COMPUTER

Chapter 8: Web Development – Q/A Format

8.1 Introduction

Q1: What is web development?
A1: Web development is the process of creating, building, and maintaining websites.

Q2: What is the purpose of web development?
A2: The purpose is to create websites that can be accessed through the internet and provide useful information or services.

Q3: What are the three core technologies used in web development?
A3:

1. **HTML (Hyper Text Markup Language)** – gives structure to the website
2. **CSS (Cascading Style Sheets)** – adds design and styling
3. **JavaScript** – adds interactivity and dynamic features

8.2 Website and Web Page

Q4: What is a webpage?
A4: A webpage is a single page or document on the internet, such as a news article or product page.

Q5: What is a website?
A5: A website is a collection of related webpages linked together and accessed by a common domain name (e.g., www.google.com).

Q6: How are websites and webpages related?
A6: Webpages are the individual parts of a website. Many webpages together make up a complete website.

8.3 Static and Dynamic Websites

Q7: What is a static website?
A7: A static website shows the same content to every visitor and does not change unless manually edited.

Q8: What is a dynamic website?
A8: A dynamic website shows different content to users based on their actions, preferences, or data, using programming and databases.

Q9: Give examples of static and dynamic websites.
A9:

- Static: Personal portfolio or CV site
- Dynamic: Facebook, YouTube, or online shopping sites

8.4 Web Browser

Q10: What is a web browser?
A10: A web browser is a software application used to open and view websites on the internet.

Q11: Name some popular web browsers.
A11: Google Chrome, Mozilla Firefox, Microsoft Edge, Safari, Opera

Q12: What is the role of a browser in web development?
A12: A browser reads and displays HTML, CSS, and JavaScript content so users can see the website as intended.

8.5 Introduction to HTML

Q13: What does HTML stand for?
A13: HTML stands for **Hyper Text Markup Language**.

Q14: What is HTML used for?
A14: HTML is used to define the structure and content of a webpage (e.g., headings, paragraphs, images, and links).

Q15: What is a tag in HTML?
A15: A tag is a special keyword in angle brackets (like) used to create elements in a webpage.

Q16: What is an HTML element?
A16: An element includes the opening tag, content, and closing tag. Example: This is a paragraph.

8.6 Structure of an HTML Document

Q17: What are the basic parts of an HTML document?
A17:

1. <!DOCTYPE html> – tells the browser it's an HTML5 document
2. <html> – the root element of the document
3. <head> – contains information like title and styles
4. <title> – displays the title on the browser tab
5. <body> – contains the main content visible to users

Q18: What does the <body> tag contain?
A18: The <body> tag contains text, images, videos, links, tables, etc.

8.7 Common HTML Tags

Q19: What are some commonly used HTML tags and their functions?
A19:

Tag	Purpose
<h1> to <h6>	Headings (from largest to smallest)
<p>	Paragraph
<a>	Hyperlink
<img>	Image
 	Line break
,	Unordered/Ordered lists
	List item
<table>	Table
<tr>	Table row
<td>	Table data
<th>	Table header

Q20: What is the difference between <ol> and ?
A20:

- creates a numbered list

- creates a bullet-point list

Q21: How do you insert an image in HTML?
A21: Using the <img> tag with src and alt attributes. Example:

```
<img src="image.jpg" alt="Sample image">
```

Q22: How do you create a link in HTML?
A22: Using the <a> tag with href attribute. Example:

```
<a href="https://www.google.com">Visit Google</a>
```

8.8 Introduction to CSS

Q23: What does CSS stand for?
A23: CSS stands for **Cascading Style Sheets**.

Q24: What is the role of CSS in web development?
A24: CSS is used to control the appearance, layout, colors, and fonts of HTML elements.

Q25: Why is CSS important?
A25: It helps make websites visually attractive, user-friendly, and easier to maintain.

8.9 Types of CSS

Q26: What are the three main types of CSS?
A26:

1. **Inline CSS** – written inside the HTML element
2. **Internal CSS** – written in the <style> tag in the <head>
3. **External CSS** – written in a separate file with .css extension

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8.9.1 Inline CSS

Q27: What is inline CSS?
A27: Inline CSS is written inside the opening tag of an HTML element using the style attribute.

Q28: Give an example of inline CSS.
A28:

```
<p style="color: blue;">This is blue text.</p>
```

8.9.2 Internal CSS

Q29: What is internal CSS?
A29: Internal CSS is written within the <style> tag inside the <head> of the HTML file.

Q30: Give an example of internal CSS.
A30:

```
<head>
  <style>
    p {
      color: green;
    }
  </style>
</head>
```

8.9.3 External CSS

Q31: What is external CSS?
A31: External CSS is written in a separate file (e.g., style.css) and linked to the HTML using the <link> tag.

Q32: How do you link an external CSS file?
A32:

```
<link rel="stylesheet" href="style.css">
```

8.9.4 Advantages of External CSS

Q33: What are the advantages of external CSS?
A33:

- **Code reusability:** Use the same stylesheet for multiple pages
- **Cleaner HTML code:** Keeps design separate from content
- **Easier maintenance:** One update changes all linked pages
- **Better organization:** Simplifies large website styling

8.10 Introduction to JavaScript

Q34: What is JavaScript?
A34: JavaScript is a programming language used to make websites interactive and dynamic.

Q35: What can JavaScript do in web development?
A35: JavaScript can:

- Respond to user actions (clicks, typing, etc.)
- Show messages or alerts
- Validate user input in forms
- Change HTML or CSS content on the page

8.11 Basic Syntax of JavaScript

Q36: What is JavaScript syntax?
A36: JavaScript syntax is the set of rules for writing JavaScript code, like using variables, functions, and statements correctly.

Q37: How do you write a JavaScript statement?
A37: A JavaScript statement ends with a semicolon (;).
Example: document.write("Hello!");

Q38: How do you write comments in JavaScript?
A38:

- **Single-line comment:** // This is a comment
- **Multi-line comment:** /* This is a multi-line comment */

8.12 Variables in JavaScript

Q39: What is a variable in JavaScript?
A39: A variable stores data like text or numbers to be used later in a program.

Q40: How do you declare a variable in JavaScript?
A40: You can declare a variable using the keyword var, let, or const.
Example: var name = "Ali";

Q41: What are the rules for naming variables?
A41:

- Variable names must begin with a letter, $, or _
- Cannot use spaces or special characters
- Are case-sensitive (e.g., Name and name are different)

8.13 Displaying Output in JavaScript

Q42: What are the common methods to display output in JavaScript?
A42: The main methods are:

1. document.write() – writes directly to the HTML page
2. alert() – shows a pop-up alert box
3. console.log() – prints output to the browser console

Q43: Give an example of each output method.
A43:

- document.write("Welcome!");
- alert("Hello!");
- console.log("This is a message.");

8.14 Handling Forms with HTML

Q44: What is a form in HTML?
A44: A form is a part of a webpage that collects user input like names, emails, and passwords.

Q45: Why are forms important in web development?
A45: Forms allow users to send data to the server, such as filling out a sign-up form, login, or feedback.

Q46: Which HTML tag is used to create a form?
A46: The <form> tag is used to create a form in HTML.

Q47: What are some common input types in HTML forms?
A47:

- text – for single-line input
- password – for hidden input
- email – for email addresses
- radio – for selecting one option
- checkbox – for selecting multiple options
- submit – to send the form

8.15 Form Validation in JavaScript

Q48: What is form validation?
A48: Form validation is the process of checking if the user has entered valid and complete data before submitting the form.

Q49: Why is form validation important?
A49: It helps prevent incorrect or empty data from being submitted and improves data accuracy.

Q50: How is form validation done using JavaScript?
A50: JavaScript checks user input using conditions and shows alerts if the input is invalid.

Q51: Give an example of form validation using JavaScript.
A51:

```
if (document.form1.name.value == "") {
  alert("Please enter your name");
  return false;
}
```

8.16 Introduction to CSS (Cascading Style Sheets)

Q52: What is CSS?
A52: CSS stands for Cascading Style Sheets. It is used to control the style and layout of web pages.

Q53: What can CSS do in a website?
A53: CSS can change:

- Text color and font
- Background color
- Layout and positioning of elements
- Spacing and borders

Q54: What are the types of CSS?
A54:

1. **Inline CSS** – inside the HTML element using `style` attribute
2. **Internal CSS** – inside a `<style>` tag in the HTML head
3. **External CSS** – in a separate `.css` file linked to the HTML page

Q55: Give an example of inline CSS.
A55:

```
<p style="color:blue;">This is blue text.</p>
```

8.17 Syntax of CSS

Q56: What is CSS syntax?
A56: CSS syntax defines how style rules are written. It includes a selector and a declaration block.

Q57: What is the structure of a CSS rule?
A57:

```
selector {property: value; }
```

Q58: What is a selector in CSS?
A58: A selector chooses the HTML element to style.
Example: p targets all <p> elements.

Q59: What is a property in CSS?
A59: A property is the style feature you want to change, such as color or font-size.

Q60: What is a value in CSS?
A60: A value sets how the property will appear.
Example: color: red; sets the text color to red.

8.18 CSS Selectors

Q61: What are CSS selectors?
A61: CSS selectors are patterns used to select and style specific HTML elements.

Q62: Name some common types of CSS selectors.
A62:

1. **Element Selector** – selects all elements of a type
   - p {} selects all paragraphs
2. **ID Selector** – selects an element with a specific ID
   - #header {}
3. **Class Selector** – selects elements with a specific class
   - .menu {}
4. **Universal Selector** – selects all elements
   - * {}
5. **Group Selector** – selects multiple elements
   - h1, p {}

8.19 Applying CSS to HTML

Q63: What are the three ways to apply CSS to HTML?
A63:

1. **Inline CSS** – in the style attribute of an element
2. **Internal CSS** – inside a <style> tag in the HTML document
3. **External CSS** – in a separate .css file linked to the HTML

Q64: How do you link an external CSS file in HTML?
A64:

```
<link rel="stylesheet" href="style.css">
```

Q65: Why is external CSS preferred?
A65: Because it keeps code clean, separates design from structure, and allows reuse across multiple pages.

8.20 Advantages of CSS

Q66: What are the main advantages of using CSS?
A66:

1. **Improves website appearance**
2. **Separates design from HTML content**
3. **Saves time by reusing styles**
4. **Makes pages load faster**
5. **Easier to maintain and update**

8.21 Revision of Web Development

Q67: What are the three main components of web development?
A67:

1. **HTML** – Creates the structure of a webpage
2. **CSS** – Adds style and design
3. **JavaScript** – Adds interactivity and dynamic behavior

Q68: What is HTML used for?
A68: HTML (Hyper Text Markup Language) is used to create and organize content on the web such as headings, paragraphs, images, and links.

Q69: What is the role of CSS in web development?
A69: CSS controls the appearance of HTML content, including layout, colors, fonts, and spacing.

Q70: How does JavaScript help in web development?
A70: JavaScript makes the website interactive, allowing features like buttons, form validation, animations, and dynamic updates.

Q71: What are some common HTML tags?
A71:

- <html> – Root of the document
- <head> – Contains meta info and links
- <title> – Page title
- <body> – Main content
- <p> – Paragraph
- <h1> to <h6> – Headings
- <a> – Link
- <img> – Image
- <form> – Form
- <input> – Input field

Q72: What are the benefits of using CSS in an external file?
A72:

- Easier to update styles in one place
- Cleaner HTML code
- Faster page load
- Consistent design across multiple pages

Q73: Why is form validation important?
A73: It ensures that users enter correct and complete data before submitting it, improving the reliability of user input.

Q74: How does JavaScript validate a form?
A74: JavaScript checks input values using conditions and gives alerts if the data is missing or invalid.
