**Module 5 – Mernstack – HTML5:**

**Theory Assignment**

**Question 1: Difference b/w HTML & HTML5?**

**Ans:**

| **Feature** | **HTML (HTML4/XHTML)** | **HTML5** |
| --- | --- | --- |
| **Doctype Declaration** | Long and complex (<!DOCTYPE HTML PUBLIC...>) | Simple and short: <!DOCTYPE html> |
| **Multimedia Support** | Requires plugins (e.g., Flash) for audio/video | Native support for <audio> and <video> tags |
| **New Elements** | Limited semantic tags like <div>, <span> | New semantic tags like <header>, <footer>, <article>, <section> |
| **Form Enhancements** | Basic input types only | New input types: email, date, range, color, etc. |
| **Graphics Support** | Not supported natively | <canvas> and <svg> for graphics and drawings |
| **Browser Storage** | Only cookies | Web Storage: localStorage and sessionStorage |
| **Geolocation API** | Not available | Built-in geolocation support |
| **Mobile Compatibility** | Less optimized | Designed with mobile/responsive support in mind |
| **JavaScript Integration** | Limited support for APIs | Supports many new JavaScript APIs (e.g., Web Workers, WebSockets) |

**Question 2: What are the additional tags used in HTML5?**

**Ans:**

HTML5 introduced several **new semantic, multimedia, and functional tags** to improve structure and user experience. Here's a list of commonly used additional tags in HTML5:

**Semantic Tags** (used to define page structure clearly):

| **Tag** | **Description** |
| --- | --- |
| <header> | Defines the header section of a page or section |
| <footer> | Defines the footer section |
| <article> | Represents a self-contained piece of content |
| <section> | Defines a section in a document |
| <nav> | Represents navigation links |
| <aside> | Defines content aside from the main content (like a sidebar) |
| <main> | Represents the main content of the document |
| <figure> | Wraps media like images with captions |
| <figcaption> | Caption for the <figure> element |
| <mark> | Highlights text |
| <time> | Represents a date or time value |

**Multimedia Tags:**

| **Tag** |  | **Description** |
| --- | --- | --- |
| <audio> |  | Embeds audio content |
| <video> |  | Embeds video content |
| <source> |  | Defines media resources for <audio> or <video> |
| <track> |  | Provides captions/subtitles for media |

**Graphics Tags:**

| **Tag** | **Description** |
| --- | --- |
| <canvas> | Used for drawing graphics using JavaScript |
| <svg> | Scalable Vector Graphics (XML-based vector image format) |
|  |  |

**Form-Related Tags:**

| **Tag** | **Description** |
| --- | --- |
| <datalist> | Defines a list of options for <input> |
| <output> | Represents the result of a calculation |
| <progress> | Displays progress of a task |
| <meter> | Represents a scalar measurement (like disk usage) |
|  |  |

**Scripting/Functionality:**

| **Tag** | **Description** |
| --- | --- |
| <template> | Holds HTML content that is not rendered immediately |
| <details> | Used for collapsible content |
| <summary> | Visible heading for <details> element |
| <dialog> | Defines a dialog box or modal |

**Lab Assignment:**

**Task: Create a audio video tag**

**• Also applied properties like muted loop autoplay**

**• Create some shape using canvas tag in html // not completed yet**

**• Create some shape using svg tag in html // not completed yet**

**Ans:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Audio & Video Example</title>

</head>

<body>

<h2>🎵 Audio Example</h2>

<audio muted loop autoplay controls>

<source src="audio-file.mp3" type="audio/mpeg">

Your browser does not support the audio element.

</audio>

<h2>🎬 Video Example</h2>

<video width="320" height="240" muted loop autoplay controls>

<source src="video-file.mp4" type="video/mp4">

Your browser does not support the video element.

</video>

</body>

</html>