1 :: What is difference between Switch & Hub?

Switch:
Switches operate at Layer 2 Data Link Layer
Address Learning
Forward / Filter decision using MAC address
Loop Avoidance
Breakup collision domains
Switches create separate collision domains but a single broadcast domain

Hub:
Hub operates at Layer 1 Physical Layer
No Filtering
No Addressing
Hub creates single collision domain and single broadcast domain
Make forwarding to all the ports when signal is arrived

2 :: What is PING utility?

PING – Packet Internet Gopher
A utility that verifies connections to one or more remote hosts. The ping command uses the ICMP echo request and echo reply packets to determine whether a particular IP system on a network is functional. Ping is useful for diagnosing IP network or router failures.

3 :: What is a VLAN? What does VLAN provide?

VLAN – Virtual Local Area Network
Vlan is a logical grouping or segmenting a network connected to administratively defined ports on a switch, they provide Broadcast control, Security and Flexibility.

4 :: What is Subnetting? Why is it used?

Used in IP Networks to break up larger networks into smaller subnetworks. It is used to reduce network traffic, Optimized network performance, and simplify management i.e. to identify and isolate network problems.

5 :: Difference between the Communication and Transmission?

Communication is the process of sending and receiving data by means of a data cable that is connected externally.
Transmission means the transfer of data from the source to the destination.

6 :: What is RAID in ccna?

A method used to standardize and categorize fault-tolerant disk systems. RAID levels provide various mixes of performance, reliability, and cost. Some servers provide three of the RAID levels: Level 0 (striping), Level 1 (mirroring), and Level 5 (striping & parity).

7 :: What are 10Base2, 10Base5 and 10BaseT Ethernet LANs?

10Base2 an Ethernet term meaning a maximum transfer rate of 10 Megabits per second that uses baseband signaling, with a contiguous cable segment length of 200 meters (185mts). Known as Thinnet.

10Base5 an Ethernet term meaning a maximum transfer rate of 10 Megabits per second that uses baseband signaling, with a contiguous cable segment length of 500 meters. Known as Thicknet.

10BaseT an Ethernet term meaning a maximum transfer rate of 10 Megabits per second that uses two pairs of twisted-pair baseband signaling, with a contiguous cable segment length of 100 meters.

8 :: What are the two types of Transmission Technology available in ccna?

Two types of Transmission Technology available in ccna are Point – to – Point and Broadcast

9 :: What is point-to-point protocol in ccna?

An industry standard suite of protocols for the use of point-to-point links to transport multiprotocol datagrams.

10 :: What are the possible ways of data exchange in ccna?

Possible ways of data exchange in ccna are
Simplex
Half-duplex
Full-duplex

11 :: What is difference between Baseband and Broadband Transmission in ccna?

In a baseband transmission, the entire bandwidth of the cable is consumed by a single signal.

In broadband transmission, signals are sent on multiple frequencies, allowing multiple signals to be sent simultaneously.

12 :: What is Protocol Data Unit in ccna?

The processes at each layer of the OSI model.
Layers----------PDU
Transport-------Segments
Network---------Packets/Datagrams
Data Link-------Frames
Physical--------Bits

13 :: What are major types of Networks and explain?

Peer-to-Peer Network
Computers can act as both servers sharing resources and as clients using the resources.

Server-based Network
Provide centralized control of network resources and rely on server computers to provide security and network administration

14 :: What is Passive Topology in ccna?

When the computers on the network simply listen and receive the signal, they are referred to as passive because they don't amplify the signal in any way.

15 :: What is the Mesh Network?

A network in which there are multiple network links between computers to provide multiple paths for data to travel.

16 :: How network Gateway is different from Routers?

Gateway
A device connected to multiple physical TCP/IP networks capable of routing or delivering IP packets between them.

Router
It's a layer 3 device that connects 2 different networks and routes packets of data from one network to another. It breaks up Broadcast domain as well as Collision Domain.

17 :: What is the network Brouter?

It's a Hybrid device that combines the features of both bridges and routers.

18 :: What is the network Subnet?

A subnet is the subdivision of an IP network.

19 :: What is the Frame relay, in which layer it comes?

Frame relay is an industry standard, shared access, switched Data Link Layer encapsulation that services multiple virtual circuits and protocols between connected mechanism.
Frame relay is a packet-switched technology.

20 :: What is the Terminal Emulation, in which layer it comes?

The use of software, installed on PC or LAN server, that allows the PC to function as if it were dumb terminal directly attached to a particular type of mainframe.
Telnet is also called as terminal emulation. It belongs to application layer.

21 :: What is the Beaconing?

An FDDI frame or Token Ring frame that points to serious problem with the ring, such as a broken cable. The beacon frame carries the address of the station thought to be down.

22 :: What are the NetBIOS and NetBEUI?

NetBIOS – Network Basic Input / Output System
An application-programming interface (API) that can be used by programs on a local area network (LAN). NetBIOS provides programs with a uniform set of commands for requesting the lower-level services required to manage names, conduct sessions, and send datagrams between nodes on a network.

NetBEUI – NetBIOS Extended User Interface
An improved version of the NetBIOS protocol, a network protocol native to Microsoft Networking. It is usually used in small, department-size local area networks (LANs) of 1 to 200 clients. It can use Token Ring source routing as its only method of routing.

23 :: What is the Cladding?

A layer of a glass surrounding the center fiber of glass inside a fiber-optic cable.

24 :: What is the Attenuation?

In communication weakening or loss of signal energy, typically caused by distance.

25 :: What is the MAC address?

The address for a device as it is identified at the Media Access Control (MAC) layer in the network architecture. MAC address is usually stored in ROM on the network adapter card and is unique.

26 :: What is the ICMP protocol?

ICMP – Internet Control Message Protocol
It is a Network Layer Internet protocol, which can report errors and status information. We can use the ping command to send ICMP echo request messages and record the receipt of ICMP echo reply messages. With these messages, we can detect network or host communication failures and troubleshoot common TCP/IP connectivity problems.

27 :: What is the difference between ARP and RARP?

ARP – Address Resolution Protocol
The protocol that traces IP addresses to MAC addresses.

RARP – Reverse Address Resolution Protocol
The protocol within the TCP/IP stack that maps MAC addresses to IP addresses.

28 :: What is the difference between TFTP and FTP application layer protocols?

TFTP – Trivial File Transfer Protocol
A stripped down version of FTP, easy to use and fast. TFTP has no Directory browsing, no Authentication and insecure it can only send and receive files.

FTP – File Transfer Protocol
The TCP/IP protocol used for transmitting files between network nodes. FTP allows access to both Directories and files, manipulating directories, typing file contents and copying files between hosts.

29 :: Explain 5-4-3 rule?

In a Ethernet network, between any two points on the network, there can be no more than five network segments or four repeaters, and of those five segments only three of segments can be populated.

30 :: What is the MAU?

MAU – Multistation Access Unit

31 :: What is the difference between routable and non- routable protocols?

Routable protocols can work with a router and can be used to build large networks. Non-Routable protocols are designed to work on small, local networks and cannot be used with a router.

32 :: What is the logical link control?

One of two sublayers of the data link layer of OSI reference model, as defined by the IEEE 802 standard. This sublayer is responsible for error detection but not correction, flow control and framing.

33 :: What is the Virtual Channel?

A logical circuit that is created by Virtual channel links. It carries data between two endpoints in a network.

The other name for Virtual Channel is Virtual Circuit.

34 :: What is the Virtual Path?

Along any transmission path from a given source to a given destination, a group of virtual circuits can be grouped together into what is called path.

35 :: What is the multicast routing?

Sending a message to a group multicast address is called multicasting, and its routing algorithm is called multicast routing.

36 :: What is the IGP (Interior Gateway Protocol)?

Any protocol used by an internetwork to exchange routing data within an autonomous system. E.g. RIP, IGRP and OSPF.