1. Mention different Types of Operating Systems

Microsoft Windows, Linux, IOS, MAC, Unix

2. Mention microsoft client and server Operating Systems

Microsoft Client Operating Systems
Windows 95, Windows 98, Windows XP, Windows Vista, Windows 7, Windows 8, Windows 10

3. Microsoft Server Operating Systems

Windows Server 2000, Windows Server 2003, Windows Server 2008, Windows Server 2012, Windows Server 2016

4. How will you check whether the SMPS is working or not?

Use a small copper wire and short the Green and Black wires.Give the power input to the SMPS,if the SMPS fan rotates then the SMPS is working otherwise not.

5. What are the Input and Output voltage of SMPS?

Input voltage:
230 volt AC current
Output voltage:
+5 v,-5 v,+12 v,-12 v,+3.3 v,-3.3 v and Ground

6. What are the types of SMPS connectors

Power Connector, Molex Connector, Mini Connector, Sub mini Connector, Sata Connector

7. What are the types of Hard Disk

IDE Hard Disk,SATA Hard Disk, SCSI Hard Disk

8. What are the Types of Partition?

Primary Partition,Extended Partition,Logical Drive

9. What are the types of RAM?

SRAM, DRAM, SDRAM, DDR1, DDR2, DDR3, DDR4

10. How can we differentiate the various types of RAM?

We can differentiate based on notches, no of pins,data transfer Speed

11. What is POST and BIOS?

POST stands for Power On Self Test.It is the process by which the computer checks whether all devices' connection and power supply is proper.POST happens during startup.

BIOS Stands for Basic Input Output System.It maintains all hardware information.

Whatare the layers of the OSI reference model?

There are 7 OSI layers: Physical Layer, Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer and Application Layer.

13. What is a LAN?

LAN is short for Local Area Network. It refers to the connection between computers and other network devices that are located within a small physical location.

14. What are routers?

Routers can connect two or more network segments. These are intelligent network devices that store information in its routing table such as paths, hops and bottlenecks. With this info, they are able to determine the best path for data transfer. Routers operate at the OSI Network Layer.

15. What is subnet mask?

A subnet mask is combined with an IP address in order to identify two parts: the extended network address and the host address. Like an IP address, a subnet mask is made up of 32 bits.

16. What is NIC?

NIC is short for Network Interface Card. This is a peripheral card that is attached to a PC in order to connect to a network. Every NIC has its own MAC address that identifies the PC on the network.

17. How many layers are there under TCP/IP?

There are four layers: the Network Layer, Internet Layer, Transport Layer and Application Layer.

18. What is a private IP address?

Private IP addresses are assigned for use on intranets. These addresses are used for internal networks and are not routable on external public networks. These ensures that no conflicts are present among internal networks while at the same time the same range of private IP addresses are reusable for multiple intranets since they do not "see" each other.

19. What are MAC addresses?

MAC, or Media Access Control, uniquely identifies a device on the network. It is also known as physical address or Ethernet address. A MAC address is made up of 6-byte parts.

20. Describe star topology

Star topology consists of a central hub that connects to nodes. This is one of the easiest to setup and maintain.

21. What is the disadvantage of a star topology?

One major disadvantage of star topology is that once the central hub or switch get damaged, the entire network becomes unusable.

22. What is the difference between a hub and a switch?

A hub acts as a multiport repeater. However, as more and more devices connect to it, it would not be able to efficiently manage the volume of traffic that passes through it. A switch provides a better alternative that can improve the performance especially when high traffic volume is expected across all ports.

23. What is ipconfig?

Ipconfig is a utility program that is commonly used to identify the addresses information of a computer on a network. It can show the physical address as well as the IP address.

24. Describe networking.

Networking refers to the inter connection between computers and peripherals for data communication. Networking can be done using wired cabling or through wireless link.

25. What is one advantage of mesh topology?

In the event that one link fails, there will always be another available. Mesh topology is actually one of the most fault-tolerant network topology.

26. What are the full form of SATA, SCSI, FAT, NTFS, SMPS

SATA: Serial Advanced Technology Attachment

SCSI: Small Computer System Interface

FAT: File Allocation Table

NTFS: New Technology File System

SMPS: Switch Mode Power Supply

1. What are Routers?

Routing is the process to find the path on which the information or data can pass from the source to its destination. The device by which routing is done is called Routers.

2. What is Half duplex and Full duplex?

In half-duplex, transmission of information or communication is from one direction only.

Example: Walkie-talkie

In full duplex, transmission of information or communication is from both the directions.

Example: Talking on the telephone.

3. What is the difference between LAN, MAN, and WAN?

It is a local area network where computers and network devices are connected with each other, usually within the same area or building. Connections in LAN must be of high speed.

MAN
It is metropolitan area network where the networks are connected widely within several buildings in the same city.

WAN
It is a wide area network where the networks are limited to one enterprise or organization and can be accessed by the public. It connects several LANs. Connection in WAN is high speed and expensive too.

4. Define IP Address?

Internet Protocol (IP Address) is a 32-bits to 128-bits identifier for a device on TCP/IP protocol. IP address of a device must be uniquely defined for communication.

5. What is the difference between Unicast, Multicast, Broadcast, and Anycast?

Unicast: It is the exchange of messages between a single source and a single destination. In Unicast, while sending packets from a sender, it contains data address of the receiver so that it can go there directly.

Broadcast: It is the exchange of messages between one sender to possible multiple receivers. It works only on a local network. Broadcasting of data can't be done on the public internet due to a massive amount of unrelated and unnecessary data.

Multicast: It is the exchange of messages between one sender and multiple receivers. In multicast, the network settings determine your receiving clients and sort of broadcasting.

Anycast: It is the exchange of messages between one host to another host. It uses TCP and UDP protocol. Copy of each data packet goes to every host that requests it.

6. Can IP address be assigned to Layer 2?

No, IP addresses cannot assign to Layer2.

7. What is PING used for?

PING is packet Internet groper. It is used to test the reachability of a host on an Internet protocol (IP) network. When any data is sent via the network through the IP addresses, then it will PING the receiver to receive the data from the sender.

8. What are the different class and ranges of IP address?

There are 5 different classes of IP address:

Class	Range
A	1-126
B	127-191
C	192-223
D	224-239
E	240-254

9. What is Private IP and Public IP?

Private IP
It is used within the local LAN.

Public IP It is used across the Internet.

10. What are the different types of passwords that you can use in Cisco routers?

Different types of passwords that are used in Cisco routers are enabled, enable secret, auxiliary (AUX), console and virtual terminal (VTY).

11. How many types of memories are used in Cisco router?

Given below are the 3 different types of memory that are used:

Flash memory– Store system IOS. It is electronically erasable and a re-programmable memory chip.

- **RAM**– Store configuration file which is being executed. It loses its information when a router is restarted or shut down.
- **NVRAM**– Store startup configuration file and IOS reads this file when the router boots up.
- **ROM**– Read Only Memory. It saves the information if the router is shut down or restarted. It maintains the instructions for POST diagnostics.
- **What are the different types of cables that are used in routing?**

12. What are the different types of cables that are used in routing?

Three different types of cables that are used include

- Straight cable – (switch-router)
- Cross cable – (PC-PC, switch-switch)
- Rollover cable – (Console port to computer)

13. What is the IEEE standard for wireless networking?

IEEE 802.11

14. What is OSPF? Describe it.

OSPF stands for Open Shortest Path First. It uses Dijkstra algorithm and is a link state routing protocol which is used to connect to a large number of networks without having any limitation on the number of hops.

15. What does Round Trip Time mean?

Round-trip time or round-trip delay is defined as the time taken by a signal to send the data plus the time it receives the acknowledgment from the receiver of that signal.

16. Why do you use Service Password Encryption'?

Service Password Encryption is used to encrypt plaintext password into type 7 password. Security is less and hence it can be easily decrypted.

17. Explain DHCP scope.

Dynamic Host Configuration Protocol (DHCP) is used to automatically assign IP host with its address to a client.

18. What is Routing?

Routing is the process of finding a path on which data can pass from source to destination. Routing is done by a device called routers, which are network layer devices.

19. What is 100BaseFX?

This is Ethernet that makes use of fiber optic cable as the main transmission medium. The 100 stands for 100Mbps, which is the data speed.

20. Utilizing RIP, what is the limit when it comes to the number of hops?

The maximum limit is 15 hop counts. Anything higher than 15 indicates that the network is considered unreachable.

21. What are the different IPX access lists?

There are two types of IPX access lists

1. Standard
2. Extended.

Standard Access List can only filter the source or destination IP address. An Extended Access List uses the source and destination IP addresses, port, socket, and protocol when filtering a network.

22. Explain the basic difference between TCP/IP and OSI model.

OSI and TCP/IP protocol are different by their layers. In OSI model, there are 7 layers whereas in TCP/IP there are 4 layers.

23. What is the size of IP address?

Size of IP address is 32 bit for IPv4 and 128 bit for IPv6.

24. Mention the ranges for the private IPS?

Ranges for private IPS are

- Class A: 10.0.0.0 – 10.0.0.255
- Class B: 172.16.0.0 – 172.31.0.0
- Class C: 192.168.0.0 – 192.168.0.255

25. Types of Dynamic Routing.

RIP, IGRP, EIGRP, OSPF

26. What is the difference between static and dynamic IP addresses?

Static IP address won't change over the time and is reserved statically whereas dynamic IP address changes each time when you connect to the Internet.