

○ **Pune Institute of Computer Technology, Pune-43**  
**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**(Academic Year – 2022-23 Sem-II)**  
**UNIT TEST - I**

Subject: Web Application Development

Class: TE

Date: 16/ 03/ 2023

Div.: IX, X, XI

Day: Thursday

Subject Code: 314458

[ Max. Marks: 30]

Duration: 1 Hour

**Instructions to the candidate:**

1. All questions are compulsory
2. Draw neat diagram wherever necessary.

Q ue · N o.	Questions	
1-a	<p><b>What is the difference between span and div tag in HTML5</b></p> <p>Answer:-Both &lt;span&gt; and &lt;div&gt; are HTML5 tags used to group and apply styles to content on a web page, but they have different purposes and default styling.</p> <p>The main difference between the two tags is that &lt;div&gt; is a block-level element, while &lt;span&gt; is an inline element. This means that &lt;div&gt; creates a new line before and after the element, while &lt;span&gt; does not.</p> <p>&lt;div&gt; is typically used to group larger sections of content, such as a header, a navigation bar, or a footer, while &lt;span&gt; is typically used to group smaller pieces of content within a larger block of text, such as a single word or a phrase.</p> <p>Another difference is in their default styling. By default, &lt;div&gt; has a width of 100% and a height that is determined by its content, while &lt;span&gt; has no default width or height and simply takes up as much space as necessary to contain its content. This means that &lt;div&gt; is often used for layout purposes, while &lt;span&gt; is used for styling text.</p> <p>Here's an example of how they might be used:</p> <pre>&lt;div class="header"&gt;   &lt;h1&gt;Welcome to my website&lt;/h1&gt;   &lt;nav&gt;     &lt;ul&gt;       &lt;li&gt;&lt;a href="#"&gt;Home&lt;/a&gt;&lt;/li&gt;       &lt;li&gt;&lt;a href="#"&gt;About&lt;/a&gt;&lt;/li&gt;       &lt;li&gt;&lt;a href="#"&gt;Contact&lt;/a&gt;&lt;/li&gt;</pre>	

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	<pre> &lt;/ul&gt; &lt;/nav&gt; &lt;/div&gt;  &lt;p&gt;Here's some text with a &lt;span class="highlight"&gt;highlighted word&lt;/span&gt; in the middle of it.&lt;/p&gt; In the example above, &lt;div&gt; is used to group the header content, while &lt;span&gt; is used to apply a highlight style to a single word within a paragraph of text. </pre>	
1- b	<p><b>Discuss why BOOTSTRAP is preferred for website development.</b></p> <p>Answer:-Bootstrap is a popular front-end development framework that enables developers to create responsive and mobile-first websites easily. Here are some reasons why Bootstrap is preferred for website development:</p> <p>Responsive design: Bootstrap offers built-in features that help developers create responsive websites quickly. It offers a grid system that adjusts the layout of a website according to the device on which it is being viewed. This ensures that the website looks great on all devices, including smartphones, tablets, and desktops.</p> <p>Pre-built components: Bootstrap offers a vast collection of pre-built components such as navigation bars, forms, buttons, and alerts that developers can use to create a website quickly. This saves a lot of development time and effort.</p> <p>Easy customization: Bootstrap is highly customizable, allowing developers to customize the framework to meet their specific needs. Developers can easily modify the CSS files to change the styling of the website, or they can customize the JavaScript files to add new functionality.</p> <p>Consistency: Bootstrap is widely used and has a consistent design language. This means that websites built using Bootstrap have a consistent look and feel, which makes them easier to use and navigate.</p> <p>Community support: Bootstrap has a vast community of developers who contribute to the framework regularly. This means that developers can get help and support from the community when they encounter issues or have questions.</p> <p>Cross-browser compatibility: Bootstrap is designed to work across different browsers and devices. This ensures that the website looks and functions correctly on all devices, regardless of the browser being used.</p>	

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**UNIT TEST - I**

	Overall, Bootstrap is preferred for website development because it simplifies the development process, saves time and effort, and ensures that the website is responsive, consistent, and easy to use.	
1-c	<p>What are the ways of inserting CSS in the HTML page? Explain with examples.</p> <p>Answer:</p> <p>There are 3 ways of inserting CSS in HTML page:</p> <ol style="list-style-type: none"> <li>1. Inline CSS</li> <li>2. Internal CSS</li> <li>3. External CSS</li> </ol> <ol style="list-style-type: none"> <li>1. Inline CSS <ul style="list-style-type: none"> <li>● Inline CSS is written directly in the HTML element using the “style” attribute. Among all the methods of applying CSS, this form of CSS has highest priority</li> <li>● <b>Example:</b> <code>&lt;div style=’width:50%; margin: 5% auto;’&gt; I am a div &lt;/div&gt;</code></li> <li>● In the above example, style is applied through inline CSS using style attribute.</li> <li>● The effect will be that the width of the div will be 50%, the div will have a 5% margin from top, and because of auto it will be in the center of the page.</li> </ul> </li> <li>2. Internal CSS <ul style="list-style-type: none"> <li>○ Internal CSS is written using the “style” tag in the &lt;head&gt; section within the HTML file itself. Among all the methods of applying CSS, this form of CSS has 2nd highest priority</li> <li>○ <b>Example:</b></li> <li>○ <code>&lt;head&gt;</code></li> <li><code>&lt;style&gt;</code></li> <li><code>div{</code></li> <li><code>width:50%;</code></li> <li><code>margin: 5% auto;</code></li> <li><code>}</code></li> <li><code>&lt;/style&gt;</code></li> <li><code>&lt;/head&gt;</code></li> <li><code>&lt;body&gt;</code></li> <li><code>&lt;div&gt; I am a div &lt;/div&gt;</code></li> <li><code>&lt;/body&gt;</code></li> <li>○ In the above example, style is applied through internal CSS using style tag.</li> <li>○ The effect will be that the width of the div will be 50%, the div will have a 5% margin from top, and because of auto it will be in the center of the page.</li> </ul> </li> </ol>	

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**UNIT TEST - I**

	<p>3. External CSS</p> <ul style="list-style-type: none"> <li>○ External CSS is written in a separate file using the .css file extension.</li> <li>○ This file is then linked in the html file in the &lt;head&gt; section using &lt;link&gt; tag.</li> </ul> <p>Among all the methods of applying CSS, this form of CSS has 3rd highest priority</p> <ul style="list-style-type: none"> <li>○ <b>Example:</b></li> <li>○ <b>style.css</b></li> </ul> <pre>div{     width:50%;     margin: 5% auto; }</pre> <ul style="list-style-type: none"> <li>○ <b>index.html</b></li> <li>○ &lt;head&gt;</li> </ul> <pre>&lt;link rel="stylesheet" href="style.css"&gt;     &lt;/head&gt;     &lt;body&gt;         &lt;div&gt; I am a div &lt;/div&gt;     &lt;/body&gt;</pre> <ul style="list-style-type: none"> <li>○ In the above example, style is applied through external CSS using style.css file.</li> <li>○ The effect will be that the width of the div will be 50%, the div will have a 5% margin from top, and because of auto it will be in the center of the page.</li> </ul>	
2-a	<p>What are callbacks in JavaScript? Explain with suitable example.</p> <p>Answer:</p> <ul style="list-style-type: none"> <li>● A callback function is a function passed into another function as an argument, which is then invoked inside the outer function to complete some kind of routine or action.</li> <li>● Here is a quick example:</li> </ul> <pre>function greeting(name) {     alert("Hello" + name); }</pre> <pre>function processUserInput(callback) {</pre>	

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**UNIT TEST - I**

	<pre>const name = prompt("Please enter your name.");  callback(name);  }</pre> <p style="text-align: center;">processUserInput(greeting);</p> <ul style="list-style-type: none"> <li>• The above example is a synchronous callback, as it is executed immediately.</li> <li>• Note, however, that callbacks are often used to continue code execution after an asynchronous operation has completed — these are called asynchronous callbacks.</li> </ul> <p>Source: <a href="https://developer.mozilla.org/en-US/docs/Glossary/Callback_function">https://developer.mozilla.org/en-US/docs/Glossary/Callback_function</a></p>	
2-b	<p>What is the difference between id and class selector in JQuery?</p> <p>Answer:-</p> <p>In jQuery, both id and class selectors are used to select and manipulate elements of an HTML document. However, there are some differences between them:</p> <p><b>ID Selector:</b> The id selector is used to select a single unique element with a specific id attribute. It is represented by a # followed by the id value. For example: \$("#myDiv"). IDs must be unique within an HTML document, so this selector will only select one element.</p> <p><b>Class Selector:</b> The class selector is used to select all elements with a specific class name. It is represented by a . followed by the class name. For example: \$(".myClass"). Class names can be used multiple times within an HTML document, so this selector will select all elements with the specified class.</p> <p>Here are some other differences between id and class selectors:</p> <p>IDs have a higher specificity than classes, which means that if there is a conflict between the two selectors, the ID selector will take precedence.</p> <p>It is not recommended to use the same id value multiple times within an HTML document, as it will result in invalid HTML and may cause issues with CSS and JavaScript. In contrast, class names can be used multiple times without any issues.</p> <p>Since function kmToMiles(km) {  var miles = km * 0.621371;</p>	

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**UNIT TEST - I**

	<pre>return miles; }</pre> <p>are unique, using the ID selector is often faster than using the class selector, especially when selecting a single element. However, this performance difference may not be noticeable in small documents or for simple selections.</p>	
2-c	<p>Write JavaScript code to convert kilometers to miles.</p> <p>Answer:-</p> <p>Here's a simple JavaScript function that converts kilometers to miles:</p> <pre>function kmToMiles(km) {   var miles = km * 0.621371;   return miles; }</pre> <p>To use this function, simply pass the number of kilometers you want to convert as an argument, like this:</p> <pre>var km = 10; var miles = kmToMiles(km); console.log(miles); // output: 6.21371</pre> <p>This function multiplies the number of kilometers by the conversion factor for kilometers to miles, which is 0.621371. The result is the number of miles equivalent to the given number of kilometers.</p>	

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