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Course Name - Data Communication

## CCA-102: DATA Communication

### ASSIGNMENT-2

Qno1 What are the different types of networks?

- Ans:
1. PAN (Personal Area Network)
  2. LAN (Local Area Network)
  3. MAN (Metropolitan Area Network)
  4. WAN (Wide Area Network)

Qno2: 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. These wires are then wrapped in tubing without any other protection.

Qno3:- What is difference between baseband and broadband transmission?

Ans The signal used for Transmission

→ The baseband transmits the digital signal using the physical medium like wires.

→ The broadband transmits the analog signals using optical fibers and twisted cables as a medium of transmission.

### Transmission Direction

- The baseband signaling is termed as bidirectional and is capable of sending digital signals in both directions.
- The broadband signaling is termed as bidirectional and is capable of sending digital signals in only one direction.

### Encoding Scheme used

- The baseband signaling used Manchester encoding scheme while transmitting the digital signals.
- The broadband signaling used Manchester encoding scheme while transmitting the analog signals.

### Topology used

- The baseband transmission uses the bus topology as the application.
- The broadband transmission uses the tree and bus topology as the application.

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

→ A hub transmits data from one device to another in form of binary bits.

Modem are used to connect to the Internet while hubs are used in local area network.

→ A modem is used as an interface between a digital and analog network.

→ A router transmits data from one network to another in form of packets.

→ A switch transmits data from one device to another in form of frames.

Ques When you move the NIC cards from one PC to another PC, does the MAC address get transferred as well?

Ans Yes, that's because MAC addresses are hardwired 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.

Ques When troubleshooting computer network problems what common hardware-related problems can occur?

Ans 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.

Ques 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.

Ques 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.

The main difference between IPv4 and IPv6 is the address size of IP addresses.

The IPv4 is a 32-bit address, whereas IPv6 is a 128-bit hexadecimal address space, and it contains a simple header as compared to IPv4.

Q9: Discuss TCP/IP model in detail.

Ans: It stands for Transmission Control Protocol/Internet Protocol. The TCP/IP model is a concise version of the OSI model. It contains four layers, unlike seven layers in the OSI model.

Q10: What is a web browser? Give some examples of browsers.

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

Q11: What is a search engine? Give example.

Ans: A search engine is a web-based tool that enables user to locate information on the World Wide Web. Popular e.g. of search engines are Google, Yahoo! and MSN Search.

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

Ans: The world wide web, or web for short, are the pages you see when you're at a device and you're online. But the Internet is the network of connected computers that the web works on, as well as what emails and files travel across.

Think of the Internet as the roads that connect towns and cities together. The Internet is very much useful in our daily life routine tasks. e.g. it helps us to see our notification and emails. Apart from this, people can use the Internet for money transfers, bill pay, Online shopping, Online order food etc.

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

Ans An Internet service provider is an organization that provides services for accessing, using or participating in the Internet. Internet service providers can be organized in various forms, such as commercial, community-owned, non-profit or otherwise privately owned.

The examples of some Internet service providers are Hathway, BSNL, Tata Teleservices, Verizon, Reliance Jio, Airtel 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.

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

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

Ques 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 contains your browser's history.