HTML Basics

Question 1: Define HTML. What is the purpose of HTML in web development?

Ans: HTML is the industry standard language for creating web applications and pages. It uses a combination of Java and C to build websites and other web sites. It provides the structure of a website by using elements such as headings, paragraphs, lists, links, and images. HTML ensures that web content is displayed in a consistent and accessible manner across different browsers. It forms the foundation for web development and is often used in conjunction with CSS and JavaScript to create dynamic and visually appealing websites.

Question 2: Explain the basic structure of an HTML document. Identify the mandatory tagsand their purposes.

Ans. An HTML document follows a structured format to ensure proper display in web browsers. Here's the basic structure with the mandatory tags:

html

```
<!DOCTYPE html>
<html>
 <head>
  <title>Page Title</title>
 </head>
 <body>
  content comes here
 </body>
</html>
```

Mandatory Tags Explained:

- <!DOCTYPE html>: Declares the document type and version of HTML (HTML5 in this case).
- <html>: The root element that wraps all the content on the page.
- <head>: Contains meta-information about the document, such as the title, character set, and linked resources like stylesheets.
- <title>: Sets the title of the webpage, which appears in the browser tab.
- <body>: Holds the main content of the HTML document, including text, images, links, and other elements.

These tags ensure the HTML document is well-structured and interpretable by web browsers.

Question 3: What is the difference between block-level elements and inline elements in HTML? Provide examples of each.

Ans. Block-level elements and inline elements serve different purposes in HTML, often influencing the layout and structure of web pages. Here's a breakdown of their differences:

Block-level Elements

- **Characteristics**: Occupy the full width of their container, starting on a new line and pushing down the following content. They form larger structural components of a webpage.
- **Examples**:
    - :- A generic container for other elements.
    - <h1> to <h6>:- Header elements used for headings of different levels.
    - <p>:- Paragraph element for regular text.
    - and <ol>:- Unordered and ordered lists respectively.
    - :- List item elements within <ul> or <ol>.

Inline Elements

- **Characteristics**:- Occupies only the space required by their content and do not start on a new line. They are used for smaller pieces of content within block-level elements.
- **Examples**:
    - :- A generic container for inline content.
    - <a>:- Anchor element for hyperlinks.
    - and <b>:- Bold text emphasis (with having semantic importance).
    - and <i>:- Italic text emphasis (with having semantic importance).
    - <img>:- Embeds images within text.

Question 4: Discuss the role of semantic HTML. Why is it important for accessibility andSEO? Provide examples of semantic elements.

Ans. **Semantic HTML** enhances the meaning and structure of web pages by using elements that clearly describe their purpose and content. Here's why it's important and some examples of semantic elements:

Importance for Accessibility

- Semantic HTML provides additional context to assistive technologies (like screen readers), making it easier for users with disabilities to navigate and understand web content.
- Proper use of semantic elements ensures that users relying on keyboard navigation can easily move through different sections of a webpage.

Importance for SEO

- Semantic elements help search engines better understand the content and context of a web page, potentially improving its search ranking.
- Using semantic tags can enable rich snippets in search results, which can enhance visibility and click-through rates.

Examples of Semantic Elements

- <header>
- <nav>
- <main>
- <article>
- <section>
- <aside>
- <footer>

HTML Forms

Question 1: What are HTML forms used for? Describe the purpose of the input, textarea, select, and button elements.

Ans. **HTML forms** are used to collect user's input and submit it to a server for processing. They are essential for creating interactive web applications, such as login forms, registration forms, search boxes, and contact forms.

Key Elements of HTML Forms:

- <input>:- Used to create interactive controls in a form that accept user input. It comes in various types, each serving a different purpose:
    - text
    - password
    - email
    - checkbox
    - radio
    - submit
    - button
- <textarea>:- Provides a multi-line text input control, allowing users to enter larger amounts of text. Commonly used for comments, feedback, or notes.

- <select>:- Creates a drop-down list with options for the user to select from. It can be used for choosing from a list of options like countries, categories, or other enumerations.
- <button>:- Defines a clickable button, commonly used to submit forms or perform actions within a form. It can also include text and images.

Question 2: Explain the difference between the GET and POST methods in form submission. When should each be used?

Ans.

GET	POST
• "This method obtains data from the server. The information submitted through the form is added to the end of the web address as a set of parameters."	• This method sends information to the server to add new data or change existing data. The data from the form is hidden and not shown in the web address.
• The information sent with the request is displayed in the web address, which makes it easier for others to see and potentially steal sensitive data."	• Data is not visible in the URL, making it more secure for sensitive information.
• Best for getting information without changing anything on the server, like searching, filtering, or finding records.	• Suitable for operations that may change the server's state, such as submitting form data (e.g., login, registration, or feedback forms).

Use:-

GET:- This method sends information to the server to add new data or change existing data. The data form the form form is hidden and not shown in the web address.

POST:= Use for actions that submit sensitive information, create or update records, and when the request alters the server's state.

Question 3: What is the purpose of the label element in a form, and how does it improve accessibility?

Ans. The label element in HTML forms is used to define an input element such as a text field, checkbox radio button or any other interactive form control. How it improves accessibility and its overall purpose:

- The label element associates a text description with an input element, providing user information about its purpose.
- When a label is properly associated with an input element, clicks on the label also focuses or activates the input, enhancing usability.

Improving Accessibility:

- Screen readers use the information within the <label> tags to recognize and explain the purpose of each input field to users who are visually impaired, making the form easier for them to use.

HTML Tables

Question 1: Explain the structure of an HTML table and the purpose of each of the following elements: <table>,<th>,<td>,<tr>, and <thead>.

Ans.

- **<table>:** This tag marks the beginning and end of a table. It holds all the parts of the table, such as the headers, rows, and individual cells.
- **<tr>:** This tag defines a single row within the table. Each row is made up of one or more cells.
- **<th>:** This tag creates a header cell in the table. These cells usually appear bold and centered, and they label the columns or rows of data.
- **<td>:** This tag creates a standard data cell in the table. This is where you put the actual information in the table, such as numbers, text, or other elements.
- **<thead>:** This tag groups together all the header cells of the table. This helps to separate the headers from the rest of the table data, making it easier to style and read.

Question 2: What is the difference between colspan and rowspan in tables? Provide examples.

Ans.

Colspan	Rowspan
• Combines multiple columns into one big column.	• Combines multiple rows into one big row.
• Makes the cells wider.	• Makes the cells taller.
• Example :- <td colspan=”3”	• Example :- <td rowspan=”3”>

Question 3: Why should tables be used sparingly for layout purposes? What is a better alternative?

Ans. Tables were initially used for structuring data, like spreadsheets. However, it is frequently used to position elements on a page, which isn't their intended purpose. This can cause problems:

- When we use tables to create layouts, it gets confusing for users. This makes websites tougher to navigate for the users with disabilities.
- Updating the layout can be a real haussle because we usually have to change the entire table structure.
- Layouts made with tables don't fit well on different screen sizes, making it hard to view them on mobile devices.

A better alternative is using CSS (Cascading Style Sheets). CSS is specifically designed for styling and positioning elements on a page. It provides a cleaner, more maintainable, and accessible way to create complex layouts.

By using CSS, you can:

- Can change how elements look, including text styles, colors, and the space around them.
- We can arrange elements exactly where we want them using methods like floats, flexbox, and grid.