**Definitions**

1. Cross-Browser Compatibility: Critical Issue; Means that your web pages will work on any browser that accesses your website, including tablet and mobile phone browsers.
2. Responsive Web Design (RWD): Critical Issue; Means that a website should adapt to the screen size of the device that’s accessing it, whether it’s a desktop computer, a tablet, or a mobile phone.
3. Search Engine Optimization (SEO): Critical Issue; Refers to the goal of optimizing your website so its pages will rank high in the search engines that are used to access them.
4. Web Accessibility: Critical Issue; Refers to the qualities that make a website accessible to users, especially disabled users.
5. Class: Core Attribute; A way to assign class names to elements so that style sheets can be applied to multiple elements.
6. ID: Core Attribute; A unique identifier for an element that’s useful for JavaScript and CSS.
7. Style: Core Attribute; Allows for inline styling of HTML elements.
8. Character Entities: Are used to display special characters in an HTML document. (Examples: &amp; = & / &lt; = < / &gt; = >)
9. HTML Semantic Elements: A way of using HTML tags to convey the meaning of content on a web page. (Examples: <article> / <main> / <section>)
10. Visual Studio Code: A code editor that is built to be lightweight, fast, and customizable through the use of extensions.
11. Emmet: A VS Code extension that converts acronyms into blocks of structured code in (X)HTML, CSS, XML, XSL, and JSP.
12. CSS Box Model: A box that wraps around all HTML elements (i.e. padding, margins, borders, and content) and is used to define space between each element.

**Contrast**

1. Inline Elements **VS** Block Elements: An *inline element* does not start on a new line, and it only takes up as much width as necessary. A *block element* always starts on a new line and takes up the full width available.
2. Div Element **VS** Span Element: A *div element* is used for block-level organization and styling of page elements. A *span element* is used for inline organization and styling.
3. Absolute URL **VS** Relative URL: An *absolute URL* contains all the information necessary to locate a resource (Example: <a href = http://example.com/xyz.html>). A *relative URL* locates a resource using an absolute URL as a standing point (Example: <a href = “/xyz.html”>).
4. Static Web Pages **VS** Dynamic Web Pages: A *static web page* is an HTML document that’s stored on the web server and doesn’t change. The filenames for static web pages have .htm extensions. A *dynamic web page* is a web page that’s generated by a program on the server that’s called a script.
5. Java **VS** JavaScript: *Java* is an OPP programming language that creates applications that are in a virtual machine or browser and needs to be compiled. *JavaScript* is an OOP scripting language where the code is run only on a browser.
6. External **VS** Embedded **VS** Inline Style Sheets: *External style sheet* is a separate file that contains CSS styles for HTML pages and can be accessed by multiple web pages. *Embedded style sheet* is a code block that’s placed in the <head> section of an HTML document to apply design. *Inline style sheet* is a way to apply CSS to a specific element in an HTML document.

**Short Answer**

1. An HTML *comment* is text that appears between the <!-- and --> characters.
2. CSS *comments* begin with the characters /\* and end with the characters \*/.
3. The three common formats for images are JPEG (for photographs), GIF (for small illustrations and logos), and PNG, which combines aspects of JPEG and GIF.
4. To validate an HTML file, you can use a website (W3C Markup Validation Service) to verify your code or inform you of any errors that you have.
5. To deploy a website to the Internet, you can use a *File Transfer Protocol (FTP) client* to transfer the folders and files for the website from your computer or local network to a web server on the Internet (Example: Visual Studio, GitHub, Netlify).
6. JavaScript is a scripting or programming language, it’s role is to implement complex features on web pages such as displaying timely content updates, interactive maps, animated 2D/3D graphics, etc.
7. List of web development trends are…
   1. *AI Chatbots* is a computer program that uses artificial intelligence to simulate human conversation.
   2. *Accelerated Mobile Pages* is an open source framework that allows web pages to load faster on mobile browsers.
   3. *Single-Page Application* is a web application that loads once and then dynamically updates based on user interaction, rather than reloading the entire page.
   4. *Optimized Voice Search* is the process of making a website's content more likely to appear in voice search results.
   5. *Dark Mode Standardization* refers to the process of ensuring that dark mode is implemented consistently across different devices and applications.
8. JavaScript shiv is a plugin to enables HTML5 elements on IE 8 and below, while ensuring proper styling with CSS. To use simply download it then have it hosted on the server and then reference it to the leading document.
9. *Absolute measurements* ensures that the element will not change regardless of screen size which also means that it does not accommodate for vision assistances. *Relative measurements* allows for dynamic sizing of components based on a constant value thus enabling more accessible and responsive design, making it the best choice to use.
10. *Pseudo-class selectors* are used to add styles to selectors, but only when those selectors meet certain conditions (Example: a:hover {/\* your style here \*/}) will styles a link when the mouse is hovering over it.
11. If there are two or more CSS rules that point to the same element, the selector with the highest specificity value will "win".
12. To access developer tools from Firefox and Chrome you can use a keyboard shortcut [Ctrl + Shift + I (MacOS: ⌘ + ⌥ + I)], menu bar (menu > tools > developer tools), or context menu (right-click on a spot on the webpage and select inspect element).

**CSS Code Sample**

1. */\* Styles for Custom Property \*/*
2. :root {--global-color-1: #800000;}
3. */\* Styles for Elements \*/*
4. body {font-family: Arial, Helvetica, sans-serif; font-size: 100%;}
5. header h2 {font-size: 170%; color: var(--global-color-1); text-indent: 30px;}
6. header h3 {font-size: 130%; font-style: italic; text-indent: 30px;}
7. */\* Styles for Header \*/*
8. header img {float: left;}
9. */\* Styles for Link \*/*
10. a:hover, a:focus {font-style: italic;}
11. */\* Styles for Main Content \*/*
12. main {clear: left;}
13. main h1 {font-size: 150%;}
14. main h2 {color: var(--global-color-1); font-size: 130%;}
15. main h3 {font-size: 105%;}
16. */\* Styles for Class Selector \*/*
17. .shadow {text-shadow: 2px 2px 2px var(--global-color-1);}
18. */\* Styles for Footer \*/*
19. footer p {text-align: center;}