

Subject Code	Subject Name	Credits
26CS653	ADVANCED WEB TECHNOLOGIES LAB	2

Objective

The objective of this lab is to help students understand and apply web development concepts using HTML, CSS, and JavaScript to design responsive, interactive, and user-friendly web pages while improving logical thinking and problem-solving skills.

1. Design a basic HTML webpage that includes headings, paragraphs, hyperlinks, and images. Use proper HTML structure and explain the role of each section.
2. Create a webpage using semantic HTML elements such as header, nav, section, article, and footer. How does semantic HTML improve accessibility and SEO.
3. Develop a student registration form using different HTML input types text, email, password, radio, checkbox, dropdown. Add appropriate validation attributes.
4. Construct a webpage that displays student information using tables and also includes ordered and unordered lists. Apply basic styling.
5. Create a webpage demonstrating the use of class, ID, and element selectors in CSS. Explain how cascade and inheritance affect styling.
6. Design a layout to demonstrate the CSS box model (margin, padding, border, content) and different positioning techniques.
7. Develop a responsive navigation bar using Flexbox. Explain how alignment and spacing are controlled using Flexbox properties.
8. Create a webpage layout using CSS Grid that includes header, sidebar, main content, and footer. Compare Grid layout with Flexbox.
9. Build a responsive webpage using media queries and fluid layouts. Ensure the design adapts to mobile, tablet, and desktop screens.
10. Write a JavaScript program to manipulate DOM elements such as changing text, color, or images dynamically using events.
11. Create a form and implement JavaScript-based validation for user inputs such as email format, empty fields, and password strength.
12. Develop a program that fetches data from a JSON file or API using Fetch API and displays it dynamically on a webpage.

Students are required to perform and record at least eight experiments in the laboratory manual as part of the course requirements.