**Module 4) CSS and CSS 3**

**ASSESMENT**

**Q 1.What are the benefits of using CSS?**

**ANS** - There are three pillars of web development - HTML, CSS, and JavaScript. HTML is used to structure the content, CSS is used to style the content and JavaScript is used to make it dynamic.

CSS stands for Cascading Style Sheets is a design language that makes the web page visually appealing. If HTML is the architectural blueprint of a house that defines its structure, CSS is its design and interior. Through CSS, we can render various functionalities to make the look and feel of the website rich. It goes without saying that HTML and CSS go hand in hand and are closely associated with each other. Although a website can run without CSS, it will be ordinary and not outstanding.

**BENEFITS OF CSS**

* Consistency & Maintenance
* Flexibility
* Page Load Efficiency
* Enhanced Design Options
* Platform Independence

**Q 2.What are the disadvantages of CSS?**

**ANS -** Disadvantage of CSS are as follow:

* Cross-Browser Issues
* Complex Layouts
* Over Specificity
* File Size
* Learning Curve

**Q 3.What is the difference between CSS2 and CSS3**?

**ANS -**

|  |  |
| --- | --- |
| CSS | CSS3 |
| ––CSS is capable of positioning texts and objects. | CSS3 makes web page more attractive and takes less time to create. CSS3 is backward compatible with CSS. |
| Responsive designing is not supported in CSS | CSS3 is the latest version, hence it supports responsive design. |
| CSS cannot be split into modules. | Whereas CSS3 can be breakdown into modules. |
| CSS is very slow as compared to CSS3 | Whereas CSS3 is faster than CSS. |
| CSS codes are not supported by all types of modern browsers. | Being the latest version, CSS3 cod––es are supported by all modern browsers. |
| CSS is memory intensive. | CSS3 memory consumption is low as compared to CSS. |
| CSS does not support media queries. | But CSS3 supports media queries |

**Q 4. Name a few CSS style components?**

**ANS –** CSS offers various style components that developers can use to control the appearance of web elements. Here are a few commonly used CSS style components:

* Color
* Font
* Layout
* Box Model
* Flex-Box
* Animation
* Grid
* Transformation and Transition

**Q 5. What do you understand by CSS opacity?**

**ANS –**

CSS opacity refers to the transparency level of an element on a webpage. It determines how much light can pass through the element, affecting its visibility and appearance. In CSS, opacity is specified using the opacity property, which accepts values ranging from 0 to 1.

* + A value of 0 indicates that the element is completely transparent, making it invisible.
  + A value of 1 indicates that the element is fully opaque, with no transparency.
  + Values between 0 and 1 represent varying degrees of transparency, where a higher value means less transparency and a lower value means more transparency.

**Q 6. How can the background color of an element be changed?**

**ANS –**

The background color of an element in HTML can be changed using CSS. You can use the background-color property to specify the desired color. Here's how you can change the background color of an element:

Example:

|  |
| --- |
| .element {  background-color: red; /\* Sets the background color to red \*/  } |

**Q 7. How can image repetition of the backup be controlled?**

**ANS –**

Controlling the repetition of a background image in CSS involves using the background-repeat property. This property allows you to specify whether and how a background image should repeat both horizontally and vertically. Here are the possible values and their effects:

**repeat:** The background image will repeat both horizontally and vertically to fill the entire element's background.

**repeat-x:** The background image will repeat only horizontally (along the x-axis).

**repeat-y:** The background image will repeat only vertically (along the y-axis).

**no-repeat:** The background image will not repeat, it will be displayed only once.

**Q 8. What is the use of the background-position property?**

**ANS –**

The background-position property in CSS is used to specify the starting position of a background image within its containing element. It allows you to control where the background image is placed relative to the element's padding box.

The background-position property accepts one or two values:

**Horizontal Position:** Specifies the horizontal position of the background image. It can take values such as left, center, right, or a length value (in pixels, percentages, or other CSS length units).

**Vertical Position:** Specifies the vertical position of the background image. It can take values such as top, center, bottom, or a length value.

**Q 9. Which property controls the image scroll in the background?**

**ANS –**

The property that controls the scrolling behavior of a background image in CSS is called background-attachment. This property specifies whether the background image scrolls with the content of the webpage or remains fixed in place.

The background-attachment property accepts the following values:

**scroll:** The background image scrolls along with the content of the webpage as the user scrolls.

**fixed:** The background image remains fixed in place relative to the viewport. It does not move when the user scrolls the webpage.

**local:** This value is less commonly used and is similar to scroll, but it allows the background image to scroll along with the element's content, rather than the entire webpage.

**Q 10. Why should background and color be used as separate properties?**

**ANS –**

Using background and color as separate properties allows for more flexibility and control over the styling of an element's background and text color.

**Q 11. How to center block elements using CSS1?**

**ANS –**

**Using Auto Margins:** One way to horizontally center a block-level element is by setting its left and right margins to auto. This technique works if the width of the block-level element is defined.

**Using Table Layout:** In CSS1, you could also use table display properties to achieve centering. This method involves setting the parent container to display as a table and the child element to display as a table-cell.

**Q 12. How to maintain the CSS specifications?**

**ANS –**

CSS specificity refers to the set of rules that determines which styles are applied to an element when conflicting styles are present. Specificity is calculated based on the combination of selectors used to target elements in CSS. Understanding specificity is crucial for managing styles and avoiding unexpected behavior in web development. Here's how specificity is calculated:

1. **Inline Styles:** Inline styles (styles applied directly to an HTML element using the `style` attribute) have the highest specificity. They override any other styles applied to the same element.

2. **ID Selectors:** Selectors containing an ID have a higher specificity than those containing class selectors, attributes selectors, or pseudo-classes. For example, `#myElement` has a higher specificity than `.myClass`.

3.**Class Selectors, Attribute Selectors, and Pseudo-Classes:** Selectors containing class names, attributes, or pseudo-classes have equal specificity. For example, `.myClass`, `[type="text"]`, and `:hover` have the same specificity.

4. **Element Type Selectors:** Selectors targeting HTML elements (e.g., `div`, `p`, `span`) have a lower specificity compared to selectors mentioned above. They are considered the least specific.

5.**Universal Selector, Combinators, and Inherited Styles:** Universal selectors (`\*`), combinators (such as space, `>`, `+`, `~`), and inherited styles have no specificity, so they are typically overridden by more specific selectors.

**Q 13. What are the ways to integrate CSS as a web page?**

**ANS –**

CSS can be integrated into web pages using various methods, each with its advantages and use cases. Here are the common ways to integrate CSS into a web page:

**Inline Styles:** Inline styles are applied directly to individual HTML elements using the style attribute. This method is useful for applying unique styles to specific elements but can become cumbersome for large-scale styling.

**Internal Stylesheet:** Internal stylesheets are defined within the <style> element in the <head> section of an HTML document. This method allows you to apply styles to multiple elements within the same HTML file.

**External Stylesheet:** External stylesheets are separate CSS files linked to HTML documents using the <link> element. This method is commonly used for applying styles across multiple web pages, promoting consistency and ease of maintenance.

**Q 14. What is embedded style sheets?**

**ANS –**

Embedded style sheets, also known as internal style sheets, are a method of integrating CSS (Cascading Style Sheets) directly into an HTML document. With embedded style sheets, CSS rules are defined within the <style> element in the <head> section of an HTML file.

**Q 15. What are the external style sheets?**

**ANS –**

External style sheets are separate files containing CSS (Cascading Style Sheets) rules that can be linked to HTML documents using the <link> element. These files typically have a .css extension and contain styling instructions for one or multiple web pages.

**Q 16. What are the advantages and disadvantages of using external style?**

**ANS –**

Using external stylesheets in web development offers several advantages and disadvantages:

**Advantages:**

1. **Consistency:** External stylesheets allow you to define styles once and apply them across multiple web pages. This ensures consistency in design and layout throughout your website.

2. **Ease of Maintenance:** Since styles are centralized in one external file, making updates or changes to the design can be done quickly and easily. This reduces the likelihood of errors and makes maintenance more efficient, especially for larger websites.

3. **Improved Page Loading Speed:** External stylesheets are cached by the browser after the initial download, so subsequent pages load faster as they don't need to download the stylesheet again. This can contribute to better overall performance and user experience.

4. **Separation of Concerns:** Using external stylesheets promotes the separation of content (HTML) from presentation (CSS). This separation enhances code readability, facilitates collaboration among developers, and simplifies the debugging process.

5. **Flexibility and Scalability:** External stylesheets allow you to organize styles in a modular way, making it easier to scale your website and manage complex designs. You can create different stylesheets for different devices or sections of your site, improving flexibility and adaptability.

**Disadvantages:**

1. **Dependency on External Files**: External stylesheets require an additional HTTP request to fetch the stylesheet, which can slightly slow down the initial page load, especially for smaller websites where the overhead of an additional request may be more noticeable.

2. **Potential for Conflicts:** When multiple stylesheets are linked to a web page, conflicts between styles can occur, leading to unintended consequences in the layout or appearance of the page. Managing and resolving these conflicts can be challenging, especially in larger projects with numerous stylesheets.

3. **Increased Complexity:** While separating styles from HTML can enhance code organization, it can also increase complexity, especially for beginners or those unfamiliar with the project's structure. Understanding how styles are applied across multiple files and elements can be daunting, particularly in large projects.

4. **Limited Browser Caching:** While caching can improve page loading speed, changes to external stylesheets may not be immediately reflected for returning visitors if the stylesheet is cached by their browser. This can lead to inconsistencies in the user experience if updates are not handled carefully.

Q **17. What is the meaning of the CSS selector?**

**ANS -**

In CSS (Cascading Style Sheets), a selector is a pattern used to target and style specific elements in an HTML document. Selectors are used to specify which elements the CSS rules should apply to. Selectors can target elements based on their type, attributes, IDs, classes, or their relationship with other elements.

Here are some common types of CSS selectors:

**Element Type Selector:** Targets all elements of a specific type. For example, p selects all <p> elements.

**Class Selector:** Targets elements with a specific class attribute. For example, .myClass selects all elements with class="myClass".

**ID Selector:** Targets an element with a specific ID attribute. For example, #myElement selects the element with id="myElement".

**Attribute Selector:** Targets elements with a specific attribute or attribute value. For example, [type="text"] selects all elements with type="text".

**Descendant Selector:** Targets an element that is a descendant of another specific element. For example, div p selects all <p> elements that are descendants of <div> elements.

**Pseudo-Class Selector:** Targets elements based on their state or position. For example, :hover selects an element when it is being hovered over by the mouse pointer.

**Universal Selector:** Targets all elements in the document. For example, \* selects all elements.

**Q 18. What are the media types allowed by CSS?**

**ANS -**

CSS supports various media types, which allow you to apply different styles based on the device or medium on which the content is being displayed. Here are the common media types allowed by CSS

**all:** Applies to all media types.

**screen:** Applies to screens, such as desktops, laptops, tablets, and smartphones.

**print:** Applies to printed documents or print preview.

**speech:** Applies to speech synthesizers or screen readers.

**braille:** Applies to braille tactile feedback devices.

**embossed:** Applies to paged braille printers.

**handheld:** Applies to handheld devices like mobile phones.

**projection:** Applies to projected presentations, such as slideshows.

**tvpe:** Applies to television-type devices.

**Q 19.What is the rule set?**

**ANS -**

In CSS (Cascading Style Sheets), a rule set consists of two main components: a selector and one or more declarations. Together, they define how a particular HTML element or set of elements should be styled.

Here's the basic structure of a CSS rule set:

**Selector:** The selector determines which HTML elements the rule set will apply to. Selectors can target elements based on their type (e.g., div, p), class (e.g., .myClass), ID (e.g., #myElement), attributes (e.g., [type="text"]), or their relationship with other elements (e.g., div p for descendant selectors).

**Declaration Block:** The declaration block is enclosed within curly braces {} and contains one or more property-value pairs. Each property specifies a CSS property (e.g., color, font-size, margin) that you want to style, followed by a colon :, and its corresponding value. Multiple declarations are separated by semicolons