

| Subject Code | Subject Name              | Credits |
|--------------|---------------------------|---------|
| 22CS510      | ADVANCED WEB TECHNOLOGIES | 04      |

### Course Objectives:

1. To understand the Basics of Internet and the concepts associated with it.
2. To understand the implementation of CSS on top of HTML
3. To understand Scripting language and its impact in overall web designing
4. To get to XML in detail
5. To understand Responsive design and how it can be implemented

### Learning Objectives:

After completion of the course the students will be able to:

1. To learn about web design and application development
2. To learn about responsive web design.
3. To learn the various tags in HTML and its implementation

### Unit I - Introduction to Internet and its History (12 Hrs.)

Internet Technology and Trends-World Wide Web-Client-Server Architecture-Web Page Building Blocks -Working with Web Page Files-Basic HTML Structure-HTML Fundamentals: Headings, Paragraphs, Links, Images -HTML Elements and Attributes-HTML Rules, Comments, Empty and Container Tags

### Unit II - Semantic HTML Elements (12 Hrs.)

HTML Forms and Input Types-HTML Tables and Lists-HTML Images and Multimedia-HTML Colors and Styling Basics-Accessibility Basics

### Unit III - Introduction to CSS (12 Hrs.)

Rules, Selectors, Declarations, Values-Types of CSS-Class and ID Selectors-Cascade and Inheritance-Box Model and Positioning-Flexbox and CSS Grid-Backgrounds, Fonts, and Text Styling-Lists and Table Styling-Responsive Web Design-Media Queries and Fluid Layouts-Mobile-first Design Concepts

### UNIT IV - Introduction to JavaScript (12 Hrs.)

Variables, Data Types, Operators-Control Statements-Functions and Scope-Events and Event Handling-DOM Manipulation-JavaScript Objects, Classes, Properties, Methods-ES6 Features-Introduction to AJAX and Fetch API-JSON Basics

### UNIT V - Introduction to XML and Well-formed XML (12 Hrs.)

XML Namespaces and XML Schema-Responsive Design Tools and Workflow-Introduction to Bootstrap-Bootstrap Grid System and Components-Introduction to Frontend Frameworks -Web Performance Optimization-Web Security Basics-Version Control Basics

### Reference Books:

1. Kogent Learning Solutions Inc. (2009). Web technologies black book. Dreamtech Press.
2. Duckett, J. (2011). HTML and CSS: Design and build websites. John Wiley & Sons.
3. Duckett, J. (2014). JavaScript and JQuery: Interactive front-end web development. John Wiley & Sons.
4. Robbins, J. N. (2018). Learning web design: A beginner's guide to HTML, CSS, JavaScript, and web graphics (5th ed.). O'Reilly Media.
5. Haverbeke, M. (2018). Eloquent JavaScript: A modern introduction to programming