

# **CCA – 102:DATA COMMUNICATION**

## **ASSIGNMENT**

### **Q1. What are the different types of networks?**

- 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)

### **Q2. Explain the Shielded twisted pair (STP) and Unshielded twisted pair(UTP).**

#### ❖ Shielded twisted pair(STP):

Shielded twisted pair cabling acts as a conducting shield by covering the four pairs of signal-carrying wires as a means to reduce electromagnetic interference

#### ❖ Unshielded twisted pair(UTP):

UTP cables are mostly used for LAN networks. They can be used for voice, low-speed data, high-speed data, audio and paging systems, and building automation and control systems. UTP cable can be used in both the horizontal and backbone cabling subsystems.

### **Q3. What is difference between baseband and broadband transmission?**

- The major difference between broadband transmission and baseband transmission is that the baseband transmission uses the complete bandwidth for transmitting the signals and occupy the whole cable while in broadband transmission, at the same time, multiple signals can be transmitted using multiple frequencies using only one channel.

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

✓ A hub works on the physical layer of OSI model while Switch works on the data link layer.

- Switch is more efficient than the hub.
- A switch can join multiple computers within one LAN, and a hub just connects multiple Ethernet devices together as a single segment.

**Q5. 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.

**Q6. 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.

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

Putting antivirus software on an Internet border device, whether the device is an email server or firewall, is the next best option.

In today's world of email worms, Trojan horses, and infected Web pages, placing virus-scanning protection at the border offers excellent benefits for the cost.

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

| S.No | KEY             | STATIC IP ADDRESS                                | DYNAMIC IP ADDRESS  |
|------|-----------------|--|---|
| 1.   | <b>PROVIDER</b> | Internet service provider the static is address. | Duck dynamic host configuration protocol is used to generate dynamic is address |
| 2.   | <b>CHANGES</b>  | Static is address does not get changes with time | Dynamic is address may be changed any time.                                     |

**Q9. Discuss TCP/IP model in detail.**

- ❖ 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

**.Q10. 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.

### **Q11. 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

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

- The Internet is very much useful in our daily routine tasks.
- For example, it helps us to see our notifications and emails.
- Apart from this, people can use the internet for money transfers, shopping order online food, etc.

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

- The term Internet service provider (ISP) refers to a company that provides access to the Internet to both personal and business 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.

**Q14. Discuss the difference between MAC address, IP address and Port 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
  - MAC Address stands for Media Access Control Address.
  - IP Address stands for Internet Protocol Address.

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

- In the lower-left corner of the browser window, press and hold the back arrow.
- The next screen contains your browser's history.