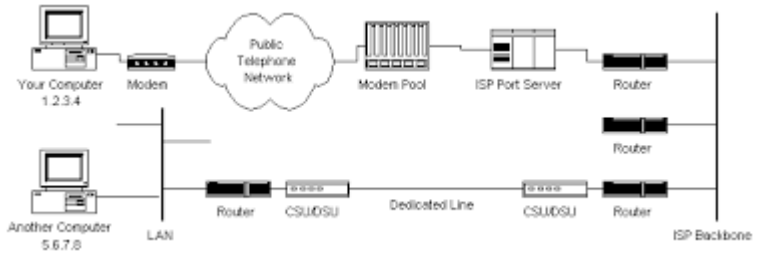
Assignment 1

1.How does the internet work?



The Internet works by connecting networks together through a series of routers and switches. A router forwards packets of data between different networks while a switch links devices within a single network. This enables computers to communicate with each other and access content stored on remote servers.

2.How browser works?

A web browser takes you anywhere on the internet. It retrieves information from other parts of the web and displays it on your desktop or mobile device. The information is transferred using the Hypertext Transfer Protocol, which defines how text, images and video are transmitted on the web.

3. What is a Server ?

A server is a computer program or device that provides a service to another computer program and its user, also known as the client. In a data centre, the physical computer that a server program runs on is also frequently referred to as a server.

4. What are the types of servers available?

- Web Server.
- Database Server.
- Email Server.
- Web Proxy Server.
- DNS Server.
- FTP Server.
- File Server.

5. What is SEO? Importance of SEO?

Search engine optimization is the process of optimising a business's website content, structure, and overall online presence. To improve its organic (unpaid) visibility in search engine results pages.

Importance of SEO - SEO is important because it can improve your organic visibility in search engine results pages. Which can translate to more brand awareness and website traffic. Which ultimately leads to more sales.

6. What is accesability?'

Accessibility is ensuring the ability for everyone, regardless of disability, to have access, use, and benefit from their environment. It means making sure that people with disabilities have access to the facilities and services that are open or provided to the public, on an equal basis with others.

7. What is markup language ?

Markup languages are computer languages that are used to structure, format, or define relationships between different parts of text documents with the help of symbols or tags inserted in the document.

8. What is html?

HTML stands for Markup LHyperText language and it is used to create web pages. It uses html tags and attributes to describe the structure and formatting of a web page.

9. What is a browser engine ?

A web browser is a software application that lets you explore the internet. It retrieves and displays web pages, images, videos, and other content from web servers. Each

piece of content has a unique address called a URL (Uniform Resource Locator), which tells the browser where to find it.

10. What is a rendering engine? Share the available rendering engine?
A rendering engine is a software program that interprets and converts the HTML, CSS, and JavaScript code of a web page into visuals that are displayed on the screen. It is the core component of a web browser and plays a crucial role in the overall performance and compatibility of the browser.

- Blink
- Gecko
- Webkit

11. What is a javascript engine? Share the available JS engine ? Purpose of JS Engine?
JavaScript engine is a computer program that executes JavaScript code and converts it into computer understandable language.

JS engine - V8, cHAKRA, SPIDER MONKEY

JS allows developers to create a dynamic and interactive web page to interact with visitors and execute complex actions. It also enables users to load content into a document without reloading the entire page.

12. How website works?
Firstly you enter a domain name or a website address in the search bar. Then the browser passes the request to DNS Server. DNS server acts as an address directory. It converts the human-readable address to a machine-readable address i.e. the IP address of the Website address to a machine-readable address i.e. the IP address of the website.Then it passes the request to the main server or the server where your site is stored. Then the server provides the response to the browser and now you are able to access the website.

13. What is a data structure?
Data structures are the fundamental building blocks of computer programming. They define how data is organised, stored, and manipulated within a program.

14. Explain tree data structures ?
A tree data structure is a collection of nodes connected by edges. Each node contains a value or data which may or may not have a child node. The first node of the tree is called the root.

15. What is user agent ? share the list and its purposes?
The User-Agent (UA) string is contained in the HTTP headers and is intended to identify devices requesting online content. The User-Agent tells the server what the visiting device is (among many other things) and this information can be used to determine what content to return.

16. What is hypertext?
Hypertext is text displayed on a computer display or other electronic devices with reference (hyperlinks) to other text that the reader can immediately access.

17. What are html tags?
HTML tags are like keywords which define how a web browser will format and display the content. With the help of tags, a web browser can distinguish between an HTML content and a simple content. HTML tags contain three main parts: opening tag, content and closing tag. But some HTML tags are unclosed tags.

18. What are html attributes?
HTML attributes are special words which provide additional information about the elements or attributes that are the modifier of the HTML element.Each element or tag can have attributes, which defines the behaviour of that element. Attributes should always be applied with the start tag.

19. What are html elements?
An HTML file is made of elements. These elements are responsible for creating web pages and defining content in that webpage. An element in HTML usually consists of a start tag <tag name>, close tag </tag name> and content inserted between them. Technically, an element is a collection of start tag, attributes, end tag, content between them.

20. How to convert elements to tree?
React HTML parser works by parsing the HTML string into a tree of nodes, with each node representing an HTML element. The parser traverses the generated node tree, converting each node into a corresponding React element. The result is a tree of React elements that mirrors the structure of the original HTML.

21. What is DOCTYPE?
All HTML documents must start with a <!DOCTYPE> declaration.The declaration is not an HTML tag. It is an "information" to the browser about what document type to expect.

22. What are the ways we can save html file?

Using basic text editor like Notepad (Windows) or TextEdit (macOS).
If you would rather be able to move elements around on the screen and see live previews, you can use a WYSIWYG (What You See Is What You Get) editor like Dreamweaver or Kompozer on Mac .
You can open ,edit and save an HTML file in a standard or online visual editing app.

23. What is charset? Why do we need to use this?
A character set is an encoding system to let computers know how to recognize characters, including letters, numbers, punctuation marks, and whitespace.

24. What is meta data? What is the purpose of it?
Metadata summarises basic information about data, which can make it easier to find, use and reuse particular instances of data.The use of metadata on web pages can be very important. The metadata contains descriptions of the page's contents, as well as keywords linked to the content. This metadata is often displayed in search results by search engines, meaning its accuracy and details could influence whether or not a user decides to visit a site. This information is usually expressed in the form of meta tags.

25. Explain Web Application Architecture?
Web application architecture defines the interactions between applications, middleware systems and databases to ensure multiple applications can work together. When a user types in a URL and taps “Go,” the browser will find the Internet-facing computer the website lives on and requests that particular page.