DATA COMMUNICATION

Ans 1 – Different types of networks are –

- ***Local Area Network (LAN) –***

LAN or Local Area Network connects network devices in such a way that personal computers and workstations can share data, tools, and programs.

- ***Metropolitan area Network***

MAN or Metropolitan area Network covers a larger area than that of a LAN and smaller area as compared to WAN. It connects two or more computers that are apart but reside in the same or different cities.

- ***Wide Area Network (WAN) –***

WAN or Wide Area Network is a computer network that extends over a large geographical area, although it might be confined within the bounds of a state or country.

Ans 2 - Shielded twisted pair (STP) and unshielded twisted pair (UTP) -

- UTP is an unshielded twisted pair cable used in computer and telecommunications mediums. Its frequency range is suitable for transmitting both data and voice via a UTP cable. Therefore, it is widely used in the telephone, computers, etc.
- A shielded twisted pair is a type of twisted pair cable that contains an extra wrapping foil or copper braid jacket to protect the cable from defects like cuts, losing bandwidth, noise, and signal to the interference. It is a cable that is usually used underground, and therefore it is costly than UTP.

Ans 3 - Difference between baseband and broadband transmission -

- Broadband systems use modulation techniques to reduce the effect of noise in the environment. Broadband transmission employs multiple channel unidirectional transmission using a combination of phase and amplitude modulation.
- Baseband is a digital signal transmitted on the medium using one of the signal codes like NRZ, RZ Manchester biphase-M code, etc. called baseband transmission.

Ans 4 - Difference between a hub, modem, router and a switch -

- ***Modem:***

A modem is short for a modulator-demodulator. Its function is to facilitate the transmission of data, by converting an analogue signal to code and decoding digital information.

- ***Router:***

A network router directs the data packets along networks. A router has a minimum of two networks, usually LANs or WANs or a LAN and its ISP. However unlike a modem, it cannot work single standing, however is able to connect to multiple nodes.

- ***Switch:***

A network switch's primary function is to connect network segments on a single network. Therefore is quite different from a router and modem; it is used to expand the capability of the router, by providing additional posts.

- ***Network Hub:***

A hub is a device that allows several network devices to connect together to exchange data on a single network

Ans 5 – Does Mac address get transferred when move NIC cards-

Yes, that's because MAC addresses are hard-wired into the NIC circuitry, not the PC.

Ans 6 - Common hardware related problem can occur during troubleshooting computer networks -

Most common hardware related problems are PaBX, LAN Card, WLAN Card and Wi-Fi AP if it is wireless, Cables, Switches, Routers and Wireless Controllers. Most problems are hardware related, a faulty power cable or power supply unit. Sometimes RAM needs to be upgraded or VGA cable is not properly connected.

Ans 7 – Best place to install anti-virus in a network -

An anti-virus program must be installed on all servers and workstations to ensure protection. That's because individual users can access any workstation and introduce a computer virus when plugging in their removable hard drives or flash drives.

Ans – 8 - Static IP and dynamic IP – and - Difference between IPV4 and IPV6-

- ***STATIC IP –***

It is provided by ISP(Internet Service Provider). Static ip address does not change any time, it means if a static ip address is provided then it can't be changed or modified. Static ip address is less secure.

- ***DYNAMIC IP -***

it is provided by DHCP (Dynamic Host Configuration Protocol). Dynamic ip address change any time. In dynamic ip address, there is low amount of risk than static ip address's risk.

IPv4 and IPv6 are internet protocol version 4 and internet protocol version 6, IP version 6 is the new version of Internet Protocol, which is way better than IP version 4 in terms of complexity and efficiency.

Ans – 9 -TCP/ IP model -

TCP/IP Model helps you to determine how a specific computer should be connected to the internet and how data should be transmitted between them. It helps you to create a virtual network when multiple computer networks are connected together. The purpose of TCP/IP model is to allow communication over large distances.

Ans – 10 - Web browser -

The web browser is an application software to explore www (World Wide Web). It provides an interface between the server and the client and requests to the server for web documents and services. Google Chrome, Internet Explorer, Mozilla Firefox and Microsoft edge are some example of Browsers.

Ans – 11 - Search engine -

A search engine is a software program that helps people find the information they are looking for online using keywords or phrases. Search engines are able to return results quickly—even with millions of websites online—by scanning the Internet continuously and indexing every page they find. Google, Yahoo and Bing are some examples of search engine.

Ans – 12 - Internet and WWW -

WWW is just a common point of connectivity for information sharing that is facilitated by a global network of computers. The internet, on the other hand, is a connection between computers and countless other devices that form a huge network of systems.

Ans – 13 - Internet service provider -

An Internet service provider (ISP) is an organization that provides services for accessing, using, or participating in the Internet. MTNL, Airtel, Reliance communications are some examples or ISP.

Ans – 14 - Difference between MAC address, IP address and Port address -

MAC Address and IP Address are used to uniquely define a device on the internet. NIC Card's Manufacturer provides the MAC Address, on the other hand, Internet Service Provider provides IP Address. The main difference between MAC and IP address is that MAC Address is used to ensure the physical address of the computer. It uniquely identifies the devices on a network. While IP addresses are used to uniquely identifies the connection

of the network with that device takes part in a network. a Port address is a logical address which is assigned to each application on the computer that utilizes the internet for communication.

Ans – 15 - View internet browser's history -

Click on settings and then click on history or press Ctrl + H together.