



**CET-223**

**Web Technologies**

**Experiment # 04**

**Experiment Title**

Creating a Web Layout with HTML and CSS

**Assessment of CLO(s): 03**

**Performed on \_\_\_\_\_**

<b>Student Name:</b>			
<b>Roll No.</b>		<b>Group</b>	
<b>Semester</b>		<b>Session</b>	

<b>Total (Max)</b>	<b>Performance (03)</b>	<b>Viva (03)</b>	<b>File (04)</b>	<b>Total (10)</b>
<b>Marks Obtained</b>				
<b>Remarks (if any)</b>				

**Experiment evaluated by**

<b>Instructor's Name</b>	Engr. Bilal Iqbal		
<b>Date</b>		<b>Signature</b>	

### OBJECTIVE:

To understand and apply HTML and CSS for designing a structured and visually appealing web layout. This lab will cover the use of semantic HTML tags and CSS for styling.

### Introduction

HTML (HyperText Markup Language) is the standard language used to create web pages. It structures the content on the web. CSS (Cascading Style Sheets) complements HTML by styling and positioning the elements to create visually appealing layouts.

### Semantic HTML

Semantic HTML introduces meaningful tags that clearly describe their purpose in the structure of a web page. Examples include:

- `<header>`: Represents the introductory content of a document.
- `<nav>`: Defines navigation links.
- `<main>`: Contains the main content of the document.
- `<section>`: Represents a thematic grouping of content.
- `<article>`: Contains independent, self-contained content.
- `<footer>`: Represents the footer for a document or section.

Using semantic HTML enhances accessibility, SEO, and the readability of your code.

### CSS

CSS allows you to:

- Apply colors, fonts, and spacing.
- Control layout with properties like `display`, `flexbox`, and `grid`.
- Style elements using classes, IDs, and pseudo-selectors.

CSS can be written in three ways:

1. Inline: Directly within the HTML tag using the `style` attribute.
2. Internal: Using `<style>` tags within the `<head>`.
3. External: Linking a `.css` file with `<link>`.

### HTML Tags Overview

Tag	Description	Example
<code>&lt;header&gt;</code>	Defines a header section	<code>&lt;header&gt;Site Header&lt;/header&gt;</code>
<code>&lt;nav&gt;</code>	Contains navigation links	<code>&lt;nav&gt;&lt;a href="#"&gt;Home&lt;/a&gt;&lt;/nav&gt;</code>
<code>&lt;main&gt;</code>	Holds the main content of the page	<code>&lt;main&gt;Main Content&lt;/main&gt;</code>
<code>&lt;section&gt;</code>	Groups related content	<code>&lt;section&gt;Section Content&lt;/section&gt;</code>
<code>&lt;article&gt;</code>	Represents independent, self-contained content	<code>&lt;article&gt;Article Content&lt;/article&gt;</code>
<code>&lt;aside&gt;</code>	Represents content related to the main content	<code>&lt;aside&gt;Sidebar Content&lt;/aside&gt;</code>
<code>&lt;footer&gt;</code>	Represents footer content	<code>&lt;footer&gt;Footer Info&lt;/footer&gt;</code>

### HTML Structure

Create the basic structure of a webpage using semantic HTML.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Web Layout</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <header>
    <h1>Welcome to My Website</h1>
    <nav>
      <ul>
        <li><a href="#">Home</a></li>
        <li><a href="#">About</a></li>
        <li><a href="#">Contact</a></li>
      </ul>
    </nav>
  </header>
  <main>
    <section>
      <h2>About Us</h2>
      <p>We create amazing web experiences.</p>
    </section>
    <aside>
      <h3>Latest News</h3>
      <p>Our new project launches soon!</p>
    </aside>
  </main>
  <footer>
    <p>&copy; 2024 My Website</p>
  </footer>
</body>
</html>
```

### Styling with CSS

Style the layout using CSS to enhance visual appeal.

```
body {
  font-family: Arial, sans-serif;
  margin: 0;
  padding: 0;
  line-height: 1.6;
}
header {
  background: #333;
  color: #fff;
  padding: 1rem 0;
  text-align: center;
```

```
}

header nav ul {
    list-style: none;
    padding: 0;
}
header nav ul li {
    display: inline;
    margin: 0 10px;
}
header nav ul li a {
    color: #fff;
    text-decoration: none;
}
main {
    display: flex;
    margin: 20px;
}
section {
    flex: 3;
    margin-right: 20px;
}
aside {
    flex: 1;
    background: #f4f4f4;
    padding: 10px;
}
footer {
    background: #333;
    color: #fff;
    text-align: center;
    padding: 1rem 0;
    margin-top: 20px;
}
```

### Lab Task:

Design a simple web page using semantic HTML and CSS. The page should include a header with a title and navigation links, a main section with a subsection that describes a topic of your choice, an aside for additional information, and a footer with copyright details. Use an external CSS file to style the page with a consistent font, appropriate colors, and sufficient spacing. Focus on creating a layout that is both functional and visually appealing.