**Module (HTML 5)- 3**

**Que: 1) What are the new tags added in HTML5?**

Ans: 1) Certainly! HTML5 introduced several new tags that enhance the structure and functionality of web pages. Here are some of the most notable ones:

1. **<article>**: Represents an independent article with content separate from the rest of the site.
2. **<aside>**: Describes content related to the main object of the web page but not its main intent.
3. **<audio>**: Used to insert audio into an HTML webpage.
4. **<canvas>**: Allows drawing graphics on a web page using JavaScript.
5. **<datalist>**: Provides autocomplete feature for input elements.
6. **<details>**: Used for initially hidden content that can be displayed interactively.
7. **<embed>**: Embeds external multimedia content like audio or video into an HTML document.
8. **<figure>**: Adds self-contained content like illustrations, diagrams, or photos.
9. **<footer>**: Defines a footer containing information like author details and copyright.
10. **<header>**: Contains information related to the title and heading of the content.
11. **<nav>**: Declares the navigational section of HTML documents.
12. **<section>**: Defines a section of documents, dividing content into sections and subsections.
13. **<time>**: Displays human-readable date/time and encodes dates/times in a machine-readable form.
14. **<video>**: Embeds video content such as movie clips in a document.

Additionally, HTML5 introduced new input types, including:

* **<input type = “color”>**: Represents an input field for selecting a color.
* **<input type = “date”>**: Represents an input field for selecting a date.

These tags enhance the semantic structure of web pages and provide more options for developers.

**Que 2) How to embed audio and video in a webpage?**

**Ans 2)** To embed audio in HTML, you can use the <audio> tag. Before HTML5, adding audio to web pages was more complex, often requiring web plugins like Flash. However, with HTML5, it’s straightforward. Here’s how you can do it:

1. **Audio Embedding:**
   * Use the <audio> tag.
   * Specify the audio file’s URL using the src attribute.
   * Supported audio formats include MP3, WAV, and OGG (except for Safari).
   * Example:

HTML

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<h2>Click play button to listen:</h2>

<audio src="your\_audio.mp3" controls></audio>

</body>

</html>

* + Make sure the audio file is in the same directory as your HTML file.

1. **Video Embedding:**
   * For video embedding, use the <video> tag.
   * Include one or more video sources using the <source> tag.
   * Supported video formats are MP4, WebM, and Ogg (except for Safari).
   * Example:

HTML

<video src="your\_video.mp4" controls></video>

* + Similar to audio, ensure the video file is in the same directory as your HTML file.

**Que 3) Semantic element in HTML5?**

Ans 3) Semantic elements in HTML5 are those tags that provide meaning to the content they enclose, rather than just defining its appearance. They play a crucial role in improving accessibility, search engine optimization (SEO), and overall code readability. Some commonly used semantic elements in HTML5 include:

1. **<header>**: Defines a header for a document or section.
2. **<nav>**: Represents a navigation menu.
3. **<main>**: Specifies the main content of a document.
4. **<article>**: Represents an independent piece of content within a document.
5. **<section>**: Defines a section in a document.
6. **<aside>**: Represents content aside from the content it is placed in (e.g., sidebars).
7. **<footer>**: Defines a footer for a document or section.
8. **<figure>**: Represents self-contained content, such as images, diagrams, photos, code listings, etc.
9. **<figcaption>**: Represents a caption or legend for a **<figure>** element.
10. **<time>**: Represents a specific period in time or a duration.

**Que 4) Canvas and SVG tags**

Ans 4) Both **<canvas>** and **<svg>** are HTML tags used for creating graphics in web pages, but they have different approaches and use cases:

1. **<canvas>**:
   * **<canvas>** is an HTML element introduced in HTML5 that provides a scriptable rendering context for 2D graphics.
   * It is essentially a drawing surface that you can use JavaScript to draw graphics on dynamically.
   * You can draw various shapes, images, and manipulate pixels directly within a **<canvas>** element.
   * The graphics drawn on a **<canvas>** are raster-based, meaning they are made up of pixels.
   * It's suitable for complex, dynamic, and interactive graphics such as animations, games, data visualization, etc.
   * Example:

Html Copy code

<canvas id="my Canvas" width="400" height="200"></canvas>

1. **<svg>**:
   * **<svg>** stands for Scalable Vector Graphics and is an XML-based markup language for describing two-dimensional vector graphics.
   * It's a standard for creating graphics on the web that are scalable and resolution-independent.
   * SVG graphics are based on mathematical expressions rather than pixels, making them scalable without losing quality.
   * You can create various shapes, paths, text, and gradients using SVG elements.
   * SVG graphics are suitable for static and interactive graphics, icons, logos, illustrations, etc.
   * Unlike **<canvas>**, SVG elements are part of the DOM (Document Object Model), so they can be manipulated with CSS and JavaScript.
   * Example:

Html Copy code

<svg width="400" height="200"> <circle cx="100" cy="100" r="50" fill="red" /> <rect x="200" y="50" width="100" height="100" fill="blue" /> <text x="50" y="150" fill="black">SVG Example</text> </svg>