1) **Wired and wireless network?**

Wired Network - Ethernet
Wireless Network - IOT Device

2) **Network topology?**

Network topology is used to designing a network and selecting the connection protocols

3) **Types of topology?**

- BUS
- MESH
- HYBRID
- RING
- STAR

4) **What is a computer network?**

- A computer network is defined as a set of two or more computers that are linked together via wired or wireless
- The purpose of a network is communication, sharing, or distributing data, files, and resources
- Computer networks are built using a collection of hardware and networking software

5) **Types of computer networks?**

- LAN
- WLAN
- WAN
- MAN
- PAN

6) **Computer network protocols?**

- HTTP
- IP
- TCP
- UDP
- FTP

7) Network Topology?

- Network topology is defined as the arrangement of computers

8) Types of Topology?

- BUS
- MESH
- STAR
- HYBRID
- RING

9) BUS TOPOLOGY?

- Bus network topology supports a common transmission medium where each node connected with the main cable
- The data is transmitted through the main cable and received by all the nodes simultaneously

10)RING TOPOLOGY?

- It is a modified version of bus topology
- Every node is a ring topology that has previously two connection

11)STAR TOPOLOGY?

- In a star topology, every node is connected using a single central hub or switch
- The hub performs the entire centralized administration
- Each node send its data to the hub and shares the received information with the destination device

12) FEATURES OF COMPUTER NETWORK?

- Communication speed
- File sharing
- Back up and rollback
- Security

13) ARCHITECTURE OF COMPUTER NETWORK?

- Peer to Peer network
- Client/Server network

14)PEER TO PEER NETWORK?

- It is a network in which all the computers are linked together with equal privilege and responsibility for processing data
- It is useful for small environments usually up to 10 device

15)PEER TO PEER NETWORK ADVANTAGE?

- Less costly does not contain a dedicated server
- If one computer stop working another computer will not stop working

16)PEER-TO-PEER NETWORK DISADVANTAGE?

- It does not contain a centralized system
- So it can not back up the data in a different location

17)CLIENT/SERVER NETWORK?

- It is a network model designed for the end-users called clients to access the resources such as songs, videos from the centralized computer known as server
- The centralized control is called server and all other computers in the network are called client
- The server performs all the major operations such as security and network management

18)**CLIENT/SERVER NETWORK ADVANTAGE?**

- Back up the data easily
- It increases the speed of sharing resources

19) **CLIENT/SERVER NETWORK DISADVANTAGE?**

- Very expensive
- It requires a server with large memory

20) **WHAT IS A HUB?**

- Hub is a hardware device that divides the network connection among multiple devices

21) WHAT IS A SWITCH?

- It connects multiple devices on a computer network

22) **WHAT US ROUTER?**

- It is a hardware device that is used to connect a LAN with an internet connection

23)WHAT IS A MODEM?

- It is a hardware device that allows the computer to connect to the internet over the existing telephone line

24)LAN?

- LAN stands for Local Area Network
- It is a group of computers connected to each other in a small area such as a building and office

25)PAN?

- PAN stands for Personal Area Network
- PAN arranged with an individual person typically within the range of 10 meters
- It is used for connecting the computer devices of personal as known as PAN

26)MAN?

- It is a network that covers a large area by interconnecting different Local area networks

27)TRANSMISSION MODE?

- The way in which data is transmitted from one device to another device is known as transmission mode
- It is also known as communication mode

28)CATEGORIES OF TRANSMISSION MODE?

- Simplex mode
- Half-duplex mode
- Full-duplex mode

29)SIMPLEX-MODE

- In simplex mode the communication is unidirectional
- A device can only send the data but can not receive or it can receive data but can not send the data
    - Eg - Radio

30)HALF-DUPLEX MODE

- In half-duplex mode, the devices can transmit the data and receive the data as well as
- The message flow in both directions but not at the same time
    - Eg - Walkie talkie

31)FULL DUPLEX MODE

- In Full-duplex mode, the data communication is bidirectional
- The data flow in both the direction
- The device can send the data and receive the data simultaneously

32)OSI MODEL

- OSI model consists of seven layers and each layer performs a particular network function

33)CHARACTERISTICS OF OSI MODEL

- Application layer
- Presentation layer
- Session layer
- Transport layer
- Network layer
- Datalink layer
- Physical layer

34)PHYSICAL LAYER

- It is the lowest layer of the OSI model
- The main function of the physical layer is to transmit the individual bits from one node to another node

35) DATALINK LAYER

- This layer is responsible for the error-free transfer of data frames

36) NETWORK LAYER

- The network layer manages the device addressing, track the location of the device on the network

37)PRESENTATION LAYER

- It acts as the data translate for a network
- This layer is the part of the operating system that converts the data from one presentation to another format

38)TRANSPORT LAYER

- The transport layer ensures the message is transmitted in the order in which they are sent and there is no duplication of data

39)SESSION LAYER

- This layer is used to establish, maintain and synchronize the interaction between devices

40)APPLICATION LAYER

- An application layer serves as a window for users and application process to access network service