***Theory Assignment:***

**Question 1: Difference between HTML & HTML5?**

**Ans:**HTML (HyperText Markup Language) and HTML5 are markup languages that are used to structure content on the web, but HTML5 introduces new features, updates, and improvements over the previous versions of HTML.

**Here are the key differences:**

**1.Doctype Declaration:**

HTML: The doctype declaration was more complex and needed a reference to the particular version of HTML (e.g., <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN">).

HTML5: The doctype declaration is simplified to just <!DOCTYPE html>, which is shorter and easier to remember.

**2.Semantic Elements:**

HTML: Earlier versions of HTML heavily depended on generic <div> and <span> tags for content structuring.

HTML5: New semantic elements like <header>, <footer>, <article>, <section>, <nav>, and <aside> have been introduced that give more meaning and clarity to the code.

**3.Multimedia Support:**

HTML: Audio and video are multi-media that need to be accessed by external plugins like Flash.

HTML5: Introduced native support for multimedia elements like <audio> and <video>, such that it's now easier to embed audio and video content, thus avoiding the use of plugins.

**4.APIs and Features:**

HTML: Has no feature for many modern web application features.

HTML5: Adds support for the following new APIs and features:

Geolocation API: accessing the user's geographic location,

Web Storage API: storing data locally in the browser through localStorage and sessionStorage,

Canvas API: graph drawing and animations.

Offline Web Applications (for offline file caching and working without an internet connection).

Web Workers (for performing background operations).

**5.Form Elements:**

HTML: Single line input types like <input type="text"> and <input type="password">.

HTML5: Defined new input types including email, url, number, range, date, time, datetime-local, month, week, and search. It developed new attributes such as placeholder, autofocus, required, and pattern.

**6.JavaScript Improvements:**

HTML: It missed the inherent features used to manage heavy activities of JavaScript.

HTML5: Adds better JavaScript interoperability, from API handling up to event handing for more complicated interactivity

**7.Deprecated Elements:**

HTML-Used elements of <font> and <center> and even <big>; these are mostly considered outdated elements and non semantic.

HTML5: These should be replaced instead with CSS.

**Question 2: Additional Tags Used in HTML5?**

**Ans:**HTML5 introduced many new tags that assist in structuring web pages semantically and also enable better functionality.

**Some of the important new tags are as follows:**

<header>: This defines the header section of a document or a section, typically containing navigation, logo, and introductory content.

<footer>: This defines the footer section of a document or section, usually containing author information, copyright, or links to related documents.

<article>: Represents an independent, self-contained piece of content that could be distributed or reused elsewhere (e.g., a news article or blog post).

<section>: Defines sections of content within a document, such as a group of related content, typically with a heading.

<nav>: Defines navigation links, typically used for a navigation menu.

<aside>: Represents content that is tangentially related to the content around it, such as sidebars or pull quotes.

<figure>: Represents self-contained content, like an image or chart, along with its caption (<figcaption>).

<figcaption>: Provides a caption or description for a <figure> element.

<mark>: Represents text that has been highlighted or marked for reference.

<progress>: Displays the progress of a task (e.g., a download or file upload), with a value and a maximum value.

<meter>: Represents a scalar measurement within a known range, such as a disk usage or temperature gauge.

It represents the result of a calculation or user action, which is very common in forms for displaying results.

<video>: It embeds a video file in the webpage. It supports controls like play, pause, and volume.

<audio>: It embeds an audio file in the webpage, allowing users to control playback.

<canvas>: It provides a space for drawing graphics via JavaScript, such as graphs, animations, and other dynamic visual content.

<details>: A disclosure widget which a user may use for further information or controls, like a dropdown.

<summary>: Summary or heading for the content of a <details> element.