CCA-102: Data Communications ASSIGNMENT

1.What are the different types of networks?

1. 11 Types of Networks in Use Today.
2. Personal Area Network (PAN) ...
3. Local Area Network (LAN) ...
4. Wireless Local Area Network (WLAN) ...
5. Campus Area Network (CAN) ...
6. Metropolitan Area Network (MAN) ...
7. Wide Area Network (WAN)

2 Explain the Shielded twisted pair (STP) and Unshielded twisted pair(UTP)

Shielded twisted pair cable (STP) has the individual pairs of wires wrapped in foil, which are then wrapped again for double protection. Unshielded twisted pair cable (UTP) has each pair of wires twisted together. Those wires are then wrapped in tubing without any other protection.

3. What is difference between baseband and broadband transmission?

Difference between Broadband and Baseband Coaxial cable is that Baseband Coaxial cable supports quick transmission of a single signal at a time and is mainly used for LANs whereas Broadband Coaxial cable transmits multiple signals at the same time and is used for longer distances.

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

When computers, network devices or other networks are required to be connected, hubs, **switches** and routers are the bridges to link them together. All the three types of devices can perform the same function, and technicians sometimes may use the terms interchangeably. However, this will make people confuse whether they are the same thing or different from each other. This post is going to explore the actual meanings of hub, switch, router and what they are used for.

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

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 another one replaced the NIC card.

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

When troubleshooting computer network problems, what common hardware-related problems can occur? A large percentage of a network is made up of hardware. Problems in these areas can range from **malfunctioning hard drives, broken NICs, and even hardware startups**

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

n 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**.

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

What is the difference between a dynamic and static IP address? **When a device is assigned a static IP address, the address does not change**. Most devices use dynamic IP addresses, which are assigned by the network when they connect and change over time.

IPv4 is an IP version widely used to identify devices on a network using an addressing system. It was the first version of IP deployed for production in the ARPANET in 1983. It uses a 32-bit address scheme to store 2^32 addresses which is more than 4 billion addresses. It is considered the primary Internet Protocol and carries 94% of Internet traffic.	**IPv6** is the most recent version of the Internet Protocol. This new IP address version is being deployed to fulfill the need for more Internet addresses. It was aimed to resolve issues that are associated with IPv4. With 128-bit address space, it allows 340 undecillion unique address space. IPv6 is also called IPng (Internet Protocol next generation).

9. Discuss TCP/IP model in detail.

TCP/IP Reference Model is a four-layered suite of communication protocols. It was developed by the DoD (Department of Defence) in the 1960s. It is named after the two

main protocols that are used in the model, namely, TCP and IP. TCP stands for Transmission Control Protocol and IP stands for Internet Protocol.

The four layers in the TCP/IP protocol suite are −

- **Host-to- Network Layer −**It is the lowest layer that is concerned with the physical transmission of data. TCP/IP does not specifically define any protocol here but supports all the standard protocols.
- **Internet Layer −**It defines the protocols for logical transmission of data over the network. The main protocol in this layer is Internet Protocol (IP) and it is supported by the protocols ICMP, IGMP, RARP, and ARP.
- **Transport Layer −** It is responsible for error-free end-to-end delivery of data. The protocols defined here are Transmission Control Protocol (TCP) and User Datagram Protocol (UDP).
- **Application Layer −** This is the topmost layer and defines the interface of host programs with the transport layer services. This layer includes all high-level protocols like Telnet, DNS, HTTP, FTP, SMTP, etc.

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

"A web browser, or simply 'browser,' is **an application used to access and view websites**. Common web browsers include Microsoft Edge, Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari

11. What is a search engine? Give example.

A search engine is **a web-based tool that enables users to locate information on the World Wide Web**. Popular examples of search engines are Google, Yahoo!, and MSN Search.

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

The 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

The World Wide Web (**WWW**), commonly known as **the** Web, **is the** world's dominant software platform. **It is an** information space where documents and other web ...

Importance Of Internet Technology For Easy Life

1. Uses of the Internet in Education. The Internet is a great platform for students to learn throughout their lifetime. ...

2. Internet Use to Speed Up Daily Tasks. ...
3. Use of the Internet for Shopping. ...
4. Internet for Research & Development. ...
5. Digital Transactions. ...
6. Money Management. ...
7. Tour & Travel.

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

a company that provides subscribers with access to the internet.
"if your router was supplied by your internet service provider, give them a call"

some internet service providers are **Hathway, BSNL, Tata teleservices, Verizon, Reliance Jio, ACT Fibernet** and many more working in India as well as worldwide. Internet service providers or ISPs are responsible for providing services for using the Internet.0

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

he 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.

Port address:-**A port number is the logical address of each application or process that uses a network or the Internet to communicate**. A port number uniquely identifies a network-based application on a computer. Each application/program is allocated a 16-bit integer port

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

In the lower-left corner of the browser window, tap and hold the back arrow. The page that opens contains your browser's history.