K. S. INSTITUTE OF TECHNOLOGY

An Autonomous Institution under VTU, Approved by AICTE
Department of Computer Science and Engineering

	Web Programming lab	Semester	I/II
Course Code	25BPLL109C/209C	CIE Marks	50
Teaching Hours/Week (L:T:P:S)	0:0:2:0	SEE Marks	50
Total Hours of Pedagogy	24	Total Marks	100
Credits	1	Exam Hours	3
Examination type (SEE)	Practical		

Course Objectives

- To understand and apply the syntax and semantics of HTML and XHTML
- To design and develop various components of a web page.
- To comprehend the role of CSS in enhancing the layout and aesthetics of web pages.
- To create, implement, and apply CSS styling for effective web design.
- To gain familiarity with the JavaScript language and effectively utilize the Document Object Model (DOM) for interactive web applications.

Note:

1. Students have answer 1(one) question from list of Experiments.
   a. The questions set for SEE shall be from among the experiments. It is evaluated for the maximum 100 marks.
2. For continuous internal evaluation, during the semester, classwork, and any other similar questions to enhance the skill of the students

List of Experiments

1. Basic HTML/XHTML Document Creation

a) Create a simple webpage with a title, heading, paragraph, and a list.
b) Save one version as `.html` and another as `.xhtml`, then open both in different browsers to compare rendering differences.

2. Exploring DTD and Document Structure

c) Write two web pages: one using HTML 4.01 Transitional DTD and the other using XHTML 1.0 Strict DTD.
d) Validate both documents using W3C Validator and note the structural differences and errors.

3. Semantic HTML5 Page

a) Design a webpage using semantic tags like `<header>`, `<article>`, `<section>`, `<footer>`, and `<nav>`.
b) Compare it with a traditional `<div>`-based layout.

4. HTML5 Media and Canvas

a) Create a webpage embedding a video using `<video>` and audio using `<audio>`.
b) Add a simple `<canvas>` drawing (e.g., rectangle, circle) using JavaScript.

5. CSS Selectors and Properties

a) Create a webpage with multiple headings, paragraphs, and lists.

b) Apply class selectors, ID selectors, and universal selectors with different styles (color, font, margin, padding).

6. Typography and Box Model Experiment

a) Design a webpage showing the effect of `font-size`, `line-height`, and `color` (RGB, HSL, opacity).

b) Add a bordered box with padding and margin to visualize the CSS box model.

7 Table Formatting with CSS

a) Create a table of student marks with `<thead>`, `<tbody>`, and `<tfoot>`.

b) Use CSS for borders, padding, alternating row colors, and hover effects.

8 Links and Responsive Images

a) Insert navigation links styled differently for normal, hover, active, and visited states.

b) Add an image using `<img>` with `max-width: 100%` to demonstrate responsiveness, and link it as a favicon/shortcut icon.

9. Basic JavaScript Functions and DOM

a) Create a button that, when clicked, changes the text color of a paragraph using DOM manipulation.

b) Add another button that displays an alert with the current date and time.

10. Form Validation with JavaScript

a) Design a form with fields: Name, Email, and Password.

b) Write JavaScript to validate that:

- Name is not empty,
- Email contains "@",
- Password is at least 6 characters.
- Use `focus()` and `reset()` methods to enhance form interaction.

Suggested Learning Resources: (Text Book/ Reference Book/ Manuals):

Textbook:

WEB PROGRAMMING with HTML5, CSS and JavaScript, John Dean, Jones & Bartlett Learning, First Edition

Course outcome

CO1: Demonstrate an understanding of traditional HTML and XHTML structures, document types, rules, and their role in the evolution of web markup.

CO2: Apply HTML5 semantic elements, media tags, forms, and canvas features to design standards-compliant, interactive, and user-friendly web pages.

CO3: Utilize Cascading Style Sheets (CSS) effectively for styling, layout management, typography, and responsive design in web development.

CO4: Design and implement structured web pages with tables, links, and images using appropriate CSS properties to ensure accessibility and responsiveness.

CO5: Develop dynamic and interactive web applications through JavaScript functions, DOM manipulation, event handling, and client-side form validation.

Web links and Video Lectures (e-Resources):

1. https://onlinecourses.swayam2.ac.in/aic20_sp11/preview

Teaching-Learning Process (Innovative Delivery Methods):

The following are sample strategies that educators may adopt to enhance the effectiveness of the teaching- learning process and facilitate the achievement of course outcomes.

1. Engineering tool usage for the conduction of experiment
2. Demonstration through ICT tools
3. Use of virtual labs (https://www.vlab.co.in/)

Assessment Structure:

The assessment for each course is equally divided between Continuous Internal Evaluation (CIE) and the Semester End Examination (SEE), with each component carrying **50% weightage** (i.e., 50 marks each).

The CIE marks awarded shall be based on the continuous evaluation of the laboratory report using a defined set of rubrics. Each experiment report can be evaluated for 30 marks. The laboratory test (duration 03 hours) at the end of the last week of the semester /after completion of all the experiments (whichever is early) shall be conducted for 50 marks and scaled down to 20 marks. For both CIE and SEE, the student is required to conduct one experiment each from both Part A and Part B.

- To qualify and become eligible to appear for SEE, in the **CIE component**, a student must secure **a minimum of 40% of 50 marks**, i.e., **20 marks**.
- To pass the **SEE component**, a student must secure **a minimum of 35% of 50 marks**, i.e., **18 marks**.
- A student is deemed to have **successfully completed the course** if the **combined total of CIE and SEE is at least 40 out of 100 marks**.