of the basic tags. Creating a Simple HTML Web Page, running a web page in the browser.

UNIT-2:
- Working with HTML Tags: Headings, Break, Horizontal Line. Formatting Text with HTML Elements: Italic, Bold, Small, Subscript, Superscript and changing background color. Adding Comments in HTML. Working with Hyperlink, List, Table, Image, Video, and Frames in HTML.
- Creating Forms in HTML: Form Tag and its attributes. Creating Text box, Password box, Text area, Drop-down list, Checkbox, Radio button, Email, Color picker, Date-Time picker, Submit and Reset buttons.

UNIT-3:
- Cascading Style Sheets (CSS): Introduction, Benefits of using CSS, Understanding the Syntax, CSS Selectors, Using CSS: External, Internal Inline CSS. Comments in CSS,
- Basic CSS Properties: Color, Background, Text, Font, List, Display. CSS Box Model: Introduction, working with Margin, Border, and Padding. Working with CSS Navigation Bar and Drop-Downs.

UNIT-4:

- JavaScript: Introduction, Features, Benefits, Creating Simple JavaScript. Using JavaScript in HTML: Use in the Head, Body and as external script file. Exploring Popup Boxes: alert, confirm, prompt box. Display Possibilities: innerHTML, document.write(), window.alert(), console.log().
- Programming using JavaScript: Introduction to Data types, Variables, Operators, Expressions (Arithmetic, String, Logical), Comments. Control Statements: Selection

Statements: if, if…else, nested if…else, else…if ladder, switch. Loops: while, do…while, for. Jump Statements: break, continue. Functions in JavaScript: built-in and user defined, Invoking a function, scope of a function, global vs local variables.

Text Book:

- ✓ *Web Technologies (Black Book), DreamTech Press*

Reference Books:

- ✓ *Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP 4th Edition by Ivan Bayross.*
- ✓ *HTML, XHTML and CSS Bible, 5ed, Willey India-Steven M. Schafer.*