# CCA-102: Data Communications

# ASSIGNMENT

(1) What are the different types of networks?

Ans. Personal Area Network (PAN)

Local Area Network (LAN)

Wireless Local Area Network (WLAN)

Campus Area Network (CAN)

Metropolitan Area Network (MAN)

Wide Area Network (WAN)

Storage-Area Network (SAN)

System-Area Network (also known as SAN)

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

Ans - 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?

Ans - Whereas baseband uses digital signaling, broadband uses analog signals in the form of optical or electromagnetic waves over multiple transmission frequencies. For signals to be both sent and received, the transmission media must be split into two channels.

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

Ans - Hubs, switches, and routers are all devices that let you connect one or more computers to other computers, networked devices, or even other networks. Each has two or more connectors called ports, into which you plug the cables to make the connection.

**Hubs** A hub is the least expensive, least intelligent, and least complicated of the three. Its job is very simple: anything that comes in one port is sent out to the others.

**Switches** A switch does what a hub does, but more efficiently. By paying attention to the traffic that comes across it, it learns which computers are connected to which port.

**Routers** A router is the smartest and most complicated of the three. Routers come in all shapes and sizes, from small, four-port broadband routers to large industrial-strength devices that drive the internet itself.

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

**Ans.** 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?

**Ans.** 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?

**Ans.** 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.

Ans. 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.

(9) Discuss TCP/IP model in detail.

Ans. TCP/IP Reference Model is a four-layered suite of communication 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.

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

Ans. A web browser, or simply "browser," is an application used to access and view websites. Common web browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari. ... For example, Ajax enables a browser to dynamically update information on a webpage without the need to reload the page.

(11) 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. Popular examples of search engines are Google, Yahoo!, and MSN Search. ... The information gathered by the spiders is used to create a searchable index of the Web.

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

Ans. Today, the internet has become unavoidable in our daily life. Appropriate use of the internet makes our life easy, fast and simple. The internet helps us with facts and figures, information and knowledge for personal, social and economic development.

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

Ans. An Internet Service Provider (ISP) is a company such as AT&T, Verizon, Comcast, or Spectrum that provides Internet access to companies, families, and even mobile users. ISPs use fiber-optics, satellite, copper wire, and other forms to provide Internet access to its customers.

The examples of some internet service providers are Hathway, BSNL, Tata teleservices, Verizon, Reliance Jio, ACT Fibernet and many more working in India as well as worldwide.

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

Ans. Both MAC Address and IP Address are used to uniquely identify a machine on the internet. MAC Address ensure that physical address of the computer is unique. ... IP Address is a logical address of the computer and is used to uniquely locate computer connected via a network

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

Ans. To view the web history in Google Chrome, click to open the menu ☐ at the top-right of its window and select History, then click History a second time. Or press Ctrl+H on your keyboard. This shows the web history as a list of pages, organised by time and date, in the current tab.