DATA COMMUNICATION

1. **What are the different types of networks?**

There are few types of networks in data communications those are follows

- local area networks (LAN)
- metropolitan area networks (MAN)
- wide area networks (WAN)
- wireless
- inter network (internet)

2. **Explain the shielded twisted pair (STP) and unshielded twisted network (UTP)?**

Here we see about the difference between STP & UTP

There is a basic of two pairs UTP (Unshielded twisted pair) is a cable with wires that are twisted together. STP (Shielded twisted pair) is a twisted pair cable enclosed in foil or mesh shield.

Noise and crosstalk High comparatively in UTP and Less susceptible to noise and crosstalk in STP

In UTP easily installed the cables are smaller lighter and flexible at the same time in STP installing cable is very difficult to comparatively.

These are the some difference between STP and UTP.

3. **What is difference between baseband and broadband transmission?**

Broadband system use modulation techniques to reduce the effect of noise in the environment. Broadband transmission employs multiple channel unidirectional transmission using combination of phase and amplitude modulation.

Baseband is a digital signal is transmitted on the medium using one of the signal codes like NRZ; RZ Manchester biphasic-M code etc. is called baseband transmission.

These are following differences between Broadband and Baseband transmission.

Baseband transmission

Digital sign
Frequency division multiplexing is not possible.
Baseband is bi-directional transmission.
Short distance signal travel

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Broadband transmission

Analogy sign
Transmission of data is unidirectional.
Signal travelling distance is long.

4. **What is the difference between a hub, modem, router and a switch?**

Those hubs which operate below the physical layers are passive hubs passive hubs are just a web connecter it connect the wires coming from different branches. its is simply redirect the traffic on the connected machines.

When we use the term switches we must handle this carefully these switch can mean two different types we can have that as a switches a switch or layer 1 and switch and layer 2

Router is conceptually similar to bridges except that they are founded in network

Layer a route normally connects LANS and WANS in the internet and has a routing table that is used for making decision about the router, the routing tables are normally dynamic and are updated using routing protocols.

5. **When you move the NIC cards from one PC to another PC, does the MAC address gets transferred as well?**

   Yes, that's because MAC addresses are hard-wired into the NIC circuitry, not the PC. This also means that a PC can have a different MAC address when the NIC card was replace by another one.

6. **When troubleshooting computer network problems, what common hardware-related problems can occur?**

   A large percentage of a network is a made up of a hardware. A problem in this area can range from malfunctioning hardware drives and a broken NICs and even hardware starts up. Incorrectly hardware configuration is also one of these culprits to look.

7. **In a network that contains two servers and twenty workstations, where is the best place to install an Anti-virus program?**

   The best solution is to install anti-virus on all the computers in the network. This will protect each device from the other in case some malicious user tries to insert a virus into the servers or legitimate users.

8. **Define Static IP and Dynamic IP? Discuss the difference between IPV4 and IPV6.**

   Here it is IP address can be a define static IP and dynamic IP

   The static IP address is always stays the same it is not change it is always being as it is if you have a web server and other internet sources that must have an address that cannot be change if you have static IP address in your system this is usually more expensive then dynamic IP address. Some networks does not supply this address.

   The dynamic IP address is temporary address that we can use that for less number of days, more peoples are not use a dynamic IP address it can be automatically assigned to different devices.

   Pv4 is a 32-Bit IP Address. IPv6 is 128 Bit IP Address. IPv4 is a numeric address, and its binary bits are separated by a dot (.) IPv6 is an alphanumeric address whose binary bits are separated by a colon(:)

9. **Discuss TCP/IP model in detail.**

   TCP/IP means transmission control protocol and internet protocol. It is a network model used in the current architecture as well. Protocols are set of rules which govern every possible communication over a network. These protocols describe the moment of data between the source and destination or the internet. They also offers simple naming and addressing scheming.

   There are four layers in TCO/IP models they are application layer, transport layer, internet layer and network access layer.

   TCP/IP that is transmission control protocol and internet protocol was developed by department of defence’s project research agency (ARPA and DARPA) this is support for a flexible architecture.

10. **What is a Web Browser (Browser)? Give some example of browsers.**

A web browser, or browser for short, is a computer software application that enables a person to locate, retrieve and display content such as webpages, images, video, as well as other files on the World Wide Web.

Browsers work because very web page, image, and video on the web has its own unique Uniform Resource Locator (URL), allowing the browser to identify the resource and retrieve it from the web server.

Examples are: Internet Explorer, Mozilla Firefox, Google Chrome and Opera.

11. **What is a search engine? Give example.**

The search engine is a web based tool that is used by people to locate information in the internet there you can search what you want to know about. Some of the most popular examples of search engine are Google, Bing, Yahoo. Etc....

12. **What is the Internet & WWW? What are the uses of internet in our daily life?**

The internet is a massive network of networks that connects millions of computers globally. The WWW is the most widely used system to access the internet. The web is just one of the many services that uses the internet, others being email and internet telephony

World Wide Web offers a way to access documents spread over the several servers over the internet and is the universe of network accessible information. These documents may contain texts, graphics, audio, video, hyperlinks. The hyperlinks allow the users to navigate between the documents

Internet is a part of our life. Now a days it is very useful for us without internet we cannot know about the world, now a days we have the world in our palm of hand it is helping us to online booking, better education, visual communication, job searching, mail. Etc.....

13. **What is** an **Internet Service Provider? Give some example of ISP in India.**

An internet service provider (ISP) is a company provide you with access to the internet usually for a fee. The most common way to connect to an ISP are by using phone line or broadband connection (cable or DSL) it is used like a phone connections of airtel and BSNL.

14. **Discuss the difference between MAC address, IP address and Port address.**

The main difference between MAC and IP address is that, MAC Address is used to ensure the physical address of computer. It uniquely identifies the devices on a network. While IP address are used to uniquely identify the connection of network with that device take part in a network.

MAC Address stands for Media Access Control Address. IP Address stands for Internet Protocol Address.

MAC Address is a six byte hexadecimal address. IP Address is either four byte (IPv4) or six byte (IPv6) address.

MAC Address can't be found easily by third party. IP Address can be found by third party.

15. **How do we view my Internet browser's history?**

Today all major browsers have functionality that allow you to quickly and easily view your internet browsers. If you are browsing any type of browser that browser was easily store your searching content in the history of the browse.

For example you want to view your history in Google chrome follow the instructions given below.

Open the Google chrome internet browser

In up right corner of the screen tap the three dot icon

In the drop down menu that appears, select history and after select the history option the following page is contains your device's history.