

CCA- 102: Data Communications
ASSIGNMENT

Q4. What is the difference between a hub, modem, router and a switch?

Ans;

Hub:

A hub is a device that allows several network devices to connect together to exchange data on a single network however, they have no management component. Network hubs are also known as repeaters. They are less 'intelligent' than switches. Unlike switches, which forward data to the intended devices, hubs merely send the data packets to all its ports. So as the name repeaters suggests, it only repeats the data from an incoming port to all the other devices; this leads to frequent collisions between packets.

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 switch is a network that connect network segments on a signal network. It connects many devices together on the same network, sending data to a device that needs or request it. A switch is able to improve the performance of a network by increasing network capacity.

Switch	Router	Modem	Hub
Joins several computers together within one local area network. They cannot join multiple networks and are incapable of sharing an internet connection.	Joins multiple area networks (LAN&WAN). Serving as "middle man" or intermediate destinations for network traffic. Using the IP, they forward data to specific destination.	Modems, like router connect, home PCs to the internet.	Connects a network of personal computers together so they can be joined through a central hub.

Q5. When you move the NIC cards from one PC to another PC, does the MAC address gets transferred as well?

Ans; Yes, that is because MAC addresses are hardwired into the NIC circuitry, not the PC. This also means that a PC can have different MAC address when another one replaced the NIC card.

Q6. When troubleshooting computer and network problems, what common hardware-related problems can occur?

Ans; A large percentage of a network is made up of a hardware. Problem in these areas can range from malfunctioning hard drives, broken NICs and even hardware startups.

Q7. In a network that contains two servers and twenty workstations, where is the best place to install an Anti-virus programs?

Ans; The best solution is to install anti-virus on all the computers in the network.

Q8. Define Static IP and Dynamic IP? Discuss the difference IPV4 and IPV6.

Ans; Static IP: A computer on the internet can have a static IP address, which means stays the same overtime, or a dynamic IP address, which means the address can change over time.

Dynamic IP: A Dynamic IP is a temporary address for devices connected to a network that continually changes over time.

Difference between IPV4 and IPV6:

IPV4 and IPV6 are 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.

Q9. Discuss TCP/IP model in detail.

Ans; TCP\ IP Reference Model is a four-layered suite of communication protocols. It was developed by the DoD (Department of Defense) in the 1960s. It is named after the two main protocols that are used in the model namely, TCP stands for Transmission Control Protocol and IP stands for Internet Protocols.

Q10. What is a Web Browser (Browser)? Give some examples of browsers.

Ans; A web browser is an application used to access and view websites.

Some examples of browsers include Microsoft Edge, Internet Explorer, Google Chrome, Mozilla Firefox and Apple Safari.

Q11. What is a search engine? Give example.

Ans; A search engine is a web-based tool that enables users to locate information on the world wide web (WWW).

Q12. What is the Internet & WWW? What are the uses of internet in our daily life?

Ans; Internet is a vast network that connects computers all over the world. Through the internet, people can share information and communicate from anywhere with an internet connection.

World wide web (WWW) is an interconnected system of public webpages accessible through the internet.

Uses of internet in our daily life. The is very much useful in our daily routine task. For example, it helps us to see our notification and emails. A part from this, people can use the internet for money transfer, shopping, order online food, etc.

Q13. What is an Internet Service Provider? Give some example of ISP in India.

Ans; An internet Service Provider is an organization that provide services for accessing using or participation in the internet.

Examples of ISP in India are: Airtel, BSNL etc.

Q14. Discuss the difference between MAC address, IP address and Port address.

Ans; A MAC address is assigned to the network interface card by the manufacture and in used for communication within the local area network. It is globally unique address.

An IP address is used for communication within the local area network and the communication between internet. It is uniquely identifying the connection of the network with that device takes part in a network.

Port address of the service within the system. A port number uniquely identifies a network-based application on the computer.

Q15. How do we view my internet browser's history?

Ans; In the lower-left corner of the browser window, tap and hold the back arrow. The page that opens contain your browser history.