

Network Engineer Job Interview Questions And Answers



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Network Engineer Interview Questions And Answers Guide.

Question - 1:

Why did you choose career in network engineering?

Ans:

There are many reasons for this choice. It is a perspective area with bright future and great possibilities of career growth. The salaries for engineers are exceptional too. What more, the competition is not so tough like in other fields.

- * Exceptional computer intelligence and great predispositions to become a network engineer
- * Love to do the job, motivation and enthusiasm for doing it
- * Belief in huge perspective of this field nowadays.

"I love to work with networks. I liked it since my childhood. I was an administrator of local network we had back then. I believe this area is very perspective and important in society, because we have networks everywhere right now. To work on the security and effectiveness of it makes me proud and happy in my daily life."

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Question - 2:

How can you describe network topology?

Ans:

There are many ways to discover network topology and most of the ways you know determine your experience in the field. First, you can ping random IP addresses. If you do a tracert, you can discover router IP addresses. You can install a network traffic packet analyzer to read some of the traffic that passes between segments of the network. You can run an SNMP scanner and attempt to find open systems. Even at a basic level, you can plug a laptop into open data ports to see if you can connect to various servers and other desktops.

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Question - 3:

Do you know about some basic ways to speed up network performance?

Ans:

There are several ways to improve network performance. You can first make sure you disable peer-to-peer downloading and torrents. Some companies restrict media streaming such as YouTube and Pandora. You can also add compression to files to reduce the amount of bandwidth used. Another area where some network admins make mistakes is timed backups and large data transfers. Make sure your backups are done during slow network times, which is usually overnight when the office is closed.

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Question - 4:

Tell me have you ever worked in heterogeneous environments and multiple server and client platforms?

Ans:

The obvious answer to this question is yes or no, but you should elaborate if the answer is yes. Most networking environments use a combination of Windows and Linux servers and desktops. Usually, network engineers prefer Linux servers and work with Windows and Linux desktops. Occasionally, you might have some Mac desktops as well to work with.

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Question - 5:

Tell me what is SLIP (Serial Line Interface Protocol) in network engineering?

Ans:

It is a very simple protocol used for transmission of IP data-grams across a serial line.

[View All Answers](#)

Question - 6:

Tell me what is RIP (Routing Information Protocol)?

Ans:



It is a simple protocol used to exchange information between the routers.

[View All Answers](#)

Question - 7:

Do you know what is source route?

Ans:

It is a sequence of IP addresses identifying the route a datagram must follow. A source route may optionally be included in an IP datagram header.

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Question - 8:

What is Proxy ARP in network engineering?

Ans:

It is using a router to answer ARP requests. This will be done when the originating host believes that a destination is local, when in fact it lies beyond router.

[View All Answers](#)

Question - 9:

Tell me about OSPF?

Ans:

It is an Internet routing protocol that scales well, can route traffic along multiple paths, and uses knowledge of an Internet's topology to make accurate routing decisions.

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Question - 10:

What is Kerberos in network engineering?

Ans:

It is an authentication service developed at the Massachusetts Institute of Technology. Kerberos uses encryption to prevent intruders from discovering passwords and gaining unauthorized access to files.

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Question - 11:

What is the mean of multi-homed host in network engineering?

Ans:

It is a host that has a multiple network interfaces and that requires multiple IP addresses is called as a Multi-homed Host.

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Question - 12:

What is NVT (Network Virtual Terminal) in network engineering?

Ans:

It is a set of rules defining a very simple virtual terminal interaction. The NVT is used in the start of a Telnet session.

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Question - 13:

What is gateway-to-gateway protocol in network engineering?

Ans:

It is a protocol formerly used to exchange routing information between Internet core routers.

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Question - 14:

What is the mean of BGP (Border Gateway Protocol)?

Ans:

It is a protocol used to advertise the set of networks that can be reached with in an autonomous system. BGP enables this information to be shared with the autonomous system. This is newer than EGP (Exterior Gateway Protocol).

[View All Answers](#)

Question - 15:

What is autonomous system in network engineering?

Ans:

It is a collection of routers under the control of a single administrative authority and that uses a common Interior Gateway Protocol.

[View All Answers](#)

Question - 16:



What is EGP (Exterior Gateway Protocol) in network engineering?

Ans:

It is the protocol the routers in neighboring autonomous systems use to identify the set of networks that can be reached within or via each autonomous system.

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Question - 17:

What is IGP (Interior Gateway Protocol) in network engineering?

Ans:

It is any routing protocol used within an autonomous system.

[View All Answers](#)

Question - 18:

What is mail gateway in network engineering?

Ans:

It is a system that performs a protocol translation between different electronic mail delivery protocols.

[View All Answers](#)

Question - 19:

What is wide-mouth frog in network engineering?

Ans:

Wide-mouth frog is the simplest known key distribution center (KDC) authentication protocol.

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Question - 20:

IDEA in network engineering stands for?

Ans:

IDEA stands for International Data Encryption Algorithm.

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Question - 21:

What is packet filter in network engineering?

Ans:

Packet filter is a standard router equipped with some extra functionality. The extra functionality allows every incoming or outgoing packet to be inspected. Packets meeting some criterion are forwarded normally. Those that fail the test are dropped.

[View All Answers](#)

Question - 22:

What is traffic shaping in network engineering?

Ans:

One of the main causes of congestion is that traffic is often busy. If hosts could be made to transmit at a uniform rate, congestion would be less common. Another open loop method to help manage congestion is forcing the packet to be transmitted at a more predictable rate. This is called traffic shaping.

[View All Answers](#)

Question - 23:

What is region in network engineering?

Ans:

When hierarchical routing is used, the routers are divided into what we will call regions, with each router knowing all the details about how to route packets to destinations within its own region, but knowing nothing about the internal structure of other regions.

[View All Answers](#)

Question - 24:

Tell me about silly window syndrome?

Ans:

It is a problem that can ruin TCP performance. This problem occurs when data are passed to the sending TCP entity in large blocks, but an interactive application on the receiving side reads 1 byte at a time.

[View All Answers](#)

Question - 25:

Can you please explain the difference between Digrams and Trigrams?

Ans:

The most common two letter combinations are called as digrams. e.g. th, in, er, re and an. The most common three letter combinations are called as trigrams. e.g. the,



ing, and, and ion.

[View All Answers](#)

Question - 26:

What is virtual path in network engineering?

Ans:

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.

[View All Answers](#)

Question - 27:

What is logical link control in network engineering?

Ans:

One of two sub-layers of the data link layer of OSI reference model, as defined by the IEEE 802 standard. This sub-layer is responsible for maintaining the link between computers when they are sending data across the physical network connection.

[View All Answers](#)

Question - 28:

What is virtual channel in network engineering?

Ans:

Virtual channel is normally a connection from one source to one destination, although multicast connections are also permitted. The other name for virtual channel is virtual circuit.

[View All Answers](#)

Question - 29:

Why should one care about the OSI Reference Model?

Ans:

Because it provides a framework for discussing network operations and design.

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Question - 30:

Can you please explain the difference between routable and non- routable protocols?

Ans:

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.

[View All Answers](#)

Question - 31:

What is MAU in network engineering?

Ans:

In token Ring , hub is called Multistation Access Unit(MAU).

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Question - 32:

What is 5-4-3 rule in network engineering?

Ans:

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.

[View All Answers](#)

Question - 33:

Can you please explain the difference between baseband and broadband transmission?

Ans:

In a base-band 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.

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Question - 34:

Describe the mesh network?

Ans:

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

[View All Answers](#)



Question - 35:

List the important topologies for networks?

Ans:

- * BUS topology: In this each computer is directly connected to primary network cable in a single line.
- * Advantages: Inexpensive, easy to install, simple to understand, easy to extend.
- * STAR topology: In this all computers are connected using a central hub.
- * Advantages: Can be inexpensive, easy to install and reconfigure and easy to trouble shoot physical problems.
- * RING topology: In this all computers are connected in loop.
- * Advantages: All computers have equal access to network media, installation can be simple, and signal does not degrade as much as in other topologies because each computer regenerates it.

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Question - 36:

Explain the major types of networks?

Ans:

- * Server-based network: provide centralized control of network resources and rely on server computers to provide security and network administration
- * Peer-to-peer network: computers can act as both servers sharing resources and as clients using the resources.

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Question - 37:

Can you please explain the difference between TFTP and FTP application layer protocols?

Ans:

The Trivial File Transfer Protocol (TFTP) allows a local host to obtain files from a remote host but does not provide reliability or security. It uses the fundamental packet delivery services offered by UDP.

The File Transfer Protocol (FTP) is the standard mechanism provided by TCP / IP for copying a file from one host to another. It uses the services offer by TCP and so is reliable and secure. It establishes two connections (virtual circuits) between the hosts, one for data transfer and another for control information.

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Question - 38:

List the range of addresses in the classes of internet addresses?

Ans:

- Class A - 0.0.0.0 - 127.255.255.255
- Class B - 128.0.0.0 - 191.255.255.255
- Class C - 192.0.0.0 - 223.255.255.255
- Class D - 224.0.0.0 - 239.255.255.255
- Class E - 240.0.0.0 - 247.255.255.255

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Question - 39:

Tell me the minimum and maximum length of the header in the TCP segment and IP datagram?

Ans:

The header should have a minimum length of 20 bytes and can have a maximum length of 60 bytes.

[View All Answers](#)

Question - 40:

Can you please explain the difference between ARP and RARP?

Ans:

The address resolution protocol (ARP) is used to associate the 32 bit IP address with the 48 bit physical address, used by a host or a router to find the physical address of another host on its network by sending a ARP query packet that includes the IP address of the receiver.

The reverse address resolution protocol (RARP) allows a host to discover its Internet address when it knows only its physical address.

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Question - 41:

Tell me what are the data units at different layers of the TCP/IP protocol suite?

Ans:

The data unit created at the application layer is called a message, at the transport layer the data unit created is called either a segment or an user data-gram, at the network layer the data unit created is called the data-gram, at the data link layer the data-gram is encapsulated in to a frame and finally transmitted as signals along the transmission media.

[View All Answers](#)

Question - 42:

Explain ICMP (Internet Control Message Protocol)?

Ans:

ICMP is Internet Control Message Protocol, a network layer protocol of the TCP/IP suite used by hosts and gateways to send notification of datagram problems back to the sender. It uses the echo test / reply to test whether a destination is reachable and responding. It also handles both control and error messages.



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Question - 43:

What are Gateways in network engineering?

Ans:

They relay packets among networks that have different protocols (e.g. between a LAN and a WAN). They accept a packet formatted for one protocol and convert it to a packet formatted for another protocol before forwarding it. They operate in all seven layers of the OSI model.

[View All Answers](#)

Question - 44:

What are Routers in network engineering?

Ans:

They relay packets among multiple interconnected networks (i.e. LANs of different type). They operate in the physical, data link and network layers. They contain software that enable them to determine which of the several possible paths is the best for a particular transmission.

[View All Answers](#)

Question - 45:

What are Bridges in network engineering?

Ans:

These operate both in the physical and data link layers of LANs of same type. They divide a larger network in to smaller segments. They contain logic that allow them to keep the traffic for each segment separate and thus are repeaters that relay a frame only the side of the segment containing the intended recipient and control congestion.

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Question - 46:

What is repeater in network engineering?

Ans:

Also called a re-generator, it is an electronic device that operates only at physical layer. It receives the signal in the network before it becomes weak, regenerates the original bit pattern and puts the refreshed copy back in to the link.

[View All Answers](#)

Question - 47:

Do you know what is project 802?

Ans:

It is a project started by IEEE to set standards to enable intercommunication between equipment from a variety of manufacturers. It is a way for specifying functions of the physical layer, the data link layer and to some extent the network layer to allow for inter-connectivity of major LAN protocols.

It consists of the following:

- * 802.1 is an inter-networking standard for compatibility of different LANs and MANs across protocols.
- * 802.2 Logical link control (LLC) is the upper sub-layer of the data link layer which is non-architecture-specific, that is remains the same for all IEEE-defined LANs.
- * Media access control (MAC) is the lower sub-layer of the data link layer that contains some distinct modules each carrying proprietary information specific to the LAN product being used. The modules are Ethernet LAN (802.3), Token ring LAN (802.4), Token bus LAN (802.5).
- * 802.6 is distributed queue dual bus (DQDB) designed to be used in MANs.

[View All Answers](#)

Question - 48:

What is the mean of unguided media in network engineering?

Ans:

This is the wireless media that transport electromagnetic waves without using a physical conductor. Signals are broadcast either through air. This is done through radio communication, satellite communication and cellular telephony.

[View All Answers](#)

Question - 49:

What is the mean of guided media in network engineering?

Ans:

These are those that provide a conduit from one device to another that include twisted-pair, coaxial cable and fiber-optic cable. A signal traveling along any of these media is directed and is contained by the physical limits of the medium. Twisted-pair and coaxial cable use metallic that accept and transport signals in the form of electrical current. Optical fiber is a glass or plastic cable that accepts and transports signals in the form of light.

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Question - 50:

Can you please explain the difference between bit rate and baud rate?

Ans:

Bit rate is the number of bits transmitted during one second whereas baud rate refers to the number of signal units per second that are required to represent those bits.



baud rate = (bit rate / N)

where N is no-of-bits represented by each signal shift.

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Question - 51:

What is MAC (Media Access Control) address?

Ans:

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.

[View All Answers](#)

Question - 52:

What is attenuation in network engineering?

Ans:

The degeneration of a signal over distance on a network cable is called attenuation.

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Question - 53:

What is gateway in network engineering?

Ans:

A gateway operates at the upper levels of the OSI model and translates information between two completely different network architectures or data formats.

[View All Answers](#)

Question - 54:

What is point-to-point protocol in network engineer?

Ans:

A communications protocol used to connect computers to remote networking services including Internet service providers.

[View All Answers](#)

Question - 55:

What is cladding in network engineering?

Ans:

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

[View All Answers](#)

Question - 56:

What is Brouter in network engineering?

Ans:

Hybrid devices that combine the features of both bridges and routers.

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Question - 57:

What is passive topology in network engineering?

Ans:

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. Example for passive topology -linear bus.

[View All Answers](#)

Question - 58:

What is the mean of RAID in Network Engineering?

Ans:

A method for providing fault tolerance by using multiple hard disk drives.

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Question - 59:

What is NETBEUI in network engineering?

Ans:

NETBEUI is NetBIOS extended user interface. A transport protocol designed by microsoft and IBM for the use on small subnets.

[View All Answers](#)

Question - 60:



What is NETBIOS in network engineering?

Ans:

NETBIOS is a programming interface that allows I/O requests to be sent to and received from a remote computer and it hides the networking hardware from applications.

[View All Answers](#)

Question - 61:

What is redirector in network engineering?

Ans:

Redirector is software that intercepts file or prints I/O requests and translates them into network requests. This comes under presentation layer.

[View All Answers](#)

Question - 62:

What is beaconing in network engineering?

Ans:

The process that allows a network to self-repair network problems. The stations on the network notify the other stations on the ring when they are not receiving the transmissions. Beaconing is used in Token ring and FDDI networks.

[View All Answers](#)

Question - 63:

What is the mean of "triple X" in Networks?

Ans:

The function of PAD (Packet Assembler Dis-assembler) is described in a document known as X.3. The standard protocol has been defined between the terminal and the PAD, called X.28; another standard protocol exists between the PAD and the network, called X.29. Together, these three recommendations are often called "triple X".

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Question - 64:

What is SAP in network engineering?

Ans:

Series of interface points that allow other computers to communicate with the other layers of network protocol stack.

[View All Answers](#)

Question - 65:

Tell me the possible ways of data exchange?

Ans:

- * Simplex
- * Half-duplex
- * Full-duplex.

[View All Answers](#)

Question - 66:

What is subnet in network engineering?

Ans:

A generic term for section of a large networks usually separated by a bridge or router.

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Question - 67:

Can you please explain the difference between communication and transmission?

Ans:

Transmission is a physical movement of information and concern issues like bit polarity, synchronization, clock etc. Communication means the meaning full exchange of information between two communication media.

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Question - 68:

Tell me the two types of transmission technology available?

Ans:

- * Broadcast and
- * point-to-point

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Question - 69:



What is piggy backing in network engineering?

Ans:

A technique called piggybacking is used to improve the efficiency of the bidirectional protocols. When a frame is carrying data from A to B, it can also carry control information about arrived (or lost) frames from B; when a frame is carrying data from B to A, it can also carry control information about the arrived (or lost) frames from A.

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Question - 70:

What is pipelining in network engineering?

Ans:

In networking and in other areas, a task is often begun before the previous task has ended. This is known as pipe-lining.

[View All Answers](#)

Question - 71:

Explain sliding window?

Ans:

The sliding window is an abstract concept that defines the range of sequence numbers that is the concern of the sender and receiver. In other words, he sender and receiver need to deal with only part of the possible sequence numbers.

[View All Answers](#)

Question - 72:

Explain the usage of sequence number in reliable transmission?

Ans:

The protocol specifies that frames need to be numbered. This is done by using sequence numbers. A field is added to the data frame to hold the sequence number of that frame. Since we want to minimize the frame size, the smallest range that provides unambiguous communication. The sequence numbers can wrap around.

[View All Answers](#)

Question - 73:

Explain stop-and-wait automatic repeat request?

Ans:

Error correction in Stop-and-Wait ARQ is done by keeping a copy of the sent frame and re-transmitting of the frame when the timer expires.

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Question - 74:

Explain stop-and-wait protocol?

Ans:

In Stop and wait protocol, sender sends one frame, waits until it receives confirmation from the receiver (okay to go ahead), and then sends the next frame.

[View All Answers](#)

Question - 75:

Describe automatic repeat request (ARQ)?

Ans:

Error control is both error detection and error correction. It allows the receiver to inform the sender of any frames lost or damaged in transmission and coordinates the re-transmission of those frames by the sender. In the data link layer, the term error control refers primarily to methods of error detection and re-transmission. Error control in the data link layer is often implemented simply: Any time an error is detected in an exchange, specified frames are re-transmitted. This process is called automatic repeat request (ARQ).

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Question - 76:

Describe error control?

Ans:

Error control is both error detection and error correction. It allows the receiver to inform the sender of any frames lost or damaged in transmission and coordinates the re-transmission of those frames by the sender. In the data link layer, the term error control refers primarily to methods of error detection and re-transmission.

[View All Answers](#)

Question - 77:

Describe flow control?

Ans:

Flow control refers to a set of procedures used to restrict the amount of data that the sender can send before waiting for acknowledgment.

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Question - 78:



Describe bit stuffing?

Ans:

Bit stuffing is the process of adding one extra 0 whenever five consecutive 1s follow a 0 in the data, so that the receiver does not mistake the pattern 011110 for a flag.

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Question - 79:

What is character stuffing?

Ans:

In byte stuffing (or character stuffing), a special byte is added to the data section of the frame when there is a character with the same pattern as the flag. The data section is stuffed with an extra byte. This byte is usually called the escape character (ESC), which has a predefined bit pattern. Whenever the receiver encounters the ESC character, it removes it from the data section and treats the next character as data, not a delimiting flag.

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Question - 80:

Describe fixed size framing?

Ans:

In fixed-size framing, there is no need for defining the boundaries of the frames. The size itself can be used as a delimiter.

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Question - 81:

Explain framing?

Ans:

Framing in the data link layer separates a message from one source to a destination, or from other messages to other destinations, by adding a sender address and a destination address. The destination address defines where the packet has to go and the sender address helps the recipient acknowledge the receipt.

[View All Answers](#)

Question - 82:

What is Decoder?

Ans:

Decoder is A device or program that translates encoded data into its original format (e.g. it decodes the data). The term is often used in reference to MPEG-2 video and sound data, which must be decoded before it is output.

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Question - 83:

What is Encoder?

Ans:

A device or program that uses predefined algorithms to encode, or compress audio or video data for storage or transmission use. A circuit that is used to convert between digital video and analog video.

[View All Answers](#)

Question - 84:

Explain cyclic codes?

Ans:

Cyclic codes are special linear block codes with one extra property. In a cyclic code, if a code-word is cyclically shifted (rotated), the result is another code-word.

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Question - 85:

Explain linear block code?

Ans:

A linear block code is a code in which the exclusive OR (addition modulo-2) of two valid code-words creates another valid code-word.

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Question - 86:

Explain code words?

Ans:

"r" redundant bits are added to each block to make the length $n = k + r$. The resulting n-bit blocks are called code-words. $2^n - 2^k$ code-words that are not used. These code-words are invalid or illegal.

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Question - 87:

Explain data words?

**Ans:**

In block coding, we divide our message into blocks, each of k bits, called data-words. The block coding process is one-to-one. The same data-word is always encoded as the same code-word.

[View All Answers](#)

Question - 88:

What is retransmission?

Ans:

A technique in which the receiver detects the occurrence of an error and asks the sender to resend the message. Re-sending is repeated until a message arrives that the receiver believes is error-free.

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Question - 89:

Explain forward error correction?

Ans:

Forward error correction is the process in which the receiver tries to guess the message by using redundant bits.

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Question - 90:

Can you please explain the difference between error detection and error correction?

Ans:

The correction of errors is more difficult than the detection. In error detection, checks only any error has occurred. In error correction, the exact number of bits that are corrupted and location in the message are known. The number of the errors and the size of the message are important factors.

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Question - 91:

Explain data link protocols?

Ans:

Data link protocols are sets of specifications used to implement the data link layer. The categories of Data Link protocols are:

1. Asynchronous Protocols
 2. Synchronous Protocols
- * Character Oriented Protocols
 - * Bit Oriented protocols

[View All Answers](#)

Question - 92:

What steps involved in creating the checksum?

Ans:

- * Divide the data into sections
- * Add the sections together using 1's complement arithmetic
- * Take the complement of the final sum, this is the checksum.

[View All Answers](#)

Question - 93:

What are error detection methods?

Ans:

The common Error Detection methods are:

- * Vertical Redundancy Check (VRC)
- * Longitudinal Redundancy Check (VRC)
- * Cyclic Redundancy Check (VRC)
- * Checksum

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Question - 94:

Explain error detection?

Ans:

Data can be corrupted during transmission. For reliable communication errors must be deducted and Corrected. Error Detection uses the concept of redundancy, which means adding extra bits for detecting errors at the destination.

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Question - 95:

Explain redundancy?

Ans:

The concept of including extra information in the transmission solely for the purpose of comparison. This technique is called redundancy.



[View All Answers](#)

Question - 96:

What is VRC?

Ans:

VRC is the most common and least expensive mechanism for Error Detection. In VRC, a parity bit is added to every data unit so that the total number of 1s becomes even for even parity. It can detect all single-bit errors. It can detect burst errors only if the total number of errors in each data unit is odd.

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Question - 97:

What is LRC?

Ans:

A block of bits is divided into rows and a redundant row of bits is added to the whole block. It can detect burst errors. If two bits in one data unit are damaged and bits in exactly the same positions in another data unit are also damaged, the LRC checker will not detect an error. In LRC a redundant data unit follows n data units.

[View All Answers](#)

Question - 98:

What is CRC?

Ans:

The most powerful of the redundancy checking techniques, is based on binary division.

[View All Answers](#)

Question - 99:

What is checksum?

Ans:

Used by the higher layer protocols (TCP/IP) for error detection.

[View All Answers](#)

Question - 100:

Explain the types of errors?

Ans:

* Single-Bit error:

In a single-bit error, only one bit in the data unit has changed

* Burst Error:

A Burst error means that two or more bits in the data have changed.

[View All Answers](#)

Question - 101:

Tell me the categories of transmission media?

Ans:

* Guided Media:

1: Twisted - Pair cable

a: Shielded TP

b: Unshielded TP

2: Coaxial Cable

3: Fiber-optic cable

* Unguided Media:

1: Terrestrial microwave

2: Satellite Communication

[View All Answers](#)

Question - 102:

Tell me the different link types used to build a computer network?

Ans:

* Cables

* Leased Lines

* Last-Mile Links

* Wireless Links

[View All Answers](#)

Question - 103:

What are the two classes of hardware building blocks?

Ans:

Nodes and Links.



[View All Answers](#)

Question - 104:

List the the responsibilities of Application Layer?

Ans:

The Application Layer enables the user, whether human or software, to access the network. It provides user interfaces and support for services such as e-mail, shared database management and other types of distributed information services.

- * Network virtual Terminal
- * File transfer, access and Management (FTAM)
- * Mail services
- * Directory Services

[View All Answers](#)

Question - 105:

List the responsibilities of Presentation Layer?

Ans:

The Presentation layer is concerned with the syntax and semantics of the information exchanged between two systems.

- * Translation
- * Encryption
- * Compression

[View All Answers](#)

Question - 106:

List the responsibilities of session layer?

Ans:

The Session layer is the network dialog Controller. It establishes, maintains and synchronizes the interaction between the communicating systems.

- * Dialog control
- * Synchronization

[View All Answers](#)

Question - 107:

List the responsibilities of Transport Layer?

Ans:

The Transport Layer is responsible for source-to-destination delivery of the entire message.

- * Service-point Addressing
- * Segmentation and reassembly
- * Connection Control
- * Flow Control
- * Error Control

[View All Answers](#)

Question - 108:

List the responsibilities of Network Layer?

Ans:

The Network Layer is responsible for the source-to-destination delivery of packet possibly across multiple networks (links).

- * Logical Addressing
- * Routing

[View All Answers](#)

Question - 109:

List the responsibilities of data link layer?

Ans:

The Data Link Layer transforms the physical layer, a raw transmission facility, to a reliable link and is responsible for node-node delivery.

- * Framing
- * Physical Addressing
- * Flow Control
- * Error Control
- * Access Control

[View All Answers](#)

Question - 110:

List the concerns of the physical layer?

Ans:

Physical layer coordinates the functions required to transmit a bit stream over a physical medium.

- * Physical characteristics of interfaces and media
- * Representation of bits



- * Data rate
- * Synchronization of bits
- * Line configuration
- * Physical topology
- * Transmission mode

[View All Answers](#)

Question - 111:

What layer links the network support layers and user support layers?

Ans:

The Transport layer links the network support layers and user support layers.

[View All Answers](#)

Question - 112:

What layers are user support layers?

Ans:

- * Session Layer
- * Presentation Layer and
- * Application Layer

[View All Answers](#)

Question - 113:

What layers are network support layers?

Ans:

- * Physical Layer
- * Data link Layer and
- * Network Layers

[View All Answers](#)

Question - 114:

What are the layers of OSI?

Ans:

- * Physical Layer
- * Data Link Layer
- * Network Layer
- * Transport Layer
- * Session Layer
- * Presentation Layer
- * Application Layer

[View All Answers](#)

Question - 115:

Explain synchronous TDM?

Ans:

In STDM, the multiplexer allocates exactly the same time slot to each device at all times, whether or not a device has anything to transmit.

[View All Answers](#)

Question - 116:

What is TDM?

Ans:

Digital process that can be applied when the data rate capacity of the transmission medium is greater than the data rate required by the sending and receiving devices.

[View All Answers](#)

Question - 117:

What is WDM?

Ans:

WDM is conceptually the same as FDM, except that the multiplexing and de-multiplexing involve light signals transmitted through fiber optics channel.

[View All Answers](#)

Question - 118:

What is FDM?

Ans:

FDM is an analog technique that can be applied when the bandwidth of a link is greater than the combined bandwidths of the signals to be transmitted.



[View All Answers](#)

Question - 119:

List the categories of multiplexing?

Ans:

- * Frequency Division Multiplexing (FDM)
- * Time Division Multiplexing (TDM)

1: Synchronous TDM

2: ASynchronous TDM Or Statistical TDM.

- * Wave Division Multiplexing (WDM)

[View All Answers](#)

Question - 120:

Explain multiplexing?

Ans:

Multiplexing is the set of techniques that allows the simultaneous transmission of multiple signals across a single data link.

[View All Answers](#)

Question - 121:

What is broadcasting in network engineering?

Ans:

If the message is sent to all the m nodes in the network it is called Broadcasting.

[View All Answers](#)

Question - 122:

What is multicasting in network engineering?

Ans:

If the message is sent to some subset of other nodes, it is called Multicasting.

[View All Answers](#)

Question - 123:

What is unicasting in network engineering?

Ans:

If the message is sent from a source to a single destination node, it is called Uni-casting.

[View All Answers](#)

Question - 124:

Explain Round Trip Time?

Ans:

The duration of time it takes to send a message from one end of a network to the other and back, is called RTT.

[View All Answers](#)

Question - 125:

Explain semantic gap?

Ans:

Defining a useful channel involves both understanding the applications requirements and recognizing the limitations of the underlying technology. The gap between what applications expects and what the underlying technology can provide is called semantic gap.

[View All Answers](#)

Question - 126:

List the key elements of protocols?

Ans:

The key elements of protocols are:

- * Syntax:

It refers to the structure or format of the data, that is the order in which they are presented.

- * Semantics:

It refers to the meaning of each section of bits.

- * Timing:

Timing refers to two characteristics: When data should be sent and how fast they can be sent.

[View All Answers](#)

Question - 127:

Tell me the key design issues of a computer Network?

**Ans:**

- * Connectivity
- * Cost-effective Resource Sharing
- * Support for common Services
- * Performance

[View All Answers](#)

Question - 128:

Explain routing?

Ans:

The process of determining systematically how to forward messages toward the destination nodes based on its address is called routing.

[View All Answers](#)

Question - 129:

Can you please explain the difference between Bandwidth and Latency?

Ans:

Network performance is measured in Bandwidth (throughput) and Latency (Delay). Bandwidth of a network is given by the number of bits that can be transmitted over the network in a certain period of time. Latency corresponds to how long it takes a message to travel from one end of a network to the other. It is strictly measured in terms of time.

[View All Answers](#)

Question - 130:

Explain a peer-peer process?

Ans:

The processes on each machine that communicate at a given layer are called peer-peer process.

[View All Answers](#)

Question - 131:

What do you know when a switch is said to be congested?

Ans:

It is possible that a switch receives packets faster than the shared link can accommodate and stores in its memory, for an extended period of time, then the switch will eventually run out of buffer space, and some packets will have to be dropped and in this state is said to be congested state.

[View All Answers](#)

Question - 132:

What factors which affect the security of the network?

Ans:

- * Unauthorized Access
- * Viruses

[View All Answers](#)

Question - 133:

What factors that affect the reliability of the network?

Ans:

- * Frequency of failure
- * Recovery time of a network after a failure

[View All Answers](#)

Question - 134:

What are the factors that affect the performance of the network?

Ans:

- * Number of Users
- * Type of transmission medium
- * Hardware
- * Software

[View All Answers](#)

Question - 135:

Tell me the criteria necessary for an effective and efficient network?

Ans:

- * Performance:

It can be measured in many ways, including transmit time and response time.

- * Reliability:

It is measured by frequency of failure, the time it takes a link to recover from a failure, and the network's robustness.



* Security:

Security issues includes protecting data from unauthorized access and viruses.

[View All Answers](#)

Question - 136:

Describe the advantages of distributed processing?

Ans:

- * Security/Encapsulation
- * Distributed database
- * Faster Problem solving
- * Security through redundancy
- * Collaborative Processing

[View All Answers](#)

Question - 137:

Tell us multiple access?

Ans:

If the physical links are shared by more than two nodes, it is said to be Multiple Access.

[View All Answers](#)

Question - 138:

Explain point-point link?

Ans:

If the physical links are limited to a pair of nodes it is said to be point-point link.

[View All Answers](#)

Question - 139:

Explain a gateway or Router?

Ans:

A node that is connected to two or more networks is commonly called as router or Gateway. It generally forwards message from one network to another.

[View All Answers](#)

Question - 140:

What is node?

Ans:

A network can consist of two or more computers directly connected by some physical medium such as coaxial cable or optical fiber. Such a physical medium is called as Links and the computer it connects is called as Nodes.

[View All Answers](#)

Question - 141:

Explain Link?

Ans:

At the lowest level, a network can consist of two or more computers directly connected by some physical medium such as coaxial cable or optical fiber. Such a physical medium is called as Link.

[View All Answers](#)

Question - 142:

What is network?

Ans:

A network is a set of devices connected by physical media links. A network is recursively is a connection of two or more nodes by a physical link or two or more networks connected by one or more nodes.

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