MODULE: 3 (HTML 5)

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

Ans -

<article>	Defines an article in a document
<aside>	Defines content aside from the page content
<bdi>	Isolates a part of text that might be formatted in a different direction From other text outside it
<details>	Defines additional details that the user can view or hide
<dialog>	Defines a dialog box or window
<figcaption>	Defines a caption for a <figure> element
<figure>	Defines self-contained content
<footer>	Defines a footer for a document or section
<header>	Defines a header for a document or section
<main>	Defines the main content of a document
<mark>	Defines marked/highlighted text
<meter>	Defines a scalar measurement within a known range (a gauge)
<nav>	Defines navigation links
<progress>	Represents the progress of a task
<rp>	Defines what to show in browsers that do not support ruby annotations
<rt>	Defines an explanation/pronunciation of characters (for East Asian typography)
<ruby>	Defines a ruby annotation (for East Asian typography)
<section>	Defines a section in a document
<summary>	Defines a visible heading for a <details> element
<time>	Defines a date/time
<wbr>	Defines a possible line-break

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

Ans -

Embed 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. To play audio, we used web plugins like Flash. 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>
```

Embed 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 -

In programming, Semantics refers to the meaning of a piece of code — for example "what effect does running that line of JavaScript have?", or "what purpose or role does that HTML element have" (rather than "what does it look like?".)

Semantic elements = elements with a meaning.

Examples of non-semantic elements: and - Tells nothing about its content.

Examples of semantic elements: <form>, <table>, and <article> - Clearly defines its content.

Some Semantic elements in HTML:
<article>, <aside>, <details>, <figcaption>, <figure>, <footer>, <header>, <main>, <mark>, <nav>, <section>, <summary>, <time>

(4) Canvas and SVG tags.

Ans -

Canvas:

The HTML <canvas> element is used to draw graphics on a web page.

The HTML <canvas> element is used to draw graphics, on the fly, via JavaScript.

The <canvas> element is only a container for graphics. You must use JavaScript to actually draw the graphics.

Canvas has several methods for drawing paths, boxes, circles, text, and adding images.

A canvas is a rectangular area on an HTML page. By default, a canvas has no border and no content. After creating the rectangular canvas area, you must add a JavaScript to do the drawing.

Example: <canvas id="myCanvas" width="200" height="100"></canvas>

SVG tags:

SVG stands for Scalable Vector Graphics.

SVG is used to define graphics for the Web.

SVG is a W3C recommendation.

The HTML <svg> element is a container for SVG graphics.

SVG has several methods for drawing paths, boxes, circles, text, and graphic images.

Example:

```
<svg width="100" height="100">
  <circle cx="50" cy="50" r="40" stroke="green" stroke-width="4" fill="yellow" />
</svg>
```

Canvas	SVG
Resolution dependent.	Resolution independent.
No support for event handlers.	Support for event handlers.
Poor text rendering capabilities.	Best suited for applications with large rendering areas (Google Maps).
You can save the resulting image as .png or .jpg	Slow rendering if complex (anything that uses the DOM a lot will be slow).
Well suited for graphic-intensive games.	Not suited for game applications.