• HTML Basics

* Theory Assignment

**• Question 1:**

Define HTML. What is the purpose of HTML in web development?

**ANS:**

HTML (Hyper Text Markup Language) is the standard markup language used to create and structure content on the web. It defines the structure of web pages using a system of tags and elements to organize text, images, links, videos, and other multimedia components.

Purpose of HTML in Web Development:

1. Content Structuring: HTML organizes content into headings, paragraphs, lists, tables, and more, providing a clear structure for web pages.
2. Web Page Layout: It defines the layout of elements such as headers, footers, navigation bars, and sections.
3. Embedding Media: HTML allows embedding of images, videos, audio, and other multimedia to enhance user experience.
4. Hyperlinking: It enables linking between different web pages or external sites using hyperlinks, creating the interconnected structure of the web.
5. Foundation for Styling and Scripting: HTML works alongside CSS (Cascading Style Sheets) for styling and JavaScript for interactivity, serving as the foundational layer of web development.

**• Question 2:**

Explain the basic structure of an HTML document. Identify the mandatory tag sand their purposes.

**ANS:**

Basic Structure of an HTML Document

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Sample HTML Document</title>

</head>

<body>

<h1>Welcome to My Website</h1>

<p>This is a basic HTML document structure. </p>

</body>

</html>

**Mandatory Tags and Their Purposes:**

1. **<!DOCTYPE html> (Document Type Declaration):**
   * **Purpose:** Declares the document type as HTML5.
   * **Why It’s Important:** Ensures the browser renders the page correctly in standards mode.
2. **<html> Tag (Root Element):**
   * **Purpose:** Wraps all the content of the web page, acting as the root of the HTML document.
   * **Common Attribute:** lang="en" specifies the language of the document (e.g., English).
3. **<head> Tag (Metadata Section):**
   * **Purpose:** Contains meta-information about the document that is not visible on the webpage.
   * **Key Elements Inside <head>:**
     + <meta charset="UTF-8">: Defines character encoding (UTF-8 is standard).
     + <meta name="viewport" content="width=device-width, initial-scale=1.0">: Makes the page responsive on different devices.
     + <title>: Specifies the title displayed on the browser tab.
4. **<title> Tag (Document Title):**
   * **Purpose:** Defines the title shown in the browser tab and search engine results.
   * **Requirement:** Must be included inside the <head> section.
5. **<body> Tag (Content Section):**
   * **Purpose:** Holds all the **visible content** of the webpage, including text, images, videos, links, buttons, etc.
   * **Significance:** Everything inside the <body> is what users see and interact with.

**Question 3:**

What is the difference between block-level elements and inline elements in HTML? Provide examples of each.

**ANS:**

**1. Block-Level Elements:**

* **Definition:** Block-level elements take up the **full width** available by default, starting on a **new line** and pushing the next content below them.
* **Purpose:** They are typically used to define the **structure** of a webpage, like sections, paragraphs, headers, etc.

**Key Features:**

* Occupy the entire horizontal space of their parent container.
* Always start on a new line.
* Can contain other block-level or inline elements.
* **Common Block-Level Tags:** <div>, <p>, <h1>–<h6>, <ul>, <ol>, <li>, <table>, <header>, <footer>, <section>, <article>

**2. Inline Elements:**

* **Definition:** Inline elements occupy only the **space necessary** to display their content. They **do NOT start on a new line** and can appear within block-level elements.
* **Purpose:** Used to style or modify small portions of text, links, or content without breaking the flow.

**Key Features:**

* Flows **within** a line, alongside other inline elements.
* Cannot contain block-level elements (only text or other inline elements).
* Respects the surrounding content's layout.
* **Common Inline Tags:** <span>, <a>, <strong>, <em>, <b>, <i>, <img>, <small>, <br>

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| **Aspect** | **Block-Level Elements** | **Inline Elements** |
| **Display Behavior** | Starts on a new line | Stays within the same line |
| **Width** | Occupies full width of the parent container | Takes up only as much space as needed |
| **Contains** | Can contain block-level and inline elements | Can contain only text or inline elements |
| **Examples** | <div>, <p>, <h1>, <ul>, <section> | <span>, <a>, <strong>, <img>, <em> |

**Question 4:**

Discuss the role of semantic HTML. Why is it important for accessibility andSEO? Provide examples of semantic elements.

**ANS:**

**Role of Semantic HTML**

**Semantic HTML** refers to the use of HTML tags that have **meaningful names** that clearly describe the content they contain. Instead of using generic tags like <div> or <span>, semantic tags provide context about the type of content they hold.

**Importance:**

* **Accessibility:** Helps screen readers understand page structure.
* **SEO:** Improves search engine ranking by providing clear content context.
* **Readability:** Makes code easier to read and maintain.

**Examples of Semantic Tags:**

* <header> – Page or section header
* <nav> – Navigation links
* <main> – Main content area
* <article> – Independent content (e.g., blog post)
* <footer> – Footer section