**Assignment-3(HTML-5)**

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

**ANS.** HTML5 introduced several new tags and attributes that were not available in previous versions of HTML. Some of the new tags added in HTML5 are:

1. <header> - used to define the header section of a web page.

2. <nav> - used to define a block of navigation links.

3. <section> - used to group related content together.

4. <article> - used to define a self-contained piece of content such as a blog post or news article.

5. <aside> - used to define content that is related to the main content but not directly a part of it.

6. <footer> - used to define the footer section of a web page.

7. <video> - used to embed videos on a web page.

8. <audio> - used to embed audio files on a web page.

9. <canvas> - used to create graphics and animations dynamically using JavaScript.

10.<progress> - used to indicate the progress of a task.

11.<meter> - used to define a measurement within a known range, such as disk usage or file size.

12<datalist> - used to provide a list of predefined options for an input element.

These are just a few examples of the new tags added in HTML5. HTML5 also introduced several new attributes and updated the way that some existing elements work.

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

**ANS.** You can embed audio and video in a webpage using the HTML5 <audio> and <video> tags. Here's how to do it:

To embed a video, use the <video> tag with the src attribute pointing to the URL of the video file. For example:

<video src="video.mp4" width="640" height="360" controls>

Your browser does not support the video tag.

</video>

The controls attribute adds playback controls to the video, and the text inside the <video> tag is displayed if the browser does not support the video.

To embed an audio file, use the <audio> tag with the src attribute pointing to the URL of the audio file. For example:

<audio src="audio.mp3" controls>

Your browser does not support the audio tag.

</audio>

The controls attribute adds playback controls to the audio, and the text inside the <audio> tag is displayed if the browser does not support the audio.

You can also add other attributes to the <video> and <audio> tags to specify the size, autoplay, loop, and other properties of the media. Additionally, you can use JavaScript to control the playback of the media.

**3)** Semantic element in HTML5?

**ANS.**In HTML5, semantic elements are tags that give meaning to the content they contain, making it easier for both humans and machines (such as search engines) to understand the structure and purpose of a web page. Here are some examples of semantic elements in HTML5:

1. <header> - used to define the header section of a web page.

2. <nav> - used to define a block of navigation links.

3. <section> - used to group related content together.

4. <article> - used to define a self-contained piece of content such as a blog post or news article.

5. <aside> - used to define content that is related to the main content but not directly a part of it.

6. <footer> - used to define the footer section of a web page.

7. <main> - used to define the main content of a web page.

8. <figure> - used to group media content and its caption.

9. <figcaption> - used to define the caption for a <figure> element.

10.<time> - used to define a date or time, and it can include machine-readable data for search engines and screen readers.

Using semantic elements in HTML5 can improve the accessibility and usability of a web page, as well as its search engine optimization (SEO) and readability. It's important to use these elements appropriately to provide a clear and organized structure to the web page.

**4)** Canvas and SVG tags

**ANS.**Both <canvas> and <svg> are HTML tags used for creating graphics and animations on a web page. However, they have different approaches and features.

<canvas> is a tag that allows for dynamic drawing and rendering of 2D graphics using JavaScript. It creates a rectangular region in the web page where you can use JavaScript to draw lines, shapes, text, and images. The canvas is resolution-dependent, meaning that its size is determined by the number of pixels, and it can be scaled up or down without losing image quality. The downside is that the content of the canvas is not directly accessible to assistive technologies, and it is not searchable by search engines.

<svg> is a tag that allows for the creation of scalable vector graphics using XML-based markup. It creates a vector image that can be scaled up or down without losing image quality, and its content is directly accessible to assistive technologies and searchable by search engines. SVG supports more advanced graphics features such as gradients, filters, and animation, and it can be manipulated using JavaScript. However, creating complex graphics in SVG can be more challenging than in <canvas>, and it may require more code to achieve the same result.

In summary, <canvas> is better suited for dynamic drawing and real-time animations, while <svg> is better suited for scalable graphics that need to be accessible and searchable. Depending on the specific requirements of your project, one of these tags may be more appropriate than the other.