Q1. Define HTML. What is the purpose of HTML in web development?

Ans: HTML (HyperText Markup Language) is the standard language used to create and design web pages. It is not a programming language but a markup language that defines the structure and content of a webpage using tags and elements. HTML allows developers to add text, images, links, tables, forms, and other content to a web page.

Purpose of HTML in Web Development:
The main purpose of HTML is to structure the content of web pages so that browsers can display it correctly. It provides the framework for a website, allowing other technologies like CSS (for styling) and JavaScript (for interactivity) to enhance the appearance and functionality. Without HTML, web pages cannot exist or be displayed on the internet.

Q2. Explain the basic structure of an HTML document. Identify the mandatory tags and their purposes.

Ans:

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>My First Web Page</title>
</head>
<body>
  <h1>Welcome to My Website</h1>
  <p>This is a simple HTML page.</p>
</body>
</html>
```

Mandatory Tags and Their Purposes:

- <!DOCTYPE html> → Declares HTML version.
- <html> → Root element of the page.
- <head> → Contains metadata.
- <title> → Sets the page title.

- <meta charset="UTF-8"> → Defines character encoding.
- <body> → Contains visible content of the page.

Q3. What is the difference between block-level elements and inline elements in HTML? Provide examples of each.

Ans: 1. Block-Level Elements:

- These elements start on a new line and take up the full width of their parent container by default.
- They can contain other block-level elements as well as inline elements.
- Examples:
- – General container
- – Paragraph
- <h1>, <h2>, <h3>, <h4>, <h5>, <h6> – Headings
- – Unordered list
- – Ordered list
- – List item
- <section></section> – Section of a page
- <article></article> – Independent content block
- <header></header> – Header section
- <footer></footer> – Footer section
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2. Inline Elements:

- These elements do not start on a new line and only take up as much width as needed.
- They are usually used to format part of the content within a block-level element.
- Examples:
- – Inline container
- <a> – Anchor/link

- <b><b> – Bold text
- – Italic text
- – Strong emphasis
- – Emphasized text
- <img> – Image
- <label></lable> – Label for form input
- <input> – Form input field
- <small></small> – Smaller text
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Key Difference:

- Block-level elements occupy the entire horizontal space, whereas inline elements occupy only the space required by their content.
- Block elements can contain other block and inline elements, while inline elements usually contain text or other inline elements.

Q4. Discuss the role of semantic HTML. Why is it important for accessibility and SEO? Provide examples of semantic elements.

Ans: Semantic HTML refers to using HTML elements that have meaningful names and describe their purpose in the content. Unlike generic tags like and , semantic elements clearly indicate the role of the content they enclose. Examples include <header>, <footer>, <article>, <section>, <nav>, and <aside>.

Importance for Accessibility:

- Semantic HTML helps screen readers and assistive technologies understand the structure and meaning of web pages, making them more accessible to people with disabilities.
- For example, a screen reader can identify <nav> as the navigation section and <main> as the main content, allowing users to navigate the page efficiently.

Importance for SEO (Search Engine Optimization):

- Search engines use semantic HTML to understand the content and structure of a website, which can improve search rankings.

- Using semantic tags like <article> and <section> helps search engines index content correctly and improves the relevance of search results.

Examples of Semantic Elements:

- <header> – Represents the introductory content or header of a page/section.
- <footer> – Represents the footer section of a page/section.
- <main> – Represents the main content of the page.
- <article> – Represents independent, self-contained content.
- <section> – Represents a thematic grouping of content.
- <nav> – Represents a navigation menu.
- <aside> – Represents content indirectly related to the main content (like a sidebar).