

ASSIGNMENT:- HTML 5

1. What are the new tags added in HTML5?

Ans.:-

- `<header>`: Used to define a container for introductory content or a set of navigational links.
- `<nav>`: Defines a section of a webpage that contains navigation links, such as menus and site navigation.
- `<section>`: Represents a thematic grouping of content within a document. It helps in structuring a document's content.
- `<article>`: Used to define a self-contained composition within a document, such as a news article, blog post, or forum post.
- `<aside>`: Represents content that is tangentially related to the content around it, often used for sidebars, pull quotes, or advertising.
- `<footer>`: Defines the footer section of a document or a section within a document, typically containing metadata or copyright information.
- `<main>`: Specifies the main content of a document and is typically used only once per page.
- `<figure>`: Used to encapsulate media content, such as images and videos, along with their captions.
- `<audio>`: Allows you to embed audio content, such as music or sound effects, directly into web pages.
- `<video>`: Used for embedding video content, making it possible to display videos on web pages without relying on third-party plugins like Flash.
- `<canvas>`: Provides a blank canvas for drawing graphics and animations using JavaScript.
- `<time>`: Provides a machine-readable format for dates and times and can be used for events or timestamps.

2. How to embed audio and video in a webpage?

Ans.:-

- **AUDIO:-** To embed audio in HTML, we use the `<audio>` tag. Before HTML5, audio cannot be added to web pages in the Internet Explorer era. After the release of HTML5, it is possible. This tag supports Chrome, Firefox, Safari, Opera, and Edge in three audio formats – MP3, WAV, OGG. Only Safari browser doesn't support OGG audio format.

Syntax:- `<audio>`

```
<source src="file_name" type="audio_file_type">
```

```
</audio>
```

- **VIDEO:-** To embed video in HTML, we use the <video> tag. It contains one or more video sources at a time using <source> tag. It supports MP4, WebM, and Ogg in all modern browsers. Only Ogg video format doesn't support in Safari browser.

Syntax:-

<video>

<source src="file_name" type="video_file_type">

</video>

3. Semantic element in HTML5?

Ans.:- "A semantic Web allows data to be shared and reused across applications, enterprises, and communities."

Ex.:-

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

4. Canvas and SVG tags.

Ans.:-

Canvas	SVG
Vector based (composed of shapes)	Raster based (composed of pixel)
SVG has better scalability. So it can be printed with high quality at any resolution.	Canvas has poor scalability. Hence it is not suitable for printing on higher resolution.
SVG gives better performance with smaller number of objects or larger surface.	Canvas gives better performance with smaller surface or larger number of objects.
SVG can be modified through script and CSS.	Canvas can be modified through script only.

- SVG:- The Scalable Vector Graphics (SVG) is an XML-based image format that is used to define two-dimensional vector-based graphics for the web. Unlike raster images (Ex .jpg, .gif, .png, etc.), a vector image can be scaled up or down to any extent without losing the image quality.



SVG Circle



- Canvas:- The HTML element is used to draw graphics on the fly, via scripting (usually JavaScript). The element is only a container for graphics. You must use a script to draw the graphics. Canvas has several methods for drawing paths, boxes, circles, text, and adding images. Canvas has poor scalability. Hence it is not suitable for printing on higher resolution. Single element like in behavior. Canvas diagram can be saved to PNG or JPG format.

```
<> canvas.html > ...
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>HTML5</title>
5  </head>
6  <body>
7    <h2>Canvas Square</h2>
8    <canvas id="newCanvas" width="100" height="100"
9      style="border:1px solid #000000;">
10   </canvas>
11   <script>
12     var c = document.getElementById('newCanvas');
13     var ctx = c.getContext('2d');
14     ctx.fillStyle = '#7cce2b';
15     ctx.fillRect(0, 0, 100, 100);
16   </script>
17 </body>
18 </html>
19
```

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Canvas Square

