1. What is an IP address?

An IP address is a unique numeric identifier assigned to a device on a network that uses Internet Protocol for communication. It identifies and locates the device to enable data routing.

2. How does an IP address uniquely identify a device on a network?

Each device is assigned a unique IP address within a network. The IP consists of a network part and a host part, allowing routers to deliver data packets to the correct device. No two devices share the same IP in the same network simultaneously.

3. What is DNS and why is it important?

DNS (Domain Name System) translates human-readable domain names into IP addresses so browsers can locate web servers. It's like the internet's phonebook, making websites accessible by names instead of numeric IPs.

4. What is TCP/IP?

TCP/IP is a suite of protocols that defines how data is packaged, addressed, transmitted, and received across networks. TCP manages reliable connections and data delivery, while IP directs packets to their destination addresses.

5. What is SSL/TLS?

SSL and TLS are protocols that encrypt data between clients and servers to secure internet communications. TLS is the modern version ensuring privacy, authentication, and data integrity, used in HTTPS connections.

6. What is HTML?

HTML (HyperText Markup Language) is a markup language that structures web content using tags. It defines elements like headings, paragraphs, links, and images that browsers render

into web pages.

7. What does the <html> tag do?

The <html> tag is the root element of an HTML document and contains all other content. It signals browsers where the page starts and ends and forms the basis for parsing and rendering the document.

8. What is an HTML tag and what is the difference between opening and closing tags?

An HTML tag defines elements on a webpage. The opening tag starts an element (e.g.,), and the closing tag ends it (e.g.,). They wrap content to give it meaning and structure.

9. Why are some HTML tags self-closing?

Self-closing tags represent elements that do not wrap content (like <img> or
). They are single tags that don't need a closing tag, keeping HTML concise and semantically correct.

10. What are essential attributes of the <img> tag?

The src attribute specifies the image URL, and the alt attribute provides descriptive text for accessibility and display if the image fails to load. These are the two essential attributes.

11. What additional attributes control image loading?

Attributes like loading (lazy or eager loading), width and height (size), srcset and sizes (responsive images), and crossorigin (security) control image performance and display.

12. What is a favicon?

A favicon is a small icon representing a website, displayed in browser tabs, bookmarks, and address bars. It improves branding and helps users identify your site easily.

13. What is an HTML attribute?

An attribute provides additional information about an HTML element, controlling its behavior or appearance. Attributes are name/value pairs inside opening tags, like href, src, or alt.

14. Why is the main HTML file named index.html?

Servers default to serving index.html when a directory is accessed, enabling clean URLs without specifying filenames. It acts as the homepage and prevents directory listing.

15. What is the HTML <a> tag used for?

The <a> tag creates hyperlinks, allowing users to navigate between pages, sites, or page sections. The href attribute defines the link's destination.

16. What are the types of lists in HTML?

- : Unordered (bulleted) list
- : Ordered (numbered) list
- <dl>: Description list (terms and definitions)

17. What are HTML entities and why are they used?

HTML entities are special codes that represent reserved or special characters (like <, >, &) so browsers display them correctly without confusing them for code.