#1

Which of the following IEEE standard defines ethernet frame?

- **A**
  `IEEE 802.2`
- **B**
  `IEEE 802.3`
- **C**
  `IEEE 802.4`
- **D**
  `None of the above`

Correct Answer :B

Explanation

IEEE 802.3 is a set of standards and protocols that define Ethernet-based networks. ... IEEE 802.3 defines the physical layer and the medium access control (MAC) sub-layer of the data link layer for wired Ethernet networks

#2

Which of the following topology requires a central controller or hub?

- **A**
  Mesh
- **B**
  Bus
- **C**
  Star
- **D**
  Ring

Correct Answer :C

Explanation

Star topology and tree topology requires central controller or hub. Mesh, ring, bus topologies doesn't need hubs. In star topology, every node (computer workstation or any other peripheral) is connected to a central node called hub, router or switch

#3 Explained Report Bookmark

---------- **has slowest transmission speed as compared to others.**

- **A**
  Twisted pair cable
- **B**
  Coaxial cable
- **C**
  Fiber optic cable
- **D**
  None of the above

Correct Answer :A

Explanation

The slowest transmission speed are those of Twisted pair wire

The use of two wires twisted together helps to reduce crosstalk and electromagnetic induction. While twisted-pair cable is used by older telephone networks and is the least expensive type of local-area network (LAN) cable, most networks contain some twisted-pair cabling at some point along the network.

Crosstalk between wires is cancelled when an interfering signal is applied equally to both sides of a twisted-pair wire. Twisted-pair wiring can also be wrapped with a shielding conductor sheath, which acts as an electrostatic shield.

Disadvantages Need special adapters which is costly Limited high frequency performance Transmission of high frequency is very poor Susceptible to interference The length of the cable is 100 meters or 328 feet Shielded Twisted Pair Cable Advantages Useful in environments where there is high chance of electronic

#4 Explained Report Bookmark

Each computer on an ethernet LAN id identified by a _____ address.

- **A**
  24 bit
- **B**
  32 bit
- **C**
  48 bit
- **D**
  none of the above

Correct Answer :C

Explanation

Ethernet is the technology that is commonly used in wired local area networks (LANs).

A Local Area Network (LAN) is a group of computer and peripheral devices which are connected in a limited area such as school, laboratory, home, and office building. It is a widely useful network for sharing resources like

files, printers, games, and other application. The simplest type of LAN network is to connect computers and a printer in someone's home or office. In general, LAN will be used as one type of transmission medium.

#5

For which of the following address, network interface cards need to be specially programmed.

- **A**
  Unicast
- **B**
  Multicast
- **C**
  Broadcast
- **D**
  all of the above

Correct Answer :D

Explanation

network interface card allows you to connect to a computer network. computer network is a collection of two or more computers with communication between them through a medium. The communication medium can be through radio waves, wires, infrared, optical fibers, etc

network cards can have multiple identifying addresses and can connect to several different networks at the same time ,they can be designed to communicate with only specific networks. every device on a network frequently broadcasts its address automatically, so transmitting data is easy

#6

Which of the following topology requires repeaters to be placed to connect nodes?

- **A**
  Star
- **B**
  Mesh
- **C**
  Bus
- **D**
  Ring

Correct Answer :D

Explanation

A number of repeaters are used for Ring topology with a large number of nodes, because if someone wants to send some data to the last node in the ring topology with 100 nodes, then the data will have to pass through 99 nodes to reach the 100th node. Hence to prevent data loss repeaters are used in the network

#7

Which fields are contained within an IEEE Ethernet frame header?

1. Source and destination MAC address
2. Source and destination network address
3. Source and destination MAC address and source and destination network address
4. FCS field
- **A**
  1 and 4

- **B**
  2 only
- **C**
  2 and 3 only
- **D**
  3 only

Correct Answer :A

Explanation

An Ethernet frame has source and destination MAC addresses, an Ether-Type field to identify the Network layer protocol, the data, and the FCS field that holds the answer to the CRC.

#8 Explained Report Bookmark

Which layer 1 devices can be used to enlarge the area covered by a single LAN segment?

1. Switch
2. NIC
3. Hub
4. Repeater
5. RJ45 transceiver

- **A**
  1 only
- **B**
  1 and 3
- **C**
  3 and 4
- **D**
  5 only

Correct Answer :C

Explanation

Not that you really want to enlarge a single collision domain, but a hub (multiport repeater) will provide this for you.

#9

Routers operate at layer _____. LAN switches operate at layer _____. Ethernet hubs operate at layer _____. Word processing operates at layer _____.

- **A**
  3, 3, 1, 7
- **B**
  3, 2, 1, none
- **C**
  3, 2, 1, 7
- **D**
  3, 3, 2, none

Correct Answer :B

Explanation

Routers operate at layer 3. LAN switches operate at layer 2. Ethernet hubs operate at layer 1. Word processing applications communicate to the Application layer interface, but do not operate at layer 7, so the answer would be none.

#10

Which of the following describe router functions?

- **A**
  Packet switching & filtering

- **B**

  Internetwork communication
- **C**

  Path selection
- **D**

  All of the above

Correct Answer :D

Explanation

Routers provide packet switching, packet filtering, internetwork communication, and path selection.

#11 `Explained` `Report` `Bookmark`

Why does the data communication industry use the layered OSI reference model?

1. It divides the network communication process into smaller and simpler components, thus aiding component development, design, and troubleshooting.
2. It enables equipment from different vendors to use the same electronic components, thus saving research and development funds.
3. It supports the evolution of multiple competing standards and thus provides business opportunities for equipment manufacturers.
4. It encourages industry standardization by defining what functions occur at each layer of the model.
- **A**

  1 only
- **B**

  1 and 4
- **C**

  2 and 3

- **D**
  3 only

Correct Answer :B

Explanation

The main advantage of a layered model is that it can allow application developers to change aspects of a program in just one layer of the layer model's specifications.

Advantages of using the OSI layered model include, but are not limited to, the following:

It divides the network communication process into smaller and simpler components, thus aiding compo- nent development, design, and troubleshooting;

it allows multiple-vendor development through standardization of network components;

it encourages industry standardization by defining what functions occur at each layer of the model;

it allows various types of network hardware and software to communicate;

and it prevents changes in one layer from affecting other layers, so it does not hamper development.

#12 Explained Report Bookmark

A receiving host has failed to receive all of the segments that it should acknowledge. What can the host do to improve the reliability of this communication session?

null

- **A**
  Send a different source port number.
- **B**
  Restart the virtual circuit.
- **C**
  Decrease the sequence number.
- **D**
  Decrease the window size.

Correct Answer :D

Explanation

A receiving host can control the transmitter by using flow control (TCP uses Windowing by default). By decreasing the window size, the receiving host can slow down the transmitting host so the receiving host does not overflow its buffers.

#13 Explained Report Bookmark

What is the purpose of flow control?

null

- **A**
  To ensure that data is retransmitted if an acknowledgment is not received.
- **B**
  To reassemble segments in the correct order at the destination device.

- **C**
  To provide a means for the receiver to govern the amount of data sent by the sender.
- **D**
  To regulate the size of each segment.

Correct Answer :C

Explanation

Flow control allows the receiving device to control the transmitter so the receiving device's buffer does not overflow.

#14 Explained Report Bookmark

Which three statements are true about the operation of a full-duplex Ethernet network?

1. There are no collisions in full-duplex mode.
2. A dedicated switch port is required for each full-duplex node.
3. Ethernet hub ports are preconfigured for full-duplex mode.
4. In a full-duplex environment, the host network card must check for the availability of the network media before transmitting.
5. The host network card and the switch port must be capable of operating in full-duplex mode.
- **A**
  1, 2, and 5
- **B**
  2 and 4
- **C**
  2, 3 and 4
- **D**
  5 only

Correct Answer :A

Explanation

Full-duplex means you are using both wire pairs simultaneously to send and receive data. You must have a dedicated switch port for each node, which means you will not have collisions. Both the host network card and the switch port must be capable and set to work in full-duplex mode.

#15 Explained Report Bookmark

Which of the following are types of flow control?

1. Buffering
2. Cut-through
3. Windowing
4. Congestion avoidance
- **A**
  1 and 2
- **B**
  1, 3 and 4
- **C**
  2 only
- **D**
  3 only

Correct Answer :B

Explanation

The common types of flow control are buffering, windowing, and congestion avoidance.

#16 Explained Report Bookmark

What are two purposes for segmentation with a bridge?

1. To add more broadcast domains.
2. To create more collision domains.
3. To add more bandwidth for users.
4. To allow more broadcasts for users.

- **A**
  1 only
- **B**
  2 and 3
- **C**
  2 and 4
- **D**
  4 only

Correct Answer :B

Explanation

Bridges break up collision domains, which allow more bandwidth for users.

#17 Explained Report Bookmark

How does a host on an Ethernet LAN know when to transmit after a collision has occurred?

1. In a CSMA/CD collision domain, multiple stations can successfully transmit data simultaneously.
2. In a CSMA/CD collision domain, stations must wait until the media is not in use before transmitting.
3. You can improve the CSMA/CD network by adding more hubs.
4. After a collision, the station that detected the collision has first priority to resend the lost data.

5. After a collision, all stations run a random backoff algorithm. When the backoff delay period has expired, all stations have equal priority to transmit data.

- **A**
  1 and 3
- **B**
  2 and 4
- **C**
  1,3 and 4
- **D**
  2 and 5

Correct Answer :D

Explanation

Once transmitting stations on an Ethernet segment hear a collision, they send an extended jam signal to ensure that all stations recognize the collision. After the jamming is complete, each sender waits a predetermined amount of time, plus a random time. After both timers expire, they are free to transmit, but they must make sure the media is clear before transmitting and that they all have equal priority.

#18 Explained Report Bookmark

Which of the following types of connections can use full duplex?

1. Hub to hub
2. Switch to switch
3. Host to host
4. Switch to hub
5. Switch to host

- **A**
  1, 2 and 4

- **B**
  3 and 4
- **C**
  3 and 5
- **D**
  2, 3 and 5

Correct Answer :D

Explanation

Hubs cannot run full-duplex Ethernet. Full duplex must be used on a point-to-point connection between two devices capable of running full duplex. Switches and hosts can run full duplex between each other, but a hub can never run full duplex

#19 Explained Report Bookmark

Acknowledgments, sequencing, and flow control are characteristics of which OSI layer?

- **A**
  Layer 2
- **B**
  Layer 3
- **C**
  Layer 4
- **D**
  Layer 7

Correct Answer :C

Explanation

A reliable Transport layer connection uses acknowledgments to make sure all data is transmitted and received reliably. A reliable connection is defined by a virtual circuit that uses acknowledgments, sequencing, and flow control, which are characteristics of the Transport layer (layer 4).

#20

Which fields are contained within an IEEE Ethernet frame header?

1. ource and destination MAC address
2. Source and destination network address
3. Source and destination MAC address and source and destination network address
4. FCS field

- **A**
  1 and 4
- **B**
  2 only
- **C**
  2 and 3 only
- **D**
  3 only

Correct Answer :A

Explanation

An Ethernet frame has source and destination MAC addresses, an Ether-Type field to identify the Network layer protocol, the data, and the FCS field that holds the answer to the CR

#21

What type of RJ45 UTP cable do you use to connect a PC's COM port to a router or switch console port?

- **A**
  Straight-through
- **B**
  Crossover cable
- **C**
  Crossover with a CSU/DSU
- **D**
  Rolled

Correct Answer :D

Explanation

To connect to a router or switch console port, you would use an RJ45 UTP rolled cable.

#22 Explained Report Bookmark

How to implement a network medium that is not susceptible to EMI. Which type of cabling should you use?

- **A**
  Thicknet coax
- **B**
  Thinnet coax
- **C**
  Category 5 UTP cable
- **D**
  Fiber-optic cable

Correct Answer :D

Explanation

Fiber-optic cable provides a more secure, long-distance cable that is not susceptible to EMI interference at high speeds

#23

Segmentation of a data stream happens at which layer of the OSI model?

- **A**
  Physical
- **B**
  Data Link
- **C**
  Network
- **D**
  Transport

Correct Answer :D

Explanation

The Transport layer receives large data streams from the upper layers and breaks these up into smaller pieces called segments.

#24

When data is encapsulated, which is the correct order?

- **A**
  Data, frame, packet, segment, bit
- **B**
  Segment, data, packet, frame, bit
- **C**
  Data, segment, packet, frame, bit

- **D**
  Data, segment, frame, packet, bit

Correct Answer :C

Explanation

he encapsulation method is data, segment, packet, frame, bit.

#25<mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

Which of the following are unique characteristics of half-duplex Ethernet when compared to full-duplex Ethernet?

1. Half-duplex Ethernet operates in a shared collision domain.
2. Half-duplex Ethernet operates in a private collision domain.
3. Half-duplex Ethernet has higher effective throughput.
4. Half-duplex Ethernet has lower effective throughput.

- **A**
  2 only
- **B**
  1,2 and 3
- **C**
  1 and 4
- **D**
  4 only

Correct Answer :C

Explanation

Unlike full duplex, half-duplex Ethernet operates in a shared collision domain, and it has a lower effective throughput than full duplex

#26

What type of RJ45 UTP cable is used between switches?

- **A**
  Straight-through
- **B**
  Crossover cable
- **C**
  Crossover with a CSU/DSU
- **D**
  Crossover with a router in between the two switches

Correct Answer :B

Explanation

To connect two switches together, you would use a RJ45 UTP crossover cable.

#27

NIC stands for

- **A**
  Network Interface Card
- **B**
  National Internet Code
- **C**
  Network Isolated Card
- **D**
  Network International Code

Correct Answer :A

Explanation

Stands for "Network Interface Card" and is pronounced "nick." A NIC is a component that provides networking capabilities for a computer. It may enable a wired connection (such as Ethernet) or a wireless connection (such as Wi-Fi) to a local area network

#28 Explained Report Bookmark

Fast ethernet also called as

- **A**
  standard 802.3z
- **B**
  standard 802.3u
- **C**
  standard 802.3s
- **D**
  standard 802.3y

Correct Answer :B

Explanation

Fast Ethernet is one of the versions of the Ethernet standard that enables the transmission of data over 100 megabits per second on local area networks (LAN). ... Fast Ethernet is also known as 100 Base X or 100 Mbps Ethernet, and is defined by the IEEE 802.3u protocol.

#29 Explained Report Bookmark

In a network with 25 computers, which topology would require the most expensive cabling

- **A**
  Bus
- **B**
  Star
- **C**
  Mesh
- **D**
  Ring

Correct Answer :C

Explanation

In mesh topology where each of the computer and network devices are interconnected with one another and allow the most transmission to be distributed, even if one of the connections fail. This topology is not used for most networks because it is expensive and difficult. and this is used for wireless networks . overall cost of this network is too high as compared to other network

#30 Explained Report Bookmark

Which of the following item is not used in Local Area Networks(LAN)?

- **A**
  Computer
- **B**
  Modem
- **C**
  Printer
- **D**
  Cable

Correct Answer :B

Explanation

Routers also create and maintain local area networks, allowing multiple devices to communicate and share data with each other. ... Modems, on the other hand, cannot create LANs, nor can they directly communicate with multiple device

#31 Explained Report Bookmark

Which technique is used in CSMA/CD networks in order to avoid repeated collisions?

- **A**
  collision avoidance
- **B**
  crash prevent
- **C**
  exponential collisions
- **D**
  exponential back-off

Correct Answer :D

Explanation

Back-off algorithm is a collision resolution mechanism which is commonly used to schedule retransmissions after collisions in Ethernet.

#32 Explained Report Bookmark

How long is an IPv4 address?

- **A**
  ```
  32 bits.
  ```
- **B**
  ```
  128 bytes.
  ```
- **C**
  ```
  32 bytes.
  ```
- **D**
  ```
  48 bits
  ```

Correct Answer :A

Explanation

Addresses in IPv4 are 32-bits long. This allows for a maximum of 4,294,967,296 (2^{32}) unique addresses. Addresses in IPv6 are 128-bits, which allows for 3.4 x 10^{38} (2^{128}) unique addresses

#33 Explained Report Bookmark

What is the Subnet Mask for class C 95 hosts (further ip addresses are reserved for creating subnet)?

- **A**
  ```
  255.255.255.0
  ```
- **B**
  ```
   255.255.255.224
  ```
- **C**
  ```
  255.255.255.254
  ```
- **D**
  ```
  255.255.255.128
  ```

Correct Answer :D

Explanation

#34 Explained Report Bookmark

Which class of IP address provides a maximum of only 254 address per network ID?

- **A**

   Class A
- **B**

  Class B
- **C**

  Class C
- **D**

  Class D

Correct Answer :C

Explanation

A Class C network address has only 8 bits for defining hosts: $2^8 - 2 = 254$.

#35 Explained Report Bookmark

What is the Sub network Address for a host with the ip address 10.75.100.140 255.255.0.0?

- **A**

  10.74.0.0
- **B**

  10.254.0.0
- **C**

  10.2.0.0
- **D**

  10.75.0.0

Correct Answer :D

Explanation

To test the IP stack on your local host (same machine), which IP address would you ping?

- **A**
  172.0.1.1
- **B**
  127.0.0.0
- **C**
  255.255.255.255
- **D**
  127.0.0.1

Correct Answer :D

Explanation

Which of the following is function of routers ?

- **A**
  Bits
- **B**
  segment
- **C**
  Framing
- **D**
  IP routing

Correct Answer :D

Explanation

Explained Report Bookmark

Which are the multicast addresses?

- **A**
  Class A
- **B**
  Class B
- **C**
  Class C
- **D**
  Class D

Correct Answer :D

Explanation

Explained Report Bookmark

Which class provides the largest number of hosts per network?

- **A**
  Class A
- **B**
  Class B
- **C**
  Class C

- **D**
  Class D

Correct Answer :A

Explanation

#40 Explained Report Bookmark

ARP is used to find

- **A**
   Physical address from Logical address
- **B**
  Logical address from Physical address
- **C**
  Both A and B
- **D**
  None of the above

Correct Answer :C

Explanation

We need both the physical address and the logical address for packet delivery Thus, we need to be able to map a logical address to its corresponding physical address and vice versa

#41 Explained Report Bookmark

Find the wrong IPv4 address from the following

- **A**

  `75.45.0.14`
- **B**

  `111.56.345.78`
- **C**

  `221.34.7.8`
- **D**

  `None of the above`

Correct Answer :B

Explanation

#42 Explained Report Bookmark

What is the class of 152.5.15.111 IP address?

- **A**

  `class B`
- **B**

  `class D`
- **C**

  `class A`
- **D**

  `class E`

Correct Answer :A

Explanation

CLASS	RANGE	NETWORK ADDRESS	HOST ADDRESS

A	0-127	xxx	xxx.xxx.xxx
B	128-191	xxx.xxx	xxx.xxx
C	192-223	xxx.xxx.xxx	xxx

#43 Explained Report Bookmark

Which of the following devices eliminates the broadcast domain from network

- **A**
  Router
- **B**
  Switch
- **C**
  Hub
- **D**
  All of the above

Correct Answer :A

Explanation

A broadcast domain is a collection of devices that receive broadcast traffic from each other. Switches will forward broadcast traffic to all interfaces, except the one where it originated from. ... Routers do not forward broadcast traffic, they break broadcast domains

#44 Explained Report Bookmark

Which layer provides logical addressing those routers will use for path determination?

- **A**
  Session layer
- **B**
  Transport layer
- **C**
  Data link layer
- **D**
  Network layer

Correct Answer :D

Explanation

The Network layer provides logical addressing, typically IP addressing and routing.

#45 Explained Report Bookmark

Which layer is represented by segments?

- **A**
  Session layer.
- **B**
  Transport layer
- **C**
  Data link layer
- **D**
  Network layer

Correct Answer :B

Explanation

PDU of Transport layer is called as a "Segment", PDU of network layer is called as a "Packet" & PDU of data link layer is called as a "Frame". Network communication is actually message oriented

#46 Explained Report Bookmark

What is the application of HTTP?

- **A**
  To transfer html files
- **B**
  To connect to internet
- **C**
  To telnet hosts
- **D**
  To provide security

Correct Answer :A

Explanation

Click here for more detail

#47 Explained Report Bookmark

At which layer routers operate?

- **A**
  Session Layer
- **B**
   Transport Layer
- **C**
  Network Layer

- **D**
  Data Link Layer

Correct Answer :C

Explanation

Routers operate on the third layer of the OSI Model, the Network-Control Layer. Rather than passing packets based on the Media Access Control (MAC) Layer addresses (as bridges do), a router examines the packet's data structure and determines whether or not to forward it.

#48 Explained Report Bookmark

At which layer repeaters operate?

- **A**
  Physical Layer
- **B**
   Transport Layer
- **C**
  Network Layer
- **D**

  Data Link Layer

Correct Answer :A

Explanation

A repeater operates at the physical layer.

Its job is to regenerate the signal over the same network before the signal becomes too weak or corrupted so as to extend the length to which the signal can be transmitted over the same network.

#49 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

At which layer switches operate?

- **A**
  Session Layer
- **B**
  Transport Layer
- **C**
  Network Layer
- **D**
  Data Link Layer

Correct Answer :D

Explanation

A switch works at Layer 2 of the OSI model -- the data-link layer. It is a LAN device that can also be called a multiport bridge. A switch forwards Ethernet frames between Ethernet devices. Switches do not care about IP addresses, nor do they even examine IP addresses as the frames flow through the switch.

#50 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

Segmentation of a data stream happens at which layer of the OSI Model?

- **A**
  Physical Layer
- **B**
  Transport Layer

- **C**
  Network Layer
- **D**
  Data Link Layer

Correct Answer :B

Explanation

In data communications networks, packet segmentation is the process of dividing a data packet into smaller units for transmission over the network. Packet segmentation happens at layer four of the OSI model; the transport layer.

#51 Explained Report Bookmark

What comes at data link layer?

- **A**
  IP header.
- **B**
  TCP header
- **C**
  MAC address.
- **D**
  Port nos.

Correct Answer :C

Explanation

The source and destination MAC addresses are used in the Data-Link frame header for protocols that use MAC addresses. IP (both IPv4 and

IPv6) addresses are Network Layer addresses that are used in the Network Layer packet header. When a layer-3 packet is being sent, it must be encapsulated by a layer-2 frame

#52 Explained Report Bookmark

What is the purpose of the SMTP?

- **A**
  To transfer the network information
- **B**
  To transfer the commands
- **C**
  To transfer the emails
- **D**
  To transfer the files

Correct Answer :C

Explanation

Short for Simple Mail Transfer Protocol, a protocol for sending e-mail messages between servers. Most e-mail systems that send mail over the Internet use SMTP to send messages from one server to another; the messages can then be retrieved with an e-mail client using either POP or IMAP

#53 Explained Report Bookmark

What is the main difference between TCP and UDP?

- **A**
  TCP does not give acknowledgement.
- **B**
  TCP is connection less and UDP is connection oriented

- **C**
  TCP is reliable and UDP is unreliable.
- **D**

  uses authentication.

Correct Answer :C

Explanation

TCP is a connection oriented protocol which assures reliable delivery of data to the destination . It provides acknowledgement of data. It is comparatively slow because of error checking mechanism and if packet loss retransmission is possible

But in UDP , it is a connectionless protocol . It does not assure the reliable delivery of data and does not provide guarantee and if packet loss happen there is no retransmission

#54 Explained Report Bookmark

Which is the protocol that uses port no.80?

- **A**
  DHCP
- **B**
  SMTP
- **C**
  FTP
- **D**
  HTTP

Correct Answer :D

Explanation

Port 80 is one of the most commonly used port numbers in the Transmission Control Protocol (TCP) suite. Any Web/HTTP client, such as a Web browser, uses port 80 to send and receive requested Web pages from a HTTP server

#55 Explained Report Bookmark

Which of the following device takes data from one network device and forwards it to destination based on MAC address?

- **A**
  Switch
- **B**
  Router
- **C**
  Hub
- **D**
  Bridge

Correct Answer :A

Explanation

Switch takes data sent from one network device and forwards it to the destination node based on MAC address. A switch is a multi port bridge with a buffer and a design that can boost its efficiency(large number of ports imply less traffic) and performance. Switch is data link layer device

#56 Explained Report Bookmark

The ------- address must be referred to deliver a message to the correct application program running on a host.

- **A**
  PORT
- **B**
  IP
- **C**
  Physical
- **D**
  Logical

Correct Answer :A

Explanation

To deliver a message to the correct application program running on a host, the port address must be consulted. So what's Port address? It's same as the IP address in a network and It consists of port number. You will also come across another term in it that is TCP and UDP

#57 Explained Report Bookmark

The Standard TCP port assigned for SSH server is --------

- **A**
  21
- **B**
  20
- **C**
  22
- **D**
  23

Correct Answer :C

Explanation

The standard TCP port 22 has been assigned for contacting SSH servers. An SSH client program is typically used for establishing connections to an SSH daemon accepting remote connections.

#58 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

In FTP the port ----------- is used for the control connection.

- **A**
  21
- **B**
  20
- **C**
  22
- **D**
  23

Correct Answer :A

Explanation

The FTP protocol typically uses port 21 as its main means of communication. An FTP server will listen for client connections on port 21. FTP clients will then connect to the FTP server on port 21 and initiate a conversation. This main connection is called the Control Connection or Command Connection.

#59 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

The services of ------------ is used by DNS at well-known port 53.

- **A**
  TCP

- **B**
  UDP
- **C**
  TCP or UDP
- **D**
  None of the above

Correct Answer :C

Explanation

The DNS uses TCP Port 53 for zone transfers, for maintaining coherence between the DNS database and the server. The UDP protocol is used when a client sends a query to the DNS server. The TCP protocol should not be used for queries as it gives a lot of information, which is useful to attackers

#60 Explained Report Bookmark

How many layers does OSI Reference Model has?

- **A**
  4
- **B**
  5
- **C**
  7
- **D**
  6

Correct Answer :C

Explanation

The seven layers in ISO OSI reference model is Application, Presentation, Session, Transport, Network, Data link and Physical layer. OSI stands for Open System Interconnect and it is a generalized model.

#61 Explained Report Bookmark

What is the use of Bridge in Network?

- **A**
  To connect LANs
- **B**
  To separate LANs
- **C**
  To control Network Speed
- **D**
  All of the above

Correct Answer :A

Explanation

Bridges are used to connect LANs. Therefore in determining how to transmit traffic between LANs they use a destination MAC address. Bridges push the function of network layer such as route discovery and forwarding to the data link layer. There is no conventional network layer for bridge

#62 Explained Report Bookmark

Router operates in which layer of OSI Reference Model?

- **A**
  Layer 3 (Network Layer)
- **B**
  Layer 4 (Transport Layer)

- **C**
  Layer 7 (Application Layer)
- **D**
  All of the above

Correct Answer :A

Explanation

Routers operate at the lowest three layers of the OSI network model: the physical layer, data link layer and network layer. Routers are on the third layer, the Network layer. They are used to connect networks together. The Internet consists of many interconnected routers

#63 Explained Report Bookmark

Each IP packet must contain

- **A**
  Only Source address
- **B**
  Only Destination address
- **C**
  Source and Destination address
- **D**
  Source or Destination address

Correct Answer :C

Explanation

Each IP packet must contain Source and Destination address.

#64 Explained Report Bookmark

Bridge works in which layer of the OSI model?

- **A**
  Appliation layer
- **B**
  Transport layer
- **C**
  Network layer
- **D**
  Datalink layer

Correct Answer :D

Explanation

Bridges operate at the Data-Link Layer of the OSI Model. They can distinguish between local and remote data, so data traveling from one workstation to another in the same segment doesn't have to cross the bridge. Bridges operate on MAC-Layer addresses.

#65 Explained Report Bookmark

_____ provides a connection-oriented reliable service for sending messages

- **A**
  TCP
- **B**
  IP
- **C**
  UDP
- **D**
  All of the above

Correct Answer :A

Explanation

This name is usually shortened to Transport Layer. The two most important protocols in the Transport Layer are Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). TCP provides reliable data delivery service with end-to-end error detection and correction.

#66

Which layers of the OSI model are host-to-host layers?

- **A**
  Transport, Session, Presentation, Application
- **B**
  Network, Transport, Session, Presentation
- **C**
  Datalink, Network, Transport, Session
- **D**
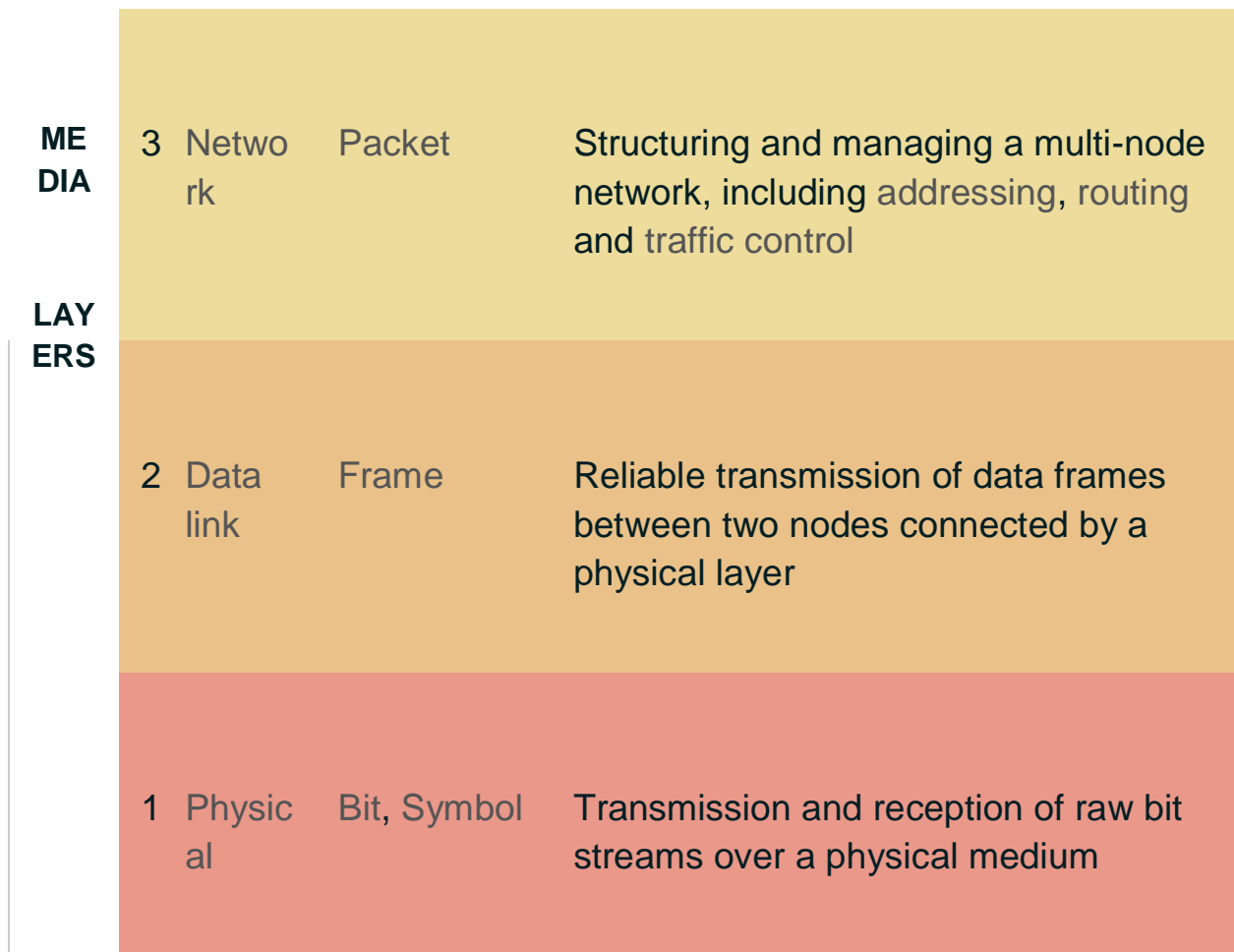 Physical, Datalink, Network, Transport

Correct Answer :A

Explanation

LAYER	PROTOCOL DATA UNIT (PDU)	FUNCTION[19]

HOST	7	Application	Data	High-level APIs, including resource sharing, remote file access
LAYERS	6	Presentation		Translation of data between a networking service and an application; including character encoding, data compression and encryption/decryption
	5	Session		Managing communication sessions, i.e., continuous exchange of information in the form of multiple back-and-forth transmissions between two nodes
	4	Transport	Segment, Datagram	Reliable transmission of data segments between points on a network, including segmentation, acknowledgement and multiplexing

MEDIA LAYERS	3	Network	Packet	Structuring and managing a multi-node network, including addressing, routing and traffic control
	2	Data link	Frame	Reliable transmission of data frames between two nodes connected by a physical layer
	1	Physical	Bit, Symbol	Transmission and reception of raw bit streams over a physical medium

#67 Explained Report Bookmark

Which of the following IP address class is Multicast

- **A**
  Class A
- **B**
  Class B
- **C**
  Class C
- **D**
  Class D

Correct Answer :D

Explanation

In terms of classes, it's the Class D IP addresses that are used as multicast IP addresses. Here is the structure of Class D IP addresses : So, it can be easily said that multicast IPs range from 224.0. 0.0 to 239.255

#68 Explained Report Bookmark

Which of the following is correct regarding Class B Address of IP address

- **A**
  Network bit – 14, Host bit – 16
- **B**
  Network bit – 16, Host bit – 14
- **C**
  Network bit – 18, Host bit – 16
- **D**
  Network bit – 12, Host bit – 14

Correct Answer :A

Explanation

In Class B IP Addresses, First two network bits behave like higher significant bits hence, total usable bits from first two network octats would be(8 *2 = 16) -2 = 14. And from Host bits both the octats are available fully. Hence, 8* 2= 16.

#69 Explained Report Bookmark

The last address of IP address represents

- **A**
  Unicast address
- **B**
  Network address
- **C**
  Broadcast address
- **D**
  None of above

Correct Answer :C

Explanation

An IP address (internet protocol address) is a numerical representation that uniquely identifies a specific interface on the network.. The IP address will be a number, like 172.16.254.1.

Part of ip address

129. 144. 50.56

Network part   host part

Network part- This part specifies the unique number assigned to your network. It also identifies the class of network assigned.

Host Part- This is the part of the IP address that you assign to each host. It uniquely identifies this machine on your network.

#70 Explained Report Bookmark

How many bits are there in the Ethernet address?

- **A**
  64 bits
- **B**
  48 bits
- **C**
  32 bits
- **D**
  16 bits

Correct Answer :B

Explanation

The Ethernet address is 48 bits long and normally displayed as 12 hexadecimal digits.

#71 Explained Report Bookmark

How many layers are in the TCP/IP model?

- **A**
  4 layers
- **B**
  5 layers
- **C**
  6 layers
- **D**
  7 layers

Correct Answer :A

Explanation

To be clear, the OSI Model's top three layers - that is: Application, Presentation, and Session - are essentially collapsed into the Application layer in TCP/IP. Additionally, the bottom two layers - Physical and Data Link - are combined into the Network Access layer for TCP/IP.

Therefore, there are 4 layers in the TCP/IP Model. Specifically, they are the Network Access Layer, Internet Layer, Transport Layer, and Application Layer.

#72 Explained Report Bookmark

Which of the following layer of OSI model also called end-to-end layer?

- **A**
  Presentation layer
- **B**
  Network layer
- **C**
  Session layer
- **D**
  Transport layer

Correct Answer :D

Explanation

In OSI model transport layer is responsible for end to end communication

#73 Explained Report Bookmark

Why IP Protocol is considered as unreliable?

- **A**
  A packet may be lost

- B
  Packets may arrive out of order
- C
  Duplicate packets may be generated
- D
  All of the above

Correct Answer :D

Explanation

IP is a unreliable protocol because it does not guarantee the delivery of a datagram to its destination. The reliability must be provided by the upper layer protocols like TCP. IP does not support flow control, retransmission, acknowledgement and error recovery

#74 Explained Report Bookmark

What is the minimum header size of an IP packet?

- A
  16 bytes
- B
  10 bytes
- C
  20 bytes
- D
  32 bytes

Correct Answer :C

Explanation

The IP header size is 20 to 60 bytes long.

So the longest Internet Header (IP header) size can be 15*32 Bits = 480 Bits = 60 Bytes. This is why the header has a maximum size of 60 Bytes. The shortest header size is 20 bytes, where the IHL field has the value 5 (0101).

This 16-bit field defines the entire packet size in bytes, including header and data. The minimum size is 20 bytes (header without data) and the maximum is 65,535 bytes. All hosts are required to be able to reassemble datagrams of size up to 576 bytes, but most modern hosts handle much larger packets.

The format of data that can be recognized by IP is called an IP datagram. It consists of two components, namely, the header and data, which need to be transmitted. The fields in the datagram, except the data, have specific roles to perform in the transmission of data.

The Total Length field is the total length of the IPv4 datagram in bytes. Using this field and the IHL field can indicate where the data portion of the datagram starts, and its length. Because this is a 16-bit field, the maximum size of an IPv4 datagram (including header) is 65,535 bytes.

#75 Explained Report Bookmark

Which of the following provides reliable communication?

- **A**
  TCP
- **B**
  UDP
- **C**
  IP
- **D**
  All of the above

Correct Answer :A

Explanation

TCP is a connection oriented protocol which assures reliable delivery of data to the destination . It provides acknowledgement of data. It is comparatively slow because of error checking mechanism and if packet loss retransmission is possible

#76

What is the address size of IPv6 ?

- **A**
  32 bit

- **B**
   64 bit

- **C**
   128 bit

- **D**
   256 bit

Correct Answer :C

Explanation

The size of an IPv6 address is 128 bits, compared to 32 bits in IPv4.

#77

What is the size of Network bits & Host bits of Class A of IP address

- **A**
  Network bits 7, Host bits 24

- **B**
  Network bits 8, Host bits 24

- **C**
  Network bits 7, Host bits 23

- **D**
  Network bits 8, Host bits 23

Correct Answer :A

Explanation

Class A IP addresses are used for huge networks, like those deployed by Internet Service Providers (ISPs). Class A IP addresses support up to 16 million hosts (hosts are devices that connect to a network and a Class A network can be divided into 128 different networks.

Its highest bit is set to 0, and contains a 7-bit network number and a 24-bit host number.

#78 Explained Report Bookmark

What does Router do in a network?

- **A**
  Forwards a packet to all outgoing links

- **B**
  Forwards a packet to the next free outgoing link

- **C**

  Determines on which outing link a packet is to be forwarded

- **D**

  Forwards a packet to all outgoing links except the originated link

Correct Answer :C

Explanation

A router is a networking device that forwards data packets between computer networks. Routers perform the traffic directing functions on the Internet

The main purpose of a router is to connect multiple networks and forward packets destined either for its own networks or other networks. A router is considered a layer-3 device because its primary forwarding decision is based on the information in the layer-3 IP packet, specifically the destination IP address.

#79 Explained Report Bookmark

What is the uses of subnetting?

- **A**

  It divides one large network into several smaller ones

- **B**

  It divides network into network classes

- **C**

  It speeds up the speed of network

- **D**

  None of above

Correct Answer :A

Explanation

subnet is a logical subdivision of an IP network. The practice of dividing a network into two or more networks is called subnetting. Subnetting identifies a network with a range of Internet Protocol addresses in the Internet

#80 Explained Report Bookmark

Repeater operates in which layer of the OSI model?

- **A**
  Physical layer

- **B**
  Data link layer

- **C**
  Network layer

- **D**
  Transport layer

Correct Answer :A

Explanation

Repeaters are network devices operating at physical layer of the OSI model that amplify or regenerate an incoming signal before retransmitting it.

#81

In OSI network architecture, the dialogue control and token management are responsibility of

- **A**
  session layer
- **B**
  network layer
- **C**
  transport layer
- **D**
  data link layer

Correct Answer :A

Explanation

In the seven-layer OSI model of computer networking, the session layer is layer 5. The session layer provides the mechanism for opening, closing and managing a session between end-user application processes, i.e., a semi-permanent dialogue. ... A session service closely related to this is token management.

#82

In OSI network architecture, the routing is performed by

- **A**
  network layer
- **B**
  data link layer

- **C**
  transport layer
- **D**
  session layer

Correct Answer :A

Explanation

In OSI network architecture, the routing is performed by network layer which is layer number 3 with the help of intermediate routers.

#83 Explained Report Bookmark

Which of the following performs modulation and demodulation?

- **A**
  fiber optics
- **B**
  satellite
- **C**
  coaxial cable
- **D**
  modem

Correct Answer :D

Explanation

A modulator is a device that performs modulation. A demodulator (sometimes detector or demod) is a device that performs demodulation, the inverse of modulation. A modem (from modulator–demodulator) can perform both operations

#84 **Explained** **Report** **Bookmark**

The process of converting analog signals into digital signals so they can be processed by a receiving computer is referred to as

- **A**
  modulation
- **B**
  digitising
- **C**
  synchronizing
- **D**
  demodulation

Correct Answer :D

Explanation

Demodulation is changing the analog data which is received over the telephone lines to digital data to be used by the computer.

#85 **Explained** **Report** **Bookmark**

How many OSI layers are covered in the X.25

- **A**
  Two
- **B**
  Three
- **C**
  Seven
- **D**
  Six

Correct Answer :B

Explanation

The protocol suite is designed as three conceptual layers, which correspond closely to the lower three layers of the seven-layer OSI model.

#86 Explained Report Bookmark

Layer one of the OSI model is

- **A**
  physical layer
- **B**
  link layer
- **C**
  transport layer
- **D**
  network layer

Correct Answer :A

Explanation

In the seven-layer OSI model of computer networking, the physical layer or layer 1 is the first and lowest layer. This layer may be implemented by a PHY chip. ... The physical layer provides an electrical, mechanical, and procedural interface to the transmission medium.

#87

The x.25 standard specifies a

- **A**
  technique for start-stop data
- **B**
  technique for dial access
- **C**
  DTE/DCE interface
- **D**
  data bit rate

Correct Answer :C

Explanation

X.25 is an ITU-T standard protocol suite for packet switched wide area network (WAN) communication. A data circuit-terminating equipment (DCE) is a device that sits between the data terminal equipment (DTE) and a data transmission circuit. It is also called data communication(s) equipment and data carrier equipment. Usually, the DTE device is the terminal (or computer), and the DCE is a modem.

#88

Which of the following communication modes support two-way traffic but in only one direction at a time?

- **A**
  simplex
- **B**
  half duplex
- **C**
  three-quarters duplex
- **D**
  all of the above

Correct Answer :B

Explanation

In half duplex transmission of data in just one direction at a time. For example, a walkie-talkie is a half-duplex device because only one party can talk at a time. In half-duplex mode, each character transmitted is immediately displayed on your screen.

#89 Explained Report Bookmark

Which of the following might be used by a company to satisfy its growing communications needs?

- **A**
  front end processor
- **B**
  multiplexer
- **C**
  controller
- **D**
  all of the above

Correct Answer :D

Explanation

A front end processor, or a communications processor, is a small-sized computer which interfaces to the host computer a number of networks.Data is transferred between the host computer and the front end processor using a high-speed parallel interface. The front end processor communicates with peripheral devices using slower serial interfaces, usually also through communication networks

The multiplexer also known as a data selector is a device that selects between several analogs or digital input signals and forwards it to a single output line.

A controller, in a computing context, is a hardware device or a software program that manages or directs the flow of data between two entities

#90 Explained Report Bookmark

What is the number of separate protocol layers at the serial interface gateway specified by the X.25 standard?

- **A**
  4
- **B**
  2
- **C**
  3
- **D**
  6

Correct Answer :C

Explanation

hysical, data link, network are the number of separate protocol layers at the serial interface gateway specified by the X.25 standard

#91

Number of bits per symbol used in Baudot code is

- **A**
  7
- **B**
  5
- **C**
  8
- **D**
  9

Correct Answer :B

Explanation

Each character in the alphabet is represented by a series of five bits, sent over a communication channel such as a telegraph wire or a radio signal. The symbol rate measurement is known as baud, and is derived from the same name.

#92

What is the main difference between DDCMP and SDLC?

- **A**
  DDCMP does not need special hardware to final the beginning of a message
- **B**
  DDCMP has a message header
- **C**
  SDLC has a IP address

- **D**
  SDLC does not use CRC

Correct Answer :A

Explanation

DDCMP is a byte-oriented communications protocol devised to allow communication over point-to-point network links.The protocol uses full or half duplex synchronous and asynchronous links and allows errors introduced in transmission to be detected and corrected.and

SDLC stands for synchronous data link control and it is equivalent to layer 2 of the Open Systems Interconnection (OSI) model of network communication. This level of protocol makes sure that data units arrive successfully from one network point to the next and flow at the right pace.

#93 Explained Report Bookmark

The interactive transmission of data within a time-sharing system may be best suited to

- **A**
  simplex lines
- **B**
  half-duplex lines
- **C**
  full duplex lines
- **D**
  biflex-lines

Correct Answer :B

Explanation

Half-duplex data transmission means that data can be transmitted in both directions on a signal carrier, but not at the same time

#94

Which of hte following is considered a broad band communication channel?

- **A**
  fiber optics cable
- **B**
  coaxial cable
- **C**
  microwave circuits
- **D**
  all of above

Correct Answer :D

Explanation

Broadband communications is usually considered to be any technology with transmission rates above the fastest speed available over a telephone line. Broadband transmission systems typically provide channels for data transmissions in different directions and by many different users.

#95

Which of the following is not a transmission medium?

- **A**
  telephone lines
- **B**
  coaxial cables
- **C**
  modem

- **D**
  microwave systems

Correct Answer :C

Explanation

A modem is not a transmission medium out of the given options. There are two forms of media of transmission, that is directed and unguided. Cables such as twisted pair cables, coaxial cables, and fiber optic cables are guided transmission devices.

#96 Explained Report Bookmark

Which of the following does not allow multiple uses or devices to share one communication line?

- **A**
  doubleplexer
- **B**
  multiplexer
- **C**
  concentrator
- **D**
  controller

Correct Answer :A

Explanation

A doubleplexer is a device taking a single input signal and selecting one of many data-output-lines, which is connected to the single input. It is a

device that allows use of the single antenna by both transmitter and receiver.

#97

Which of the following signal is not standard RS-232-C signal?

- **A**
  VDR
- **B**
  RTS
- **C**
  CTS
- **D**
  DSR

Correct Answer :B

Explanation

RTS signals is not standard RS-232-C signal. ... Cable length is one of the most discussed items in RS232 world. The standard has a clear answer, the maximum cable length is 50 feet, or the cable length equal to a capacitance of 2500 pF. The latter rule is often forgotten

#98

Which of the following is an advantage to using fiber optics data transmission?

- **A**
  resistance to data theft
- **B**
  fast data transmission rate
- **C**
  low noise level

- **D**
  all of above

Correct Answer :D

Explanation

Fiber-optic communication is a method of transmitting information from one place to another by sending pulses of infrared light through an optical fiber. Fiber-optic cables transmit data via fast-traveling pulses of light and Fiber optic cables have a much greater bandwidth than metal cables. The amount of information that can be transmitted per unit time of fiber over other transmission media

#99 Explained Report Bookmark

Which of the following is required to communicate between two computers?

- **A**
  communications software
- **B**
  protocol
- **C**
  communication hardware
- **D**
  all of above including access to transmission medium

Correct Answer :D

Explanation

TCP/IP is a set of communications protocols that allow computers to communicate on the Internet. two most important protocols -- the Transmission Control Protocol (TCP) and the Internet Protocol (IP). TCP/IP

specifies how devices connect to the Internet and how data transmits between those devices.

And communication software is used to provide remote access to systems and exchange files and messages in text, audio and/or video formats between different computers or users.

And also a communication device is a hardware device capable of transmitting an analog or digital signal over the telephone, other communication wire

#100 Explained Report Bookmark

The transmission signal coding method of TI carrier is called

- **A**
  Bipolar
- **B**
  NRZ
- **C**
  Manchester
- **D**
  Binary

Correct Answer :A

Explanation

The transmission signal coding method of TI carrier is called Bipolar.

#101 Explained Report Bookmark

Most data communications involving telegraph lines use:

- **A**
  simplex lines
- **B**
  wideband channel
- **C**
  narrowband channel
- **D**
  dialed service

Correct Answer :C

Explanation

Narrowband communications channels have long been used in many applications that have depended upon achieving reliable links in different operating environments, such as in military radios and industrial monitoring purposes. But as more information must be conveyed between two points by wireless means, such as for video streaming and, wideband communications channels and most data communication involving telegraph lines use narrowband channel

#102 Explained Report Bookmark

What is the minimum number of wires needed to send data over a serial communication link layer?

- **A**
  1
- **B**
  2
- **C**
  4
- **D**
  6

Correct Answer :B

Explanation

The minimum number of wires needed to send data over a serial communication link is 2. Serial communication is the process of sending data one bit at a time, sequentially, over a communication channel or computer bus.

#103 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

Which data communication method is used to transmit the data over a serial communication link?

- **A**
  full-duplex
- **B**
  half-duplex
- **C**
  a and b both
- **D**
  simplex

Correct Answer :C

Explanation

Half-duplex and Full-duplex data communication method is used to transmit the data over a serial communication link. Full-duplex method is used to transmit the data over a serial communication link.

#104 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

A communications device that combines transmissions from several I/O devices into one line is a

- **A**
  concentrator
- **B**
  modifier
- **C**
  multiplexer
- **D**
  full-duplex line

Correct Answer :C

Explanation

A communications device that combines transmissions from several I/O devices into one line is a multiplexer. A multiplexer is a device that selects one of several analog or digital input signals and forwards the selected input into a single line.

#105 Explained Report Bookmark

How much power (roughly) a light emitting diode can couple into an optical fiber?

- **A**
  100 microwatts
- **B**
  440 microwatts
- **C**
  100 picowatts
- **D**
  10 miliwatts

Correct Answer :B

Explanation

440 microwatts the power (roughly) a light-emitting diode can couple into an optical fibre. A fiber optic coupler is a device used in optical fiber systems with one or more input fibers and one or several output fibers.

#106

The synchronous modems are more costly than the asynchronous modems because

- **A**
  they produce large volume of data
- **B**
  they contain clock recovery circuits
- **C**
  they transmit the data with stop and start bits
- **D**
  they operate with a larger bandwidth

Correct Answer :B

Explanation

Synchronous modems can handle a continuous stream of data bits but require a clock signal. The data bits are always synchronized to the clock signal. There are separate clocks for the data bits being transmitted and received.

Where the asynchronous Modems that operate in slow and moderate rates, up to 1800 bps are asynchronous. Asynchronous modems operate in FSK (Frequency Shift Keying) modulation.

#107

In a synchronous modem, the digital-to-analog converter transmits signal to the

- **A**
  equilizer
- **B**
  modulator
- **C**
  demodulator
- **D**
  terminal

Correct Answer :A

Explanation

In a synchronous modem, the digital-to-analog converter transmits signal to the equalizer .

#108

Which of the following communications lines is best suited to interactive processing applications?

- **A**
  narrow band channel
- **B**
  simplex lines
- **C**
  full duplex lines
- **D**
  mixed band channels

Correct Answer :C

Explanation

Full-duplex data transmission means that data can be transmitted in both directions on a signal carrier at the same time. For example, on a local area network with a technology that has full-duplex transmission, one workstation can be sending data on the line while another workstation is receiving data

#109

A remote batch-processing operation in which data is solely input to a central computer would require

- **A**
  telegraphp line
- **B**
  simplex lines
- **C**
  mixed bad channel
- **D**
  all of above

Correct Answer :B

Explanation

Simplex communication means that communication can only flow in one direction and never flow back the other way. For example, a radio station usually sends signals to the audience but never receives signals from them

#110

A band is always equivalent to

- **A**
  a byte
- **B**
  a bit
- **C**
  100 bits
- **D**
  none of above

Correct Answer :D

Explanation

A band is a range of frequencies in the radio electromagnetic spectrum. Different bands are reserved for different applications, such as radio broadcasting or citizen's bands.

In telecommunication, a band - sometimes called a frequency band - is a specific range of frequencies in the radio frequency (RF) spectrum, which is divided among ranges from very low frequencies

For example, a 3 kHz band can carry a telephone conversation

#111 Explained Report Bookmark

The loss in signal power as light travels down the fiber is called

- **A**
  attenuation
- **B**
  progragation
- **C**
  scattering

- **D**
  interruption

Correct Answer :A

Explanation

Attenuation is a general term that refers to any reduction in the strength of a signal. Attenuation occurs with any type of signal, whether digital or analog. Sometimes called loss, attenuation is a natural consequence of signal transmission over long distances.

Attenuation occurs on computer networks because of:

Range – over longer distances both wired and wireless transmissions gradually dissipate in strength

Interference – radio interference or physical obstructions, such as walls, dampen communication signals on wireless networks

Wire size – thinner wires suffer from more attenuation than thicker wires on wired networks

#112 Explained Report Bookmark

Communiction circuits that transmit data in both directions but not at the same time are operating in

- **A**
  a simplex mode
- **B**
  a half duplex mode
- **C**
  a full duplex mode

- **D**
  an asynchronous mode

Correct Answer :B

Explanation

A half-duplex (HDX) system provides communication in both directions, but only one direction at a time (not simultaneously). Typically, once a party begins receiving a signal, it must wait for the transmitter to stop transmitting, before replying.

#113 Explained Report Bookmark

In communication satellite, multiple repeaters are known as

- **A**
  detector
- **B**
  modulator
- **C**
  stations
- **D**
  transponders

Correct Answer :D

Explanation

In communication satellite, multiple repeaters are known as Transponders. A wireless communications device usually attached to a satellite. A transponder receives and transmits radio signals at a prescribed frequency range

#114

An example of an analog communication method is

- **A**
  laser beam
- **B**
  microwave
- **C**
  voice grade telephone line
- **D**
  all of the above

Correct Answer :D

Explanation

Analog Communication is a data transmitting technique that utilizes continuous signals to transmit data including voice, image, video, electrons etc. An analog signal is a variable signal continuous in both time and amplitude which is generally carried by use of modulation.

The best example for analog communication is human voice in air and audio and video transmission.

#115

An example of digital, rather than analog, communication is

- **A**
  DDD
- **B**
  DDS
- **C**
  WATS

- **D**
  DDT

Correct Answer :B

Explanation

An example of digital rather than analog communication is DDS. Direct digital synthesis (DDS) is a powerful technique used in the generation of radio frequency signals for use in a variety of applications from radio receivers to signals generators and many more

#116 Explained Report Bookmark

Terminals are required for

- **A**
  real-time, batch processing & time-sharing
- **B**
  real time, time-sharing & distributed message processing
- **C**
  real time, distributed processing & manager inquiry
- **D**
  real-time, time sharing & message switching

Correct Answer :D

Explanation

Real-time data processing is the execution of data in a short time period, providing near-instantaneous output

#117

The receive equilizer reduces delay distortions using a

- **A**
  tapped delay lines
- **B**
  gearshift
- **C**
  descrambler
- **D**
  difference engine

Correct Answer :A

Explanation

A tapped delay line (TDL) is a delay line with at least one ``tap''. A delay-line tap extracts a signal output from somewhere within the delay line, optionally scales it, and usually sums with other taps for form an output signal

#118

Ina synchronous modem, the receive equilizer is known as

- **A**
  adaptive equilizer
- **B**
  impariment equilizer
- **C**
  statistical equilizer
- **D**
  compromise equilizer

Correct Answer :A

Explanation

An adaptive equalizer is an equalizer that automatically adapts to time-varying properties of the communication channel. It is frequently used with coherent modulations such as phase shift keying, mitigating the effects of multipath propagation

#119

The channel in the data communication model can be

- **A**
  postal mail services
- **B**
  telephone lines
- **C**
  radio lines
- **D**
  None of the above

Correct Answer :D

Explanation

Communicating data from one location to another requires some form of pathway or medium. These pathways, called communication channels, use two types of media: cable (twisted-pair wire, cable, and fiber-optic cable) and broadcast (microwave, satellite, radio, and infrared)

#120

A data terminal serves as an

- **A**
  Effector

- **B**
  sensor
- **C**
  both a and b
- **D**
  neither a nor b

Correct Answer :C

Explanation

A data terminal serves as a (n) Effector and Sensor. ... In the context of telecommunications, a terminal is a device which ends a telecommunications link and is the point at which a signal enters and/or leaves a network.

#121

Which of the following transmission systems provide the highest data rate to in individual device?

null

- **A**
  computer bus
- **B**
  telephone lines
- **C**
  voice and mode
- **D**
  lease lines

Correct Answer :A

No Explanation Available

Which topology covers security, robust and eliminating traffic factor?

- **A**
  Mesh
- **B**
  Ring
- **C**
  Star
- **D**
  Bus

Correct Answer :C

Explanation

The topology that covers security, robust and eliminate traffic factor is star topology.

- Star topology is one of the most common network setups. In this network, each and every other system is connected to a centralized processing unit like a hub or switch.
- The centralized processing unit act as a server to the other systems.
- The star topology network uses coaxial wires such as RJ-45 to connect different systems to the main unit.
- In this type of network, even if one system crashes or malfunctions, other systems works normally. They remain unaffected.

A communication path way that transfers data from one point to another is called

- **A**
  Link
- **B**
  Node
- **C**
  Medium
- **D**
  Topology

Correct Answer :A

Explanation

A network is two or more devices connected through a link. A link is a communication pathway that transfers data from one device to another.

For communication , two devices must be connected in some way to the same link at the same time

#124 Not Explained Report Bookmark

National Internet Service Provider (ISP) networks are connected to one another by private switching stations called

null

- **A**
  Network Access Points
- **B**
  Peering Points
- **C**
  National ISP
- **D**
  Regional ISP

Correct Answer :B

No Explanation Available

#125 Explained Report Bookmark

Frames from one LAN can be transmitted to another LAN via the device

- **A**
  Router
- **B**
  Bridge
- **C**
  Repeater
- **D**
  Modem

Correct Answer :B

Explanation

A bridge is a type of computer network device that provides interconnection with other bridge networks that use the same protocol. The bridge is used at the data link layer in the OSI model. Bridges connect one network to another one. And it is also used to connect multiple LAN networks and separate network segments.

#126 Explained Report Bookmark

What are the most commonly used transmission speeds in BPS used in data communication?

- **A**
  300
- **B**
  1200
- **C**
  2400
- **D**
  9600

Correct Answer :D

Explanation

Transmission speed is the rate at which data are moved across a communications channel and BPS Stands for "Bits Per Second." Bps is a standard way to measure data transfer rates, such as network connection and Internet download speeds and

the most commonly used transmission speed in BPS used in data communication is 9600

#127 Explained Report Bookmark

The IETF standards documents are called _____

null

- **A**
  RFC
- **B**
  RCF
- **C**
  ID
- **D**
  DFC

Correct Answer :A

Explanation

RFC stands for Request For Comments and they are documents that describe methods, behaviors, research, or innovations applicable to the working of the Internet.

#128 Explained Report Bookmark

The structure or format of data is called _____

null

- **A**
  Syntax
- **B**
  Semantics
- **C**
  Struct
- **D**
  Formatting

Correct Answer :A

Explanation

The structure and format of data are defined using syntax. Semantics defines how a particular pattern to be interpreted, and what action is to be taken based on that interpretation. In programming languages, syntax of the instructions plays a vital role in designing of the program.

#129 Explained Report Bookmark

Communication between a computer and a keyboard involves _____ transmission.

- **A**
  Automatic
- **B**
  Half-duplex
- **C**
  Full-duplex
- **D**
  Simplex

Correct Answer :D

Explanation

In Simplex mode, the communication is unidirectional, as on a one-way street. Only one of the two devices on a link can transmit, the other can only receive. The simplex mode can use the entire capacity of the channel to send data in one direction. Example: Keyboard and traditional monitors.

#130 Explained Report Bookmark

The first Network was called _____

null

- **A**
  CNNET
- **B**
  NSFNET
- **C**
  ASAPNET
- **D**
  ARPANET

Correct Answer :D

Explanation

ARPANET stands for Advanced Research Projects Agency Networks. It was the first network to be implemented which used the TCP/IP protocol in the year 1969.

#131 Explained Report Bookmark

A _____ is the physical path over which a message travels.

null

- **A**
  Path
- **B**
  Medium
- **C**
  Protocol
- **D**
  Route

Correct Answer :B

Explanation

Messages travel from sender to receiver via a physical path called the medium using a set of methods/rules called protocol. Mediums can be guided (wired) or unguided (wireless).

#132 Explained Report Bookmark

Which organization has authority over interstate and international commerce in the communications field?

null

- **A**
  ITU-T
- **B**
  IEEE
- **C**
  FCC
- **D**
  ISOC

Correct Answer :C

Explanation

FCC is the abbreviation for Federal Communications Commission. FCC is responsible for regulating all interstate communications originating or terminating in USA. It was founded in the year 1934.

#133 Explained Report Bookmark

Which of this is not a network edge device?

null

- **A**
  PC
- **B**
  Smartphones
- **C**
  Servers
- **D**
  Switch

Correct Answer :D

Explanation

Network edge devices refer to host systems, which can host applications like web browser. A switch can't operate as a host, but as a central device which can be used to manage network communication.

#134 `Explained` `Report` `Bookmark`

A _____ set of rules that governs data communication.

null

- **A**
  Protocols
- **B**
  Standards
- **C**
  RFCs
- **D**
  Servers

Correct Answer :A

Explanation

In communications, a protocol refers to a set of rules and regulations that allow a network of nodes to transmit and receive information. Each layer in the network model has a protocol set, for example, the transport layer has TCP and UDP protocols.

#135 `Explained` `Report` `Bookmark`

Three or more devices share a link in _____ connection.

null

- **A**
  Unipoint
- **B**
  Multipoint
- **C**
  Point to point
- **D**
  Simplex

Correct Answer :B

Explanation

A multipoint communication is established when three or many network nodes are connected to each other. Frame relay, Ethernet and ATM are some examples of multipoint connections.

#136 Explained Report Bookmark

When collection of various computers seems a single coherent system to its client, then it is called _____

null

- **A**
  computer network
- **B**
  distributed system
- **C**
  networking system

- **D**
  mail system

Correct Answer :B

Explanation

A Computer network is defined as a collection of interconnected computers which uses a single technology for connection.

A distributed system is also the same as computer network but the main difference is that the whole collection of computers appears to its users as a single coherent system.

Example:- World wide web

#137 Explained Report Bookmark

Two devices are in network if _____

null

- **A**
  a process in one device is able to exchange information with a process in another device
- **B**
  a process is running on both devices
- **C**
  PIDs of the processes running of different devices are same
- **D**
  a process is active and another is inactive

Correct Answer :A

Explanation

A computer network, or data network, is a digital telecommunications network which allows nodes to share resources. In computer networks, computing devices exchange data with each other using connections between nodes. The nodes have certain processes which enable them to share a specific type of data using a distinct protocol.

#138 Explained Report Bookmark

Bluetooth is an example of _____

null

- **A**
  personal area network
- **B**
  local area network
- **C**
   virtual private network
- **D**
  wide area network

Correct Answer :A

Explanation

 Bluetooth is a wireless technology used to create a wireless personal area network for data transfer up to a distance of 10 meters. It operates on 2.45 GHz frequency band for transmission.

#139 Explained Report Bookmark

A _____ is a device that forwards packets between networks by processing the routing information included in the packet.

- **A**
  bridge
- **B**
  firewall
- **C**
  router
- **D**
  hub

Correct Answer :C

Explanation

A router is a networking device that forwards data packets between computer networks. Routers perform the traffic directing functions on the Internet. They make use of routing protocols like RIP to find the cheapest path to the destination.

#140 Explained Report Bookmark

Network congestion occurs _____

null

- **A**
  In case of traffic overloading
- **B**
  when a system terminates
- **C**
  when connection between two nodes terminates
- **D**
  in case of transfer failure

Correct Answer :A

Explanation

Network congestion occurs when traffic in the network is more than the network could handle. To avoid network congestion, the network management uses various open-loop and closed-loop congestion control techniques.

#141 Explained Report Bookmark

Which of the following networks extends a private network across public networks?

null

- **A**
  local area network
- **B**
  virtual private network
- **C**
  enterprise private network
- **D**
  storage area network

Correct Answer :B

Explanation

A virtual private network extends a private network across a public network, and enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network.VPN provides enhanced security and online anonymity to users on the internet. It is also used to unblock websites which are unavailable in certain regions.

#142

How many layers are present in the Internet protocol stack (TCP/IP model)?

null

- **A**
  5
- **B**
  7
- **C**
  6
- **D**
  10

Correct Answer :A

Explanation

There are five layers in the Internet Protocol stack. The five layers in Internet Protocol stack is Application, Transport, Network, Data link and Physical layer. The internet protocol stack model is also called the TCP/IP model and it's used in modern Internet Communication.

#143

The number of layers in ISO OSI reference model is _____

null

- **A**
  5
- **B**
  7
- **C**
  6

- **D**
  10

Correct Answer :B

Explanation

The seven layers in ISO OSI reference model is Application, Presentation, Session, Transport, Network, Data link and Physical layer. OSI stands for Open System Interconnect and it is a generalized model.

#144 `Explained` `Report` `Bookmark`

Which of the following layers is an addition to OSI model when compared with TCP IP model?

null

- **A**
  Application layer
- **B**
  Presentation layer
- **C**
   Session layer
- **D**
  Session and Presentation layer

Correct Answer :D

Explanation

The only difference between OSI model and TCP/IP model is that the functions of Presentation and Session layer in the OSI model are handled

by the transport layer itself in TCP/IP. OSI is a generalized model and TCP/IP is an application specific model.

#145

Application layer is implemented in _____

null

- **A**
  End system
- **B**
  NIC
- **C**
  Ethernet
- **D**
  Packet transport

Correct Answer :A

Explanation

Not only application layer, but presentation layer, session layer and transport layer are also implemented in the end system. The layers below are implemented outside the end system, for example, the network layer is implemented on the routers and the physical layer is implemented for the medium.

#146

Transport layer is implemented in _____

null

- **A**
  End system
- **B**
  NIC
- **C**
  Ethernet
- **D**
  Signal transmission

Correct Answer :A

Explanation

Application, Presentation, Session and Transport layer are implemented in the end system. The transport layer handles the process to process delivery of the packet through ports.

#147 `Explained` `Report` `Bookmark`

Delimiting and synchronization of data exchange is provided by _____

null

- **A**
  Application layer
- **B**
  Session layer
- **C**
  Transport layer
- **D**
  Link layer

Correct Answer :B

Explanation

The session layer provides the mechanism for opening, closing and managing a session between end-user application processes. The session layer 5 is responsible for establishing managing synchronizing and terminating sessions. In TCP/IP protocol stack, the functions of the session layer are handled by the transport layer itself and thus the session layer is missing from the TCP/IP model.

#148 Explained Report Bookmark

In OSI model, when data is sent from device A to device B, the 5th layer to receive data at B is _____

null

- **A**
  Application layer
- **B**
  Transport layer
- **C**
  Link layer
- **D**
  Session layer

Correct Answer :D

Explanation

In OSI reference model, the fifth layer is Session layer. Session layer provides the mechanism for opening, closing and managing a session between end-user application processes. In TCP/IP protocol stack, the functions of the session layer are handled by the transport layer itself and thus the session layer is missing from the TCP/IP model.

#149 Explained Report Bookmark

In TCP IP Model, when data is sent from device A to device B, the 5th layer to receive data at B is _____

null

- **A**
  Application layer
- **B**
  Transport layer
- **C**
  Link layer
- **D**
  Session layer

Correct Answer :A

Explanation

In TCP/IP model, the fifth layer is application layer. When data is sent from device A to device B, the 5th layer to receive data at B is application layer. Application layer provides the interface between applications and the network. The user interacts with only this layer.

#150 Explained Report Bookmark

In the OSI model, as a data packet moves from the lower to the upper layers, headers are _____

null

- **A**
  Added
- **B**
  Removed
- **C**
  Rearranged

- **D**
  Randomized

Correct Answer :B

Explanation

In OSI reference model, when data packet moves from lower layers to higher layer, headers get removed. Whereas when the data packet moves from higher layer to lower layers, headers are added. These headers contain the essential control information for the protocols used on the specific layer.

#151 Explained Report Bookmark

Which of the following statements can be associated with OSI model?

null

- **A**
  A structured way to discuss and easier update system components
- **B**
  One layer may duplicate lower layer functionality
- **C**
  Functionality at one layer no way requires information from another layer
- **D**
  It is an application specific network model

Correct Answer :C

Explanation

One layer may use the information from another layer, for example timestamp value. The information is contained in the header inserted by the previous layer. The headers are added as the packet moves from higher layers to the lower layers.

#152 **Explained** **Report** **Bookmark**

OSI stands for _____

null

- **A**
  open system interconnection
- **B**
  operating system interface
- **C**
  optical service implementation
- **D**
  open service Internet

Correct Answer :A

Explanation

OSI is the abbreviation for Open System Interconnection. OSI model provides a structured plan on how applications communicate over a network, which also helps us to have a structured plan for troubleshooting. It is recognized by the ISO as the generalized model for computer network i.e. it can be modified to design any kind of computer network.

#153 **Explained** **Report** **Bookmark**

TCP/IP model does not have _____ layer but OSI model have this layer.

null

- **A**
  session layer
- **B**
   transport layer
- **C**
  application layer
- **D**
  network layer

Correct Answer :A

Explanation

In OSI reference model, there are two layers which are not present in TCP/IP model. They are Presentation and Session layer. The functions of Presentation and Session layer in the OSI model are handled by the transport layer itself in TCP/IP.

#154 Explained Report Bookmark

Which layer is used to link the network support layers and user support layers?

null

- **A**
  session layer
- **B**
  data link layer
- **C**
  transport layer
- **D**
  network layer

Correct Answer :C

Explanation

Physical, data link and network layers are network support layers and session, presentation and application layers are user support layers. The transport layer links these layers by segmenting and rearranging the data. It uses protocols like TCP and UDP.

#155 Explained Report Bookmark

Which address is used on the internet for employing the TCP/IP protocols?

null

- **A**
  physical address and logical address
- **B**
  port address
- **C**
  specific address
- **D**
  ll of the mentioned

Correct Answer :D

Explanation

The physical, logical, port and specific addresses are used in TCP/IP protocol. All the addressing schemes, that is physical (MAC) and logical address, port address and specific address are employed in both TCP/IP model and OSI model. In TCP/IP, the addresses are more focused on the internet implementation of these addresses.

#156 Explained Report Bookmark

TCP/IP model was developed _____ the OSI model.

null

- **A**
  prior to
- **B**
  after
- **C**
  simultaneous to
- **D**
  with no link to

Correct Answer :A

Explanation

Several TCP/IP prototypes were developed at multiple research centers between 1978 and 1983, whereas OSI reference model was developed in the year 1984. TCP/IP was developed with the intention to create a model for the Internet while OSI was intended to be a general network model.

#157 Explained Report Bookmark

Which layer is responsible for process to process delivery in a general network model?

null

- **A**
  network layer
- **B**
  transport layer
- **C**
  session layer

- **D**
  data link layer

Correct Answer :B

Explanation

The role of Transport layer (Layer 4) is to establish a logical end to end connection between two systems in a network. The protocols used in Transport layer is TCP and UDP. The transport layer is responsible for segmentation of the data. It uses ports for the implementation of process-to-process delivery.

#158 Explained Report Bookmark

Which address is used to identify a process on a host by the transport layer?

null

- **A**
  physical address
- **B**
  logical address
- **C**
  port address
- **D**
  specific address

Correct Answer :C

Explanation

A port number is a way to identify a specific process to which an Internet or other network message is to be forwarded when it arrives at a server.

Some examples of port numbers are port 20 which is used for FTP data, port 22 which is used for SSH remote login ,and port 23 which is used for TELNET.

#159

Which layer provides the services to user?

- **A**
  application layer
- **B**
  session layer
- **C**
  presentation layer
- **D**
  physical layer

Correct Answer :A

Explanation

In networking, a user mainly interacts with application layer to create and send information to other computer or network. Application layer provides the interface between applications and the network. It is the top-most layer in both the TCP/IP and the OSI model.

#160

Transmission data rate is decided by _____

null

- **A**
  network layer
- **B**
  physical layer
- **C**
  data link layer
- **D**
  transport layer

Correct Answer :B

Explanation

Physical layer is a layer 1 device which deals with network cables or the standards in use like connectors, pins, electric current used etc. Basically the transmission speed is determined by the cables and connectors used. Hence it is physical layer that determines the transmission speed in network. Some of the cables used for high speed data transmission are optical fiber cables and twisted pair cables.

#161 Explained Report Bookmark

The physical layer is concerned with _____

null

- **A**
  bit-by-bit delivery
- **B**
  process to process delivery
- **C**
  application to application delivery
- **D**
  port to port delivery

Correct Answer :A

Explanation

Physical layer deals with bit to bit delivery in networking. The data unit in the physical layer is bits. Process to process delivery or the port to port delivery is dealt in the transport layer. The various transmission mediums aid the physical layer in performing its functions.

#162 **Explained** **Report** **Bookmark**

Which transmission media provides the highest transmission speed in a network?

null

- **A**
  coaxial cable
- **B**
  twisted pair cable
- **C**
  optical fiber
- **D**
  electrical cable

Correct Answer :C

Explanation

Fiber optics is considered to have the highest transmission speed among the all mentioned above. The fiber optics transmission runs at 1000Mb/s. It is called as 1000Base-Lx whereas IEEE standard for it is 802.3z. It is popularly used for modern day network connections due to its high transmission rate.

#163

Bits can be sent over guided and unguided media as analog signal by _____

null

- **A**
  digital modulation
- **B**
  amplitude modulation
- **C**
  frequency modulation
- **D**
  phase modulation

Correct Answer :A

Explanation

In analog modulation, digital low frequency baseband signal (digital bit stream) is transmitted over a higher frequency. Whereas in digital modulation the only difference is that the base band signal is of discrete amplitude level. The bits are represented by only two frequency levels, one for high and one for low.

#164

The physical layer provides _____

null

- **A**
  mechanical specifications of electrical connectors and cables
- **B**
  lectrical specification of transmission line signal level

- **C**
  ecification for IR over optical fiber
- **D**
  all of the mentioned

Correct Answer :D

Explanation

Anything dealing with a network cable or the standards in use – including pins, connectors and the electric current used is dealt in the physical layer (Layer 1). Physical layer deals with bit to bit delivery of the data aided by the various transmission mediums.

#165 Explained Report Bookmark

In asynchronous serial communication the physical layer provides _____

null

- **A**
  start and stop signalling
- **B**
  flow control
- **C**
  both start & stop signalling and flow control
- **D**
  only start signalling

Correct Answer :C

Explanation

In asynchronous serial communication, the communication is not synchronized by clock signal. Instead of a start and stop signaling and flow control method is followed. Unlike asynchronous serial communication, in synchronous serial communication a clock signal is used for communication, so the start and stop method is not really required.

#166

The physical layer is responsible for _____

null

- **A**
  line coding
- **B**
  channel coding
- **C**
  modulation
- **D**
  all of the mentioned

Correct Answer :D

Explanation

The physical layer is responsible for line coding, channel coding and modulation that is needed for the transmission of the information. The physical configuration including pins, connectors and the electric current used is dealt in the physical layer based on the requirement of the network application.

#167

A single channel is shared by multiple signals by _____

- **A**
  analog modulation
- **B**
  digital modulation
- **C**
  multiplexing
- **D**
  phase modulation

Correct Answer :C

Explanation

In communication and computer networks, the main goal is to share a scarce resource. This is done by multiplexing, where multiple analog or digital signals are combined into one signal over a shared medium. The multiple kinds of signals are designated by the transport layer which is the layer present on a higher level than the physical layer.

#168 Explained Report Bookmark

Wireless transmission of signals can be done via _____

null

- **A**
  radio waves
- **B**
  microwaves
- **C**
  infrared
- **D**
  all of the mentioned

Correct Answer :D

Explanation

Wireless transmission is carried out by radio waves, microwaves and IR waves. These waves range from 3 Khz to above 300 Ghz and are more suitable for wireless transmission. Radio waves can penetrate through walls and are used in radio communications, microwaves and infrared (IR) waves cannot penetrate through walls and are used for satellite communications and device communications respectively.

#169 `Explained` `Report` `Bookmark`

The data link layer takes the packets from _____ and encapsulates them into frames for transmission.

null

- **A**
  network layer
- **B**
  physical layer
- **C**
  transport layer
- **D**
  application layer

Correct Answer :A

Explanation

In computer networks, the data from application layer is sent to transport layer and is converted to segments. These segments are then transferred to the network layer and these are called packets. These packets are then

sent to data link layer where they are encapsulated into frames. These frames are then transferred to physical layer where the frames are converted to bits. Error control and flow control data is inserted in the frames at the data link layer.

#170 Explained Report Bookmark

Which of the following tasks is not done by data link layer?

null

- **A**
  framing
- **B**
   error control
- **C**
   flow control
- **D**
  channel coding

Correct Answer :D

Explanation

Channel coding is the function of physical layer. Data link layer mainly deals with framing, error control and flow control. Data link layer is the layer where the packets are encapsulated into frames.

#171 Explained Report Bookmark

Which sublayer of the data link layer performs data link functions that depend upon the type of medium?

null

- **A**

  logical link control sublayer
- **B**

  media access control sublayer
- **C**

   network interface control sublayer
- **D**

  error control sublayer

Correct Answer :B

Explanation

Media access control (MAC) deals with transmission of data packets to and from the network-interface card, and also to and from another remotely shared channel. The MAC sublayer also prevents collision using protocols like CSMA/CD.

#172

CRC stands for _____

null

- **A**

  cyclic redundancy check
- **B**

  code repeat check
- **C**

  code redundancy check
- **D**

  cyclic repeat check

Correct Answer :A

Explanation

Cyclic redundancy check is a code that is added to a data which helps us to identify any error that occurred during the transmission of the data. CRC is only able to detect errors, not correct them. CRC is inserted in the frame trailer.

#173

The network layer is concerned with _____ of data.

null

- **A**
  bits
- **B**
  frames
- **C**
  packets
- **D**
  bytes

Correct Answer :C

Explanation

In computer networks, the data from the application layer is sent to the transport layer and is converted to segments. These segments are then transferred to the network layer and these are called packets. These packets are then sent to data link layer where they are encapsulated into frames. These frames are then transferred to physical layer where the frames are converted to bits.

#174

Which one of the following is not a function of network layer?

- **A**
  Inter-networking
- **B**
  congestion control
- **C**
  error control
- **D**
  routing

Correct Answer :C

Explanation

In the OSI model, network layer is the third layer and it provides data routing paths for network communications. Error control is a function of the data link layer and the transport layer.

#175 Explained Report Bookmark

A 4 byte IP address consists of _____

null

- **A**
  only network address
- **B**
  only host address
- **C**
  network address & host address
- **D**
  network address & MAC address

Correct Answer :C

Explanation

An ip address which is 32 bits long, that means it is of 4 bytes and is composed of a network and host portion and it depends on address class. The size of the host address and network address depends upon the class of the address in classful IP addressing.

#176

A subset of a network that includes all the routers but contains no loops is called _____

null

- **A**
  spanning tree
- **B**
  spider structure
- **C**
  spider tree
- **D**
  special tree

Correct Answer :A

Explanation

Spanning tree protocol (STP) is a network protocol that creates a loop free logical topology for ethernet networks. It is a layer 2 protocol that runs on bridges and switches. The main purpose of STP is to ensure that you do not create loops when you have redundant paths in your network.

#177

Spanning tree protocol (STP) is a network protocol that creates a loop free logical topology for ethernet networks. It is a layer 2 protocol that runs on bridges and switches. The main purpose of STP is to ensure that you do not create loops when you have redundant paths in your network.

null

- **A**
  network layer
- **B**
  data link layer
- **C**
   application layer
- **D**
  physical layer

Correct Answer :A

Explanation

 The flow of data in the OSI model flows in following manner Application -> Presentation -> Session -> Transport -> Network -> Data Link -> Physical. Each and every layer has its own set of functions and protocols to ensure efficient network performance.

#178 Explained Report Bookmark

Which of the following are transport layer protocols used in networking?

null

- **A**
  TCP and FTP
- **B**
  UDP and HTTP

- **C**
  TCP and UDP
- **D**
  HTTP and FTP

Correct Answer :C

Explanation

Both TCP and UDP are transport layer protocol in networking. TCP is an abbreviation for Transmission Control Protocol and UDP is an abbreviation for User Datagram Protocol. TCP is connection oriented whereas UDP is connectionless.

#179 Explained Report Bookmark

n endpoint of an inter-process communication flow across a computer network is called _____

null

- **A**
  socket
- **B**
  pipe
- **C**
  port
- **D**
  machine

Correct Answer :A

Explanation

Socket is one end point in a two way communication link in the network. TCP layer can identify the application that data is destined to be sent by using the port number that is bound to socket.

#180

_____ is a TCP name for a transport service access point.

null

- **A**
  port
- **B**
  pipe
- **C**
  node
- **D**
  protocol

Correct Answer :A

Explanation

Just as the IP address identifies the computer, the network port identifies the application or service running on the computer. A port number is 16 bits. The combination of IP address preceded with the port number is called the socket address.

#181

Transport layer protocols deals with _____

null

- **A**
  application to application communication
- **B**
  process to process communication
- **C**
  node to node communication
- **D**
  man to man communication

Correct Answer :B

Explanation

Transport layer is 4th layer in TCP/IP model and OSI reference model. It deals with logical communication between process. It is responsible for delivering a message between network host.

#182 Explained Report Bookmark

The number of objects in a Web page which consists of 4 jpeg images and HTML text is _____

null

- **A**
  4
- **B**
  1
- **C**
  5
- **D**
  7

Correct Answer :C

Explanation

4 jpeg images + 1 base HTML file.

#183 Explained Report Bookmark

The default connection type used by HTTP is _____

null

- **A**
  Persistent
- **B**
  Non-persistent
- **C**
  Can be either persistent or non-persistent depending on connection request
- **D**
  None of the mentioned

Correct Answer :A

Explanation

By default the http connection is issued with persistent connection. In persistent connection server leaves connection open after sending response. As little as one RTT (Time for a small packet to travel from client to server and back) is required for all referenced objects.

#184 Explained Report Bookmark

The time taken by a packet to travel from client to server and then back to the client is called _____

null

- **A**
  STT
- **B**
  RTT
- **C**
  PTT
- **D**
  JTT

Correct Answer :B

Explanation

RTT stands for round-trip time.

#185 Explained Report Bookmark

The HTTP request message is sent in _____ part of three-way handshake.

null

- **A**
  First
- **B**
  Second
- **C**
  Third
- **D**
  Fourth

Correct Answer :C

Explanation

In first step client sends a segment to establish a connection with the server. In the second the step the client waits for the acknowledgement to be received from the server. After receiving the acknowledgement, the client sends actual data in the third step.

#186

In the process of fetching a web page from a server the HTTP request/response takes _____ RTTs.

null

- **A**
  2
- **B**
  1
- **C**
  4
- **D**
  3

Correct Answer :B

Explanation

By default the http connection will be persistent connection. Hence it will take only 1 RTT to fetch a webpage from a server.

#187

The first line of HTTP request message is called _____

null

- **A**
  Request line
- **B**
  Header line
- **C**
  Status line
- **D**
   Entity line

Correct Answer :A

Explanation

 The line followed by request line are called header lines and status line is the initial part of response message.

#188 Explained Report Bookmark

The values GET, POST, HEAD etc are specified in _____ of HTTP message

- **A**
  POST
- **B**
  SEND
- **C**
  GET
- **D**
  PUT

Correct Answer :C

Explanation

There are two methods which help to request a response from a server. Those are GET and POST. In GET method, the client requests data from server. In POST method the client submits data to be processed to the server.

#189 Explained Report Bookmark

The HTTP response message leaves out the requested object when _____ method is used

null

- **A**
  GET
- **B**
  POST
- **C**
  HEAD
- **D**
  PUT

Correct Answer :C

Explanation

HEAD method is much faster than GET method. In HEAD method much smaller amount of data is transferred. The HEAD method asks only for information about a document and not for the document itself.

#190 Explained Report Bookmark

Find the oddly matched HTTP status codes

null

- **A**
  200 OK
- **B**
  400 Bad Request
- **C**
  301 Moved permanently
- **D**
   304 Not Found

Correct Answer :D

Explanation

404 Not Found.

#191 Explained Report Bookmark

HTTP is _____ protocol.

null

- **A**
  application layer
- **B**
  transport layer
- **C**
   network layer
- **D**
  data link layer

Correct Answer :A

Explanation

HTTP is an Application layer protocol used to define how messages are formatted and transmitted through the World Wide Web.

#192 **Explained** **Report** **Bookmark**

In the network HTTP resources are located by

null

- **A**
  uniform resource identifier
- **B**

   unique resource identifier
- **C**
  unique resource locator
- **D**
  union resource locator

Correct Answer :A

Explanation

The Uniform Resource Identifier is a name and locator for the resource to be located by the HTTP. The URLs and URNs are derived through the identifier.

#193 **Explained** **Report** **Bookmark**

In HTTP pipelining _____

null

- **A**
  multiple HTTP requests are sent on a single TCP connection without waiting for the corresponding responses

- **B**
  multiple HTTP requests can not be sent on a single TCP connection
- **C**
  multiple HTTP requests are sent in a queue on a single TCP connection
- **D**
  multiple HTTP requests are sent at random on a single TCP connection

Correct Answer :A

Explanation

HTTP pipelining helps the client make multiple requests without having to waiting for each response, thus saving a lot of time and bandwidth for the client.

#194 Explained Report Bookmark

FTP server listens for connection on port number _____

null

- **A**
  20
- **B**
  21
- **C**
  22
- **D**
  23

Correct Answer :B

Explanation

Port 20 is used for FTP data. Port 22 is used for SSH remote login. Port 23 is used for TELNET.

#195 Explained Report Bookmark

In FTP protocol, client contacts server using _____ as the transport protocol.

null

- **A**
  transmission control protocol
- **B**

  user datagram protocol
- **C**
  datagram congestion control protocol
- **D**
   stream control transmission protocol

Correct Answer :A

Explanation

The clients use the Transmission Control Protocol for FTP as it's more reliable than UDP, DCCP, and SCTP, and reliability of file transfer is required to be as high as possible for FTP.

#196 Explained Report Bookmark

The File Transfer Protocol is built on _____

null

- **A**
  data centric architecture

- **B**
  service oriented architecture
- **C**
  client server architecture
- **D**
  connection oriented architecture

Correct Answer :C

Explanation

The FTP connection includes a Server and a Client which wish to share files. The server can have multiple clients at the same time while the client communicates with only one server at a time.

#197 Explained Report Bookmark

In File Transfer Protocol, data transfer cannot be done in _____

null

- **A**
  stream mode
- **B**
  block mode
- **C**
  compressed mode
- **D**
  message mode

Correct Answer :D

Explanation

In Stream mode, the data is transferred in a continuous stream. In Block mode, data is transferred after being divided into smaller blocks. In Compressed mode, data is transferred after being compressed using some compression algorithm.

#198 Explained Report Bookmark

Expansion of FTP is _____

null

- **A**
  Fine Transfer Protocol
- **B**
  File Transfer Protocol
- **C**
  First Transfer Protocol
- **D**
  Fast Transfer Protocol

Correct Answer :B

Explanation

File Transfer Protocol is an application layer protocol used to share "files" between a server and a client. The protocol uses two separate ports for data and control connections: port 20 for data and port 21 for control.

#199 Explained Report Bookmark

FTP is built on _____ architecture.

null

- **A**
  Client-server

- **B**
  P2P
- **C**
  Data centric
- **D**
  Service oriented

Correct Answer :A

Explanation

An FTP connection includes a Server and a Client which wish to share a number of data files. The server can transfer files with multiple clients at the same time while the client communicates with only one server at a time.

#200 Explained Report Bookmark

FTP uses _____ parallel TCP connections to transfer a file.

null

- **A**
  1
- **B**
  2
- **C**
  3
- **D**
  4

Correct Answer :B

Explanation

Control connection using FTP port: 21, and data connection using FTP port: 20. The FTP session is started or ended using port 21 and the actual data i.e. files are sent through port 20.

#201

Identify the incorrect statement regarding FTP.

null

- **A**
  FTP stands for File Transfer Protocol
- **B**
  FTP uses two parallel TCP connections
- **C**
  FTP sends its control information in-band
- **D**
  FTP sends exactly one file over the data connection

Correct Answer :C

Explanation

FTP is out-of-band because the data connection is done separately through port 20 and control connection is done separately through port 21.

#202

If 5 files are transferred from server A to client B in the same session. The number of TCP connections between A and B is _____

null

- **A**
  5

- **B**
  10
- **C**
  2
- **D**
  6

Correct Answer :D

Explanation

The client would first initiate the TCP control connection through port 21. Then for every file transfer, a separate connection would be made through port 20. Now, since we have five files to be transferred, 1 control connection + 5 data connections = 6 total TCP connections.

#203 Explained Report Bookmark

FTP server _____

null

- **A**
  Maintains state information
- **B**
  Is stateless
- **C**
  Has single TCP connection for a file transfer
- **D**
  Has UDP connection for file transfer

Correct Answer :A

Explanation

FTP server maintains state information of every control connection to keep track of the active and inactive connections in the session. This helps the server decide which con

#204

The commands, from client to server, and replies, from server to client, are sent across the control connection in _____ bit ASCII format.

null

- **A**
  8
- **B**
  7
- **C**
  3
- **D**
  5

Correct Answer :B

Explanation

FTP was designed to transmit commands only in English characters that are possible with just 7 bits in ASCII. Even the media has to be converted to ASCII before transmission.

#205

Find the FTP reply whose message is wrongly matched.

null

- **A**
  331 – Username OK, password required

- **B**
  425 – Can't open data connection
- **C**
  452 – Error writing file
- **D**
  52 – Can't open data connection

Correct Answer :D

Explanation

The correct response code for the message "Can't open data connection" is 425. Response code 452 is sent usually when the connection is suddenly closed.

#206 Explained Report Bookmark

The data transfer mode of FTP, in which all the fragmenting has to be done by TCP is _____

null

- **A**
  Stream mode
- **B**
  Block mode
- **C**
  Compressed mode
- **D**
  Message mode

Correct Answer :A

Explanation

Stream mode is the default mode of FTP, in which the TCP transforms/fragments the data into segments, and then after the transmission is completed, converts it back to stream of bytes.

#207 Explained Report Bookmark

The entire hostname has a maximum of _____

null

- **A**
  255 characters
- **B**
  127 characters
- **C**
  63 characters
- **D**
  31 characters

Correct Answer :A

Explanation

An entire hostname can have a maximum of 255 characters. Although each label must be from 1 to 63 characters long. Host name is actually a label that is given to a device in a network.

#208 Explained Report Bookmark

A DNS client is called _____

null

- **A**
  DNS updater
- **B**
  DNS resolver
- **C**
  DNS handler
- **D**
  none of the mentioned

Correct Answer :B

Explanation

DNS client also known as DNS resolver also known as DNS lookup helps to resolve DNS requests using an external DNS server.

#209

Servers handle requests for other domains _____

null

- **A**
  directly
- **B**
  by contacting remote DNS server
- **C**
  it is not possible
- **D**
  none of the mentioned

Correct Answer :B

Explanation

Whenever a request is received at server from other domains, it handles this situation by contacting remote DNS server.

#210

DNS database contains _____

null

- **A**
  name server records
- **B**
   hostname-to-address records
- **C**
   hostname aliases
- **D**
  all of the mentioned

Correct Answer :D

Explanation

Domain Name system not only deals with mapping IP addresses with the hostname but also deals with exchange of information in the server.

#211

If a server has no clue about where to find the address for a hostname then _____

null

- **A**
  server asks to the root server

- **B**
  server asks to its adjcent server
- **C**
  request is not processed
- **D**
  none of the mentioned

Correct Answer :A

Explanation

Root name servers are actually very important and critical as they are the first step in translating human readable hostnames into IP addresses for carrying out communication.

#212 Explained Report Bookmark

Which one of the following allows client to update their DNS entry as their IP address change?

null

- **A**
  dynamic DNS
- **B**
  mail transfer agent
- **C**
  authoritative name server
- **D**
  none of the mentioned

Correct Answer :A

Explanation

Dynamic DNS or in short DDNS or DynDNS helps in automatically updating a name server in the DNS. This does not require manual editing.

#213 Explained Report Bookmark

Wildcard domain names start with label _____

null

- **A**
  @
- **B**
  *
- **C**
  &
- **D**
  #

Correct Answer :B

Explanation

A wildcard DNS record matches requests to a non existent domain name. This wildcard DNS record is specified by using asterisk "*" as the starting of a domain name.

#214 Explained Report Bookmark

The domain name system is maintained by _____

null

- **A**
  distributed database system
- **B**
  a single server

- **C**
  a single computer
- **D**
  none of the mentioned

Correct Answer :A

Explanation

A domain name system is maintained by a distributed database system. It is a collection of multiple, logically interrelated databases distributed over a computer network.

#215 Explained Report Bookmark

_____ **allows you to connect and login to a remote computer**

null

- **A**
  Telnet
- **B**
  FTP
- **C**
  HTTP
- **D**
  SMTP

Correct Answer :A

Explanation

Telnet provides access to the command-line interface on a remote computer. One can login to the computer from the command-line interface.

#216

What is the correct syntax to be written in the web browser to initiate a Telnet connection to www.ccatpreparation.com?

null

- **A**
  telnet//www.ccatpreparation.com
- **B**
  telnet:www.ccatpreparation.com
- **C**
  telnet://www.ccatpreparation.com
- **D**
  telnet www.ccatpreparation.com

Correct Answer :C

Explanation

telnet://" is the header to be used to initiate a Telnet connection to a web server. One can browse the website using telnet if they are authorized to.

#217

Telnet is used for _____

null

- **A**
  Television on net
- **B**
  Network of Telephones

- **C**
  Remote Login
- **D**
  Teleshopping site

Correct Answer :C

Explanation

Telnet is an application layer protocol that provides access to the command line interface of a remote computer that can be used to perform remote login.

#218 Explained Report Bookmark

Which one of the following is not correct?

null

- **A**
  telnet is a general purpose client-server program
- **B**
  telnet lets user access an application on a remote computer
- **C**
  telnet can also be used for file transfer
- **D**
  telnet can be used for remote login

Correct Answer :C

Explanation

File Transfer Protocol is used for file transfer. Telnet provides access to the command-line interface on a remote host.

#219

Telnet protocol is used to establish a connection to _____

null

- **A**
  TCP port number 21
- **B**
  TCP port number 22
- **C**
  TCP port number 23
- **D**
  TCP port number 25

Correct Answer :C

Explanation

TCP port 21 is used for FTP, TCP port 22 is used for SSH and TCP port 25 is used for SMTP. Telnet provides access to a command line interface on a remote computer using the TCP port number 23.

#220

Which one of the following is not true?

null

- **A**
  telnet defines a network virtual terminal (NVT) standard
- **B**
  client programs interact with NVT
- **C**
  server translates NVT operations

- **D**
  client can transfer files using to remote server using NVT

Correct Answer :D

Explanation

The client can use the NVT only to interact with the programs already present on the remote server, not to transfer files to it. To transfer files, an FTP connection has to be used.

#221 Explained Report Bookmark

All telnet operations are sent as _____

null

- **A**
  4 bits
- **B**
  8 bits
- **C**
  16 bits
- **D**
  32 bits

Correct Answer :B

Explanation

Telnet provides a bi-directional, 8-bit byte oriented communications facility through which operations are sent as 8-bit bytes for the server to interpret.

AbsoluteTelnet is a telnet client for _____ Operating system.

null

- **A**
  windows
- **B**
  linux
- **C**
  mac
- **D**
  ubuntu

Correct Answer :A

Explanation

AbsoluteTelnet was originally released in 1999. It was developed by Brian Pence of Celestial Software.

The decimal code of Interpret as Command (IAC) character is _____

null

- **A**
  252
- **B**
  253
- **C**
  254
- **D**
  255

Correct Answer :D

Explanation

If we want that a character be interpreted by the client instead of server, we use the IAC character. If IAC is followed by any other code than IAC, the client interprets it as a character.

#224 Explained Report Bookmark

Which of the following is false with respect to TCP?

null

- **A**
  Connection-oriented
- **B**
  Process-to-process
- **C**
  Transport layer protocol
- **D**
  Unreliable

Correct Answer :D

Explanation

TCP is a transport layer protocol that provides reliable and ordered delivery of a stream of bytes between hosts communicating via an IP network.

#225 Explained Report Bookmark

In TCP, sending and receiving data is done as _____

null

- **A**
  Stream of bytes
- **B**
  Sequence of characters
- **C**
  Lines of data
- **D**
  Packets

Correct Answer :A

Explanation

TCP provides stream oriented delivery between hosts communicating via an IP network and there are no message boundaries. TCP can concatenate data from a number of send () commands into one stream of data and still transmit it reliably.

#226

TCP process may not write and read data at the same speed. So we need _____ for storage.

null

- **A**
  Packets
- **B**
  Buffers
- **C**
  Segments
- **D**
  Stacks

Correct Answer :B

Explanation

A TCP receiver has a receive buffer that is used to store the unprocessed incoming packets in case the sender is sending packets faster than the processing rate of the received packets.

#227 Explained Report Bookmark

TCP groups a number of bytes together into a packet called _____

null

- **A**
  Packet
- **B**
  Buffer
- **C**
  Segment
- **D**
  Stack

Correct Answer :C

Explanation

A segment may be collection of data from many send () statements. TCP transmits each segment as a stream of bytes.

#228 Explained Report Bookmark

Communication offered by TCP is _____

null

- **A**
  Full-duplex
- **B**
  Half-duplex
- **C**
  Semi-duplex
- **D**
  Byte by byte

Correct Answer :A

Explanation

Data can flow both the directions at the same time during a TCP communication hence, it is full-duplex. This is the reason why TCP is used in systems that require full-duplex operation such as e-mail systems.

#229 Explained Report Bookmark

To achieve reliable transport in TCP, _____ is used to check the safe and sound arrival of data.

null

- **A**
  Packet
- **B**
  Buffer
- **C**
  Segment
- **D**
  Acknowledgment

Correct Answer :D

Explanation

Acknowledgment mechanism is used to check the safe and sound arrival of data. The sender actively checks for acknowledgement from the receiver and once a specific time period has passed, it retransmits the data.

#230 `Explained` `Report` `Bookmark`

In segment header, sequence number and acknowledgement number fields refer to _____

null

- **A**
  Byte number
- **B**
  Buffer number
- **C**
  Segment number
- **D**
  Acknowledgment

Correct Answer :A

Explanation

As TCP has to ensure ordered delivery of packets, sequence number and acknowledgement number are used to identify the byte number of the packet in the stream of bytes being transmitted.

#231 `Explained` `Report` `Bookmark`

Suppose a TCP connection is transferring a file of 1000 bytes. The first byte is numbered 10001. What is the sequence number of the segment if all data is sent in only one segment?

- **A**
  10000
- **B**
  10001
- **C**
  12001
- **D**
  11001

Correct Answer :B

Explanation

The sequence number given to first byte of a segment, with respect to its order among the previous segments, is the sequence number of that segment.

#232 Explained Report Bookmark

Bytes of data being transferred in each connection are numbered by TCP. These numbers start with a _____

null

- **A**
  Fixed number
- **B**
  Random sequence of 0's and 1's
- **C**
  One
- **D**
  Sequence of zero's and one's

Correct Answer :D

Explanation

One might expect the sequence number of the first byte in the stream to be 0, or 1. But that does not happen in TCP, Instead, the sender has to choose an Initial Sequence Number (ISN), which is basically a random 32 bit sequence of 0's and 1's, during the connection handshake.

#233 Explained Report Bookmark

The value of acknowledgement field in a segment defines _____

null

- **A**
  sequence number of the byte received previously
- **B**
  total number of bytes to receive
- **C**
  sequence number of the next byte to be received
- **D**
  sequence of zeros and ones

Correct Answer :C

Explanation

The acknowledgement field in a segment defines the sequence number of the byte which is to be received next i.e. sequence number of byte that the sender should transmit next.

#234 Explained Report Bookmark

The receiver of the data controls the amount of data that are to be sent by the sender is referred to as _____

- **A**
  Flow control
- **B**
  Error control
- **C**
  Congestion control
- **D**
  Error detection

Correct Answer :A

Explanation

Flow control is done to prevent the receiver from being overflowed with data. It is done using various open-loop (prevention) methods and closed-loop (recovery) methods.

#235

Size of TCP segment header ranges between _____

null

- **A**
  16 and 32 bytes
- **B**
  16 and 32 bits
- **C**
  20 and 60 bytes
- **D**
  20 and 60 bits

Correct Answer :C

Explanation

The size of the header can be 20 bytes at a minimum if there are no options and can go up to 60 bytes at maximum with 40 bytes in the options field. The header contains all the control information required to ensure ordered, error-free and reliable delivery of the segment.

#236

Connection establishment in TCP is done by which mechanism?

null

- **A**
  Flow control
- **B**
  Three-Way Handshaking
- **C**
  Forwarding
- **D**
  Synchronization

Correct Answer :B

Explanation

A three-way handshake allows both, the server and the client to choose their Initial Sequence Number and inform about it to the other party. This won't be possible using the two-way handshake mechanism.

#237

The server program tells its TCP that it is ready to accept a connection. This process is called _____

null

- **A**
  Active open
- **B**
  Active close
- **C**
  Passive close
- **D**
  Passive open

Correct Answer :D

Explanation

This is the first step in the Three-Way Handshaking process and is started by the server. Then the Client picks an ISN (Initial Sequence Number) and synchronizes (shares) it with the Server requesting a connection. The Server acknowledges the clients ISN, and then picks an ISN and synchronizes it with the Client. At last, the Client acknowledges the servers ISN.

#238 Explained Report Bookmark

A client that wishes to connect to an open server tells its TCP that it needs to be connected to that particular server. The process is called _____

null

- **A**
  Active open
- **B**
  Active close

- **C**
  Passive close
- **D**
  Passive open

Correct Answer :A

Explanation

This is the second step in the Three-Way Handshaking process and is done by the client once it finds the open server and picks an ISN. The Server acknowledges the clients request, and then picks an ISN and synchronizes it with the Client. At last, the Client acknowledges the servers ISN.

#239 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

In Three-Way Handshaking process, the situation where both the TCP's issue an active open is _____

null

- **A**
  Mutual open
- **B**
  Mutual Close
- **C**
  Simultaneous open
- **D**
  Simultaneous close

Correct Answer :C

Explanation

In simultaneous open situation, two nodes send an SYN signal to each other and start a TCP connection. Here, both TCP nodes transmit a SYNC+ACK segment to each other and a connection is established between them. This doesn't happen usually, because both sides have to know which port on the other side to send to.

#240

The sizes of source and destination port address in TCP header are _____ respectively.

null

- **A**
  16-bits and 32-bits
- **B**
  16-bits and 16-bits
- **C**
  32-bits and 16-bits
- **D**
  32-bits and 32-bits

Correct Answer :B

Explanation

All port addresses are of 16 bits and they specify the type of service being used by the network entity. For example, port 21 is used for FTP connections and port 25 is used for ICMP connections.

#241

What allows TCP to detect lost segments and in turn recover from that loss?

- **A**
  Sequence number
- **B**
  Acknowledgment number
- **C**
  Checksum
- **D**
  Both Sequence & Acknowledgment number

Correct Answer :B

Explanation

TCP header contains separate fields for sequence number and acknowledgment number. Comparing these values is what allows TCP to detect lost segments and in turn recover from that loss. After detecting the lost segments, the recovery may require retransmission of the lost segments of data.

#242 Explained Report Bookmark

Which of the following is false with respect to UDP?

null

- **A**
  Connection-oriented
- **B**
  Unreliable
- **C**
  Transport layer protocol
- **D**
  Low overhead

Correct Answer :A

Explanation

UDP is an unreliable, connectionless transport layer protocol that provides message-based data transmission. TCP is an example of connection-oriented protocols.

#243 Explained Report Bookmark

Return value of the UDP port "Chargen" is _____

null

- **A**
  String of characters
- **B**
  String of integers
- **C**
   Array of characters with integers
- **D**
  Array of zero's and one's

Correct Answer :A

Explanation

Using Chargen with UDP on port 19, the server sends a UDP datagram containing a random number of characters every time it receives a datagram from the connecting host. The number of characters is between 0 and 512.

#244 Explained Report Bookmark

Beyond IP, UDP provides additional services such as _____

null

- **A**
  Routing and switching
- **B**
  Sending and receiving of packets
- **C**
  Multiplexing and demultiplexing
- **D**
  Demultiplexing and error checking

Correct Answer :D

Explanation

De-multiplexing is the delivering of received segments to the correct application layer processes at the recipients end using UDP. Error checking is done through checksum in UDP.

#245 `Explained` `Report` `Bookmark`

What is the main advantage of UDP?

null

- **A**
  More overload
- **B**
  Reliable
- **C**
  Low overhead
- **D**
  Fast

Correct Answer :C

Explanation

As UDP does not provide assurance of delivery of packet, reliability and other services, the overhead taken to provide these services is reduced in UDP's operation. Thus, UDP provides low overhead, and higher speed.

#246 Explained Report Bookmark

Port number used by Network Time Protocol (NTP) with UDP is _____

null

- **A**
  161
- **B**
  123
- **C**
  162
- **D**
  124

Correct Answer :B

Explanation

The Network Time Protocol is a clock synchronization network protocol implemented by using UDP port number 123 to send and receive time stamps.

#247 Explained Report Bookmark

What is the header size of a UDP packet?

null

- **A**
   8 bytes
- **B**
  8 bits
- **C**
  16 bytes
- **D**
  124 bytes

Correct Answer :A

Explanation

The fixed size of the UDP packet header is 8 bytes. It contains four two-byte fields: Source port address, Destination port address, Length of packet, and checksum.

#248 Explained Report Bookmark

The port number is "ephemeral port number" if the source host is _____

null

- **A**
  NTP
- **B**
  Echo
- **C**
  Server
- **D**
  Client

Correct Answer :D

Explanation

Port numbers from 1025 to 5000 are used as ephemeral port numbers in Windows Operating System. Ephemeral port numbers are short-lived port numbers which can be used for clients in a UDP system where there are temporary clients all the time.

#249 Explained Report Bookmark

"Total length" field in UDP packet header is the length of _____

null

- **A**
  Only UDP header
- **B**
  Only data
- **C**
  Only checksum
- **D**
  UDP header plus data

Correct Answer :D

Explanation

Total length is the 16 bit field which contains the length of UDP header and the data. The maximum value of the Total length field and the maximum size of a UDP datagram is 65,535 bytes (8 byte header + 65,527 bytes of data).

#250 Explained Report Bookmark

Which is the correct expression for the length of UDP datagram?

null

- **A**
  UDP length = IP length – IP header's length
- **B**
  UDP length = UDP length – UDP header's length
- **C**
  UDP length = IP length + IP header's length
- **D**
  UDP length = UDP length + UDP header's length

Correct Answer :A

Explanation

A user datagram is encapsulated in an IP datagram. There is a field in the IP header that defines the total length of the IP packet. There is another field in the IP header that defines the length of the header. So if we subtract the length of the IP header that is encapsulated in the IP packet, we get the length of UDP datagram.

#251 Explained Report Bookmark

The _____ field is used to detect errors over the entire user datagram.

null

- **A**
  udp header
- **B**
  checksum

- **C**
  source port
- **D**
  destination port

Correct Answer :B

Explanation

Checksum field is used to detect errors over the entire user datagram. Though it is not as efficient as CRC which is used in TCP, it gets the job done for the UDP datagram as UDP doesn't have to ensure the delivery of the packet.

#252 Explained Report Bookmark

Which of the following is not applicable for IP?

null

- **A**
   Error reporting
- **B**
  Handle addressing conventions
- **C**
  Datagram format
- **D**
  Packet handling conventions

Correct Answer :A

Explanation

The Internet Protocol is the networking protocol which establishes the internet by relaying datagrams across network boundaries. ICMP is a supporting protocol for IP which handles the Error Reporting functionality.

#253

The TTL field has value 10. How many routers (max) can process this datagram?

null

- **A**
  11
- **B**
  5
- **C**
  10
- **D**
  1

Correct Answer :C

Explanation

TTL stands for Time to Live. This field specifies the life of the IP packet based on the number of hops it makes (Number of routers it goes through). TTL field is decremented by one each time the datagram is processed by a router. When the value is 0, the packet is automatically destroyed.

#254

If the value in protocol field is 17, the transport layer protocol used is _____

null

- **A**
  TCP
- **B**
  UDP
- **C**
  ICMP
- **D**
  IGMP

Correct Answer :B

Explanation

The protocol field enables the demultiplexing feature so that the IP protocol can be used to carry payloads of more than one protocol type. Its most used values are 17 and 6 for UDP and TCP respectively. ICMP and IGMP are network layer protocols.

#255 Explained Report Bookmark

The data field cannot carry which of the following?

null

- **A**
  TCP segment
- **B**
  UDP segment
- **C**
  ICMP messages
- **D**
  SMTP messages

Correct Answer :C

Explanation

Data field usually has transport layer segments, but it can also carry ICMP messages. SMTP is an application layer protocol. First it must go through the transport layer to be converted into TCP segments and then it can be inserted into IP packets.

#256

Which of these is not applicable for IP protocol?

null

- **A**
   is connectionless
- **B**
   offer reliable service
- **C**
  offer unreliable service
- **D**
  does not offer error reporting

Correct Answer :B

Explanation

IP does not provide reliable delivery service for the data. It's dependent upon the transport layer protocols like TCP to offer reliability.

#257

Which of these is not applicable for IP protocol?

- **A**
  Connectionless
- **B**
  Offer reliable service
- **C**
  Offer unreliable service
- **D**
  Does not offer error reporting

Correct Answer :B

Explanation

IP does not provide reliable delivery service for the data. It's dependent upon the transport layer protocols like TCP to offer reliability.

#258 Explained Report Bookmark

Which field helps to check rearrangement of the fragments?

null

- **A**
  IPs
- **B**
  Blocks
- **C**
  Codes
- **D**
  Sizes

Correct Answer :B

Explanation

In classless addressing, there are no classes but addresses are still granted in blocks. The total number of addresses in a block of classless IP addresses = $2^{(32 - CIDR\_value)}$.

#259 Explained Report Bookmark

n IPv4 Addresses, classful addressing is replaced with _____

null

- **A**
   Classless Addressing
- **B**
  Classful Addressing
- **C**
  Classful Advertising
- **D**
  Classless Advertising

Correct Answer :A

Explanation

Classful addressing is replaced with classless addressing as a large ratio of the available addresses in a class in calssful addressing is wasted. In classless addressing, one can reserve the number of IP addresses required by modifying the CIDR value and make sure that not many addresses are wasted.

#260 Explained Report Bookmark

First address in a block is used as network address that represents the _____

- **A**
  Class Network
- **B**
  Entity
- **C**
  Organization
- **D**
  Codes

Correct Answer :C

Explanation

First address in a block is used as network address that represents the organization. The network address can be found by AND'ing any address in the block by the default mask. The last address in a block represents the broadcast address.

#261 Explained Report Bookmark

Network addresses are a very important concept of _____

null

- **A**
  Routing
- **B**
  Mask
- **C**
  IP Addressing
- **D**
  Classless Addressing

Correct Answer :C

Explanation

Network addresses are a very important concept of IP addressing. The first address in a block is used as network address that represents the organization. The network address can be found by AND'ing any address in the block or class by the default mask.

#262 Explained Report Bookmark

Which of this is not a class of IP address?

null

- **A**
  Class E
- **B**
  Class C
- **C**
  Class D
- **D**
   Class F

Correct Answer :D

Explanation

Class F is not a class of IP addressing. There are only five classes of IP addresses: Class A (0.0.0.0 to 127.255.255.255), Class B (128.0.0.0 to 191.255.255.255), Class C (192.0.0.0 to 223.255.255.255), Class D (224.0.0.0 to 239.255.255.255), and Class E (240.0.0.0 to 255.255.255.255).

#263

The size of an IP address in IPv6 is _____

null

- **A**
   4 bytes
- **B**
  128 bits
- **C**
  8 bytes
- **D**
  100 bits

Correct Answer :B

Explanation

An IPv6 address is 128 bits long. Therefore, 2128 i.e. 340 undecillion addresses are possible in IPv6. IPv4 has only 4 billion possible addresses and IPv6 would be a brilliant alternative in case IPv4 runs out of possible new addresses.

#264

The header length of an IPv6 datagram is _____

null

- **A**
  10bytes
- **B**
  25bytes
- **C**
  30bytes

- **D**
  40bytes

Correct Answer :D

Explanation

IPv6 datagram has fixed header length of 40bytes, which results in faster processing of the datagram. There is one fixed header and optional headers which may or may not exist. The fixed header contains the mandatory essential information about the packet while the optional headers contain the optional "not that necessary" information.

#265 Explained Report Bookmark

In the IPv6 header, the traffic class field is similar to which field in the IPv4 header?

null

- **A**
  Fragmentation field
- **B**
  Fast-switching
- **C**
  ToS field
- **D**
  Option field

Correct Answer :C

Explanation

The traffic class field is used to specify the priority of the IP packet which is a similar functionality to the Type of Service field in the IPv4 header. It's an 8-bit field and its values are not defined in the RFC 2460.

#266 Explained Report Bookmark

IPv6 does not use _____ type of address.

null

- **A**
  broadcast
- **B**
  multicast
- **C**
  anycast
- **D**
  unicast

Correct Answer :A

Explanation

There is no concept of broadcast address in IPv6. Instead, there is an anycast address in IPv6 which allows sending messages to a group of devices but not all devices in a network. Anycast address is not standardized in IPv4.

#267 Explained Report Bookmark

Which among the following features is present in IPv6 but not in IPv4?

null

- **A**
  Fragmentation
- **B**
  Header checksum
- **C**
  Options
- **D**
  Anycast address

Correct Answer :D

Explanation

There is an anycast address in IPv6 which allows sending messages to a group of devices but not all devices in a network. Anycast address is not standardized in IPv4.

#268 Explained Report Bookmark

The _____ field determines the lifetime of IPv6 datagram

null

- **A**
  Hop limit
- **B**
  TTL
- **C**
   Next header
- **D**
  Type of traffic

Correct Answer :A

Explanation

The Hop limit value is decremented by one by a router when the datagram is forwarded by the router. When the value becomes zero the datagram is discarded. The field is 8-bits wide, so an IPv6 packet can live up to 255 router hops only.

#269

Dual-stack approach refers to _____

null

- **A**
  Implementing Ipv4 with 2 stacks
- **B**
  Implementing Ipv6 with 2 stacks
- **C**
  Node has both IPv4 and IPv6 support
- **D**
  Implementing a MAC address with 2 stacks

Correct Answer :C

Explanation

Dual-stack is one of the approaches used to support IPv6 in already existing systems. ISPs are using it as a method to transfer from IPv4 to IPv6 completely eventually due to the lower number of possible available addresses in IPv4.

#270

A link local address of local addresses is used in an _____

null

- **A**
  Isolated router
- **B**
  Isolated mask

- **C**
  Isolated subnet
- **D**
  Isolated net

Correct Answer :C

Explanation

Isolated subnet is very huge sharing network area in this link local address of local addresses is used. A link local address can be configured on any subnet with the prefix "FE80::".

#271 Explained Report Bookmark

In IPv6 addresses, addresses that start with eight 0s are called _____

null

- **A**
  Unicast addresses
- **B**
  Multicast addresses
- **C**
  Any cast addresses
- **D**
  Reserved addresses

Correct Answer :D

Explanation

In IPv6 address format, the starting bits are specified with eight 0s to represent reserved addresses. These reserved addresses have a certain function pre-defined like the loop-back address is used to test a network card. Reserved addresses cannot be allotted to a machine.

#272 Explained Report Bookmark

Internet Control Message Protocol (ICMP) has been designed to compensate _____

null

- **A**
  Error-reporting
- **B**
  Error-correction
- **C**
  Host and management queries
- **D**
  All of the mentioned

Correct Answer :D

Explanation

IP by itself does not provide the features of error reporting or error correction. So, to address these issues a network layer protocol called Internet Control Message Protocol is used. ICMP operates over the IP packet to provide error reporting functionality.

#273 Explained Report Bookmark

Header size of the ICMP message is _____

- **A**
  8-bytes
- **B**
  8-bits
- **C**
  16-bytes
- **D**
  16-bits

Correct Answer :A

Explanation

An ICMP message has an 8-byte header and a variable size data section. Out of the 8 bytes, the first 4 bytes are of a fixed format having the type, code and checksum fields and the next 4 bytes depend upon the type of the message.

#274 Explained Report Bookmark

During error reporting, ICMP always reports error messages to _____

null

- **A**
  Destination
- **B**
  Source
- **C**
  Next router
- **D**
  Previous router

Correct Answer :B

Explanation

ICMP notifies the source about the error when an error is detected because the datagram knows information about source and destination IP address. The source can then retransmit the data again or try to correct those errors.

#275 **Explained** **Report** **Bookmark**

Which of these is not a type of error-reporting message?

null

- **A**
  Destination unreachable
- **B**
  Source quench
- **C**
   Router error
- **D**
  Time exceeded

Correct Answer :C

Explanation

Router error is not a type of error-reporting message in ICMP. The type of error reporting message is specified in the ICMP header. Destination unreachable is type 3 error message, source quench is type 4, and time exceeded is type 11 error message.

#276 **Explained** **Report** **Bookmark**

ICMP error message will not be generated for a datagram having a special address such as _____

null

- **A**
  127.0.0.0
- **B**
  12.1.2
- **C**
  11.1
- **D**
  127

Correct Answer :A

Explanation

127.0.0.0 is a special address known as the loopback address which is used for testing purpose of a machine without actually communicating with a network. Thus no error

#277 Explained Report Bookmark

During debugging, we can use the _____ program to find if a host is alive and responding.

null

- **A**
  traceroute
- **B**
  shell
- **C**
  ping
- **D**
  java

Correct Answer :C

Explanation

Ping program is used to find if a host is alive and responding. It is to be entered into a command line with the syntax "ping (IP address)" to be executed. Traceroute is a program used to find the shortest route to the destination IP.

#278 Explained Report Bookmark

A BSS with an AP in wireless LAN is called _____ architecture

null

- **A**
  Ad-hoc architecture
- **B**
  Infrastructure
- **C**
  ESS
- **D**
  NAV

Correct Answer :B

Explanation

Infrastructure mode is an 802.11 networking framework in which devices communicate with each other by first going through an Access Point (AP). In infrastructure mode, wireless devices can communicate with each other or can communicate with a wired network

#279 Explained Report Bookmark

Which multiplexing technique transmits digital signals?

- **A**
  FDM
- **B**
  TDM
- **C**
  WDM
- **D**
  none of the above

Correct Answer :B

Explanation

Time Division Multiplexing is used to transmit digital signals. FDM and WDM techniques are used to transfer analog signals. WDM (Wave Division Multiplexing) is partly similar to FDM (Frequency Division Multiplexing).
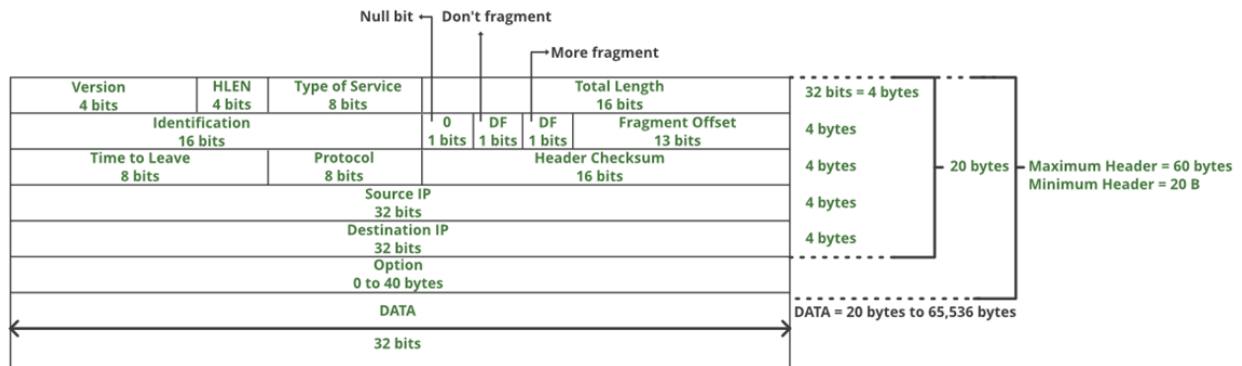
#280 Explained Report Bookmark

The IPV4 header size

null

- **A**
  . is 20 to 60 bytes long
- **B**
  is always 20 bytes long
- **C**
  is always 60 bytes long
- **D**
  depends on the MTU

Correct Answer :A

Explanation

Null bit ← Don't fragment
→More fragment

Version 4 bits	HLEN 4 bits	Type of Service 8 bits				Total Length 16 bits	32 bits = 4 bytes
Identification 16 bits			0 1 bits	DF 1 bits	DF 1 bits	Fragment Offset 13 bits	4 bytes
Time to Leave 8 bits		Protocol 8 bits				Header Checksum 16 bits	4 bytes
Source IP 32 bits							4 bytes
Destination IP 32 bits							4 bytes
Option 0 to 40 bytes							
DATA							DATA = 20 bytes to 65,536 bytes
32 bits							

20 bytes — Maximum Header = 60 bytes
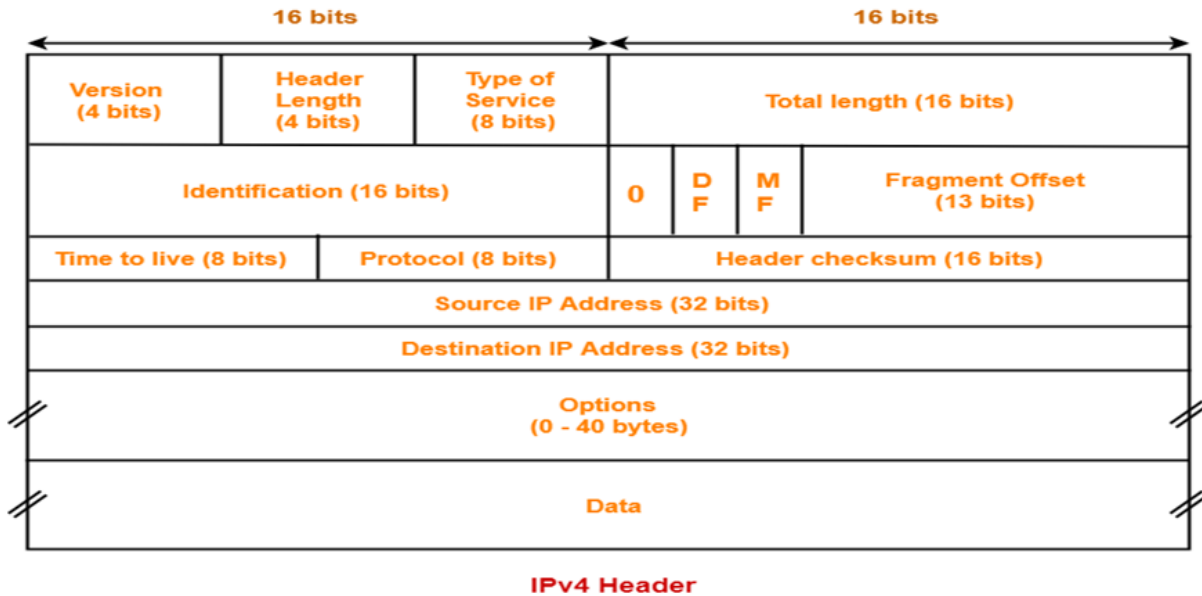Minimum Header = 20 B

#281 Explained Report Bookmark

What is the size (in terms of bits) of header length field in IPV4 header?

null

- **A** 2
- **B** 4
- **C** 8
- **D** 16

Correct Answer :B

Explanation

16 bits   **16 bits**

| Version (4 bits) | Header Length (4 bits) | Type of Service (8 bits) | Total length (16 bits) |

| Identification (16 bits) | 0 | D F | M F | Fragment Offset (13 bits) |

| Time to live (8 bits) | Protocol (8 bits) | Header checksum (16 bits) |

Source IP Address (32 bits)

Destination IP Address (32 bits)

Options (0 - 40 bytes)

Data

IPv4 Header

#282 Explained Report Bookmark

What is CRC in cyclic redundancy cycle ?

null

- **A**
  The divisor
- **B**
  The quotient
- **C**
  The dividend
- **D**
  The remainder

Correct Answer :D

Explanation

A *cyclic redundancy check* (*CRC*) is an error-detecting code commonly used in digital networks and storage devices to detect accidental changes

to raw data. Blocks of data entering these systems get a short *check* value attached, based on the remainder of a polynomial division of their contents.

#283 `Explained` `Report` `Bookmark`

Which of the internet working device takes data sent from one network device and forwards it to the destination node based on MAC address ?

null

- **A**
  Switch
- **B**
  Router
- **C**
  Hub
- **D**
  Bridge

Correct Answer :A

Explanation

Switch takes data sent from one network device and forwards it to the destination node based on MAC address. A switch is a multiport bridge with a buffer and a design that can boost its efficiency (large number of ports imply less traffic) and performance. Switch is data link layer device.

#284 `Explained` `Report` `Bookmark`

The Routing Information Protocol (RIP) is an infra-domain routing based on_____ routing algorithm.

null

- **A**
  distance vector
- **B**
  . link state
- **C**
  path vector
- **D**
  OSPF

Correct Answer : A

Explanation

The *Routing Information Protocol* (*RIP*) is a *distance vector* protocol

#285 Explained Report Bookmark

Which of the following event is not possible in wireless LAN ?

null

- **A**
  collision detection
- **B**
  . acknowledgement of data frames
- **C**
  multi mode data transmission
- **D**
  collision avoidance

Correct Answer : A

Explanation

Collision detection is not possible in wireless LAN with no extensions. Collision detection techniques for multiple access like CSMA/CD are used to detect collisions in Wireless LANs

#286 **Explained** **Report** **Bookmark**

. _____ is class based QoS model designed for IP?

null

- **A**
  Integrated services
- **B**
  . Differentiated services
- **C**
  Connectionless
- **D**
  Connection-oriented

Correct Answer :B

Explanation

Differentiated services. ... Differentiated services or DiffServ is a computer networking architecture that specifies a simple and scalable mechanism for classifying and managing network traffic and providing quality of service (QoS) on modern IP networks.

#287 **Explained** **Report** **Bookmark**

The space which is provided to avoid overlap with other burst is known as _____

null

- **A**
  Frequency space
- **B**
  Guard space
- **C**
  Information space
- **D**
  Bandwidth space

Correct Answer :B

Explanation

The space between the interference ranges is called guard space. Guard spaces are needed to avoid frequency band overlapping or adjacent channel overlapping.

#288 Explained Report Bookmark

The typical range of Ephemeral port is _____

null

- **A**
  1 to 80
- **B**
  1 to 1024
- **C**
  80 to 1024
- **D**
  1024 to 65535

Correct Answer :D

Explanation

- The lANA (Internet Assigned Number Authority) has divided the port numbers into three ranges:
  - ❖ **Well-known ports:**
    - ■ The ports ranging from 0 to 1023 are assigned and controlled by IANA
  - ❖ **Registered ports :**
    - ■ ranging from 1024 to 49,151 are not assigned or controlled
- by lANA. They can only be registered with lANA to prevent duplication.
  - ❖ **Dynamic (or private):**
    - ■ ranging from 49,152 to 65,535 are neither controlled nor registered. They can be used by any process. These are the **ephemeral port**

#289 Explained Report Bookmark

Which standard TCP port is assigned for contacting SSH servers?

null

- **A**
  port 21
- **B**
  port 22
- **C**
  port 23
- **D**
  port 24

Correct Answer :B

Explanation

Port 22 is used for contacting ssh servers, used for file transfers (scp, sftp) and also port forwarding.

#290 Explained Report Bookmark

The functionalities of presentation layer includes

null

- **A**
  Data compression
- **B**
  Data encryption
- **C**
  . Data description
- **D**
  All of the mentioned

Correct Answer :D

Explanation

Some functions of the presentation layer include character-code translation, data conversion, data encryption and decryption, and data translation. It connects the application layer with the layers below converting the human readable text and media to machine readable format and vice-versa.

#291 Explained Report Bookmark

What is the default/ natural Network?

- **A**
  255.255.255.1
- **B**
  255.255.255.0
- **C**
  . 255.255.255.254
- **D**
  255.255.255.255

Correct Answer :B

Explanation

Class C networks use a default subnet mask of 255.255. 255.0 and have 192-223 as their first octet.

#292 Explained Report Bookmark

Which one of the following protocol delivers/stores mail to reciever server?

null

- **A**
  simple mail transfer protocol
- **B**
  post office protocol
- **C**
  internet mail access protocol
- **D**
  hypertext transfer protocol

Correct Answer :A

Explanation

SMTP, abbreviation for Simple Mail Transfer Protocol is an application layer protocol. A client who wishes to send a mail creates a TCP connection to the SMTP server and then sends the mail across the connection.

#293 `Explained` `Report` `Bookmark`

Physical or logical arrangement of network is _____

null

- **A**
  Topology
- **B**
  Routing
- **C**
  Networking
- **D**
  None of the mentioned

Correct Answer :A

Explanation

The physical or logical arrangement of network is called topology. Topology is the network of interconnection elements.

#294 `Explained` `Report` `Bookmark`

Which of the following is not the Networking Devices?

null

- **A**
  Gateways
- **B**
  Linux
- **C**
  Routers
- **D**
  Firewall

Correct Answer :B

Explanation

Linux is an operating system and it is not a networking device.

#295 Explained Report Bookmark

Multiplexing is used in _____

null

- **A**
  Packet switching
- **B**
  Circuit switching
- **C**
  Data switching
- **D**
  Data switching

Correct Answer :B

Explanation

Circuit switching is a switching method by which one can obtain a physical path between end points. Circuit switching method is also called a connection oriented network. Two nodes must be physically and logically connected to each other to create a circuit switching network.

address in a block is used as network address that represents the

null

- **A**
  Class Network
- **B**
  Entity
- **C**
  Organization
- **D**
  Codes

Correct Answer :C

Explanation

The first address in a block is used as network address that represents the organization. The network address can be found by AND'ing any address in the block or class by the default mask.

The physical layer concerns with

null

- **A**
  bit-by-bit delivery
- **B**
  bit-by-bit delivery
- **C**
  application to application delivery
- **D**
  noneof the mentioned

Correct Answer :A

Explanation

Physical layer deals with bit to bit delivery in networking. The data unit in the physical layer is bits. Process to process delivery or the port to port delivery is dealt in the transport layer. The various transmission mediums aid the physical layer in performing its functions.

#298 Explained Report Bookmark

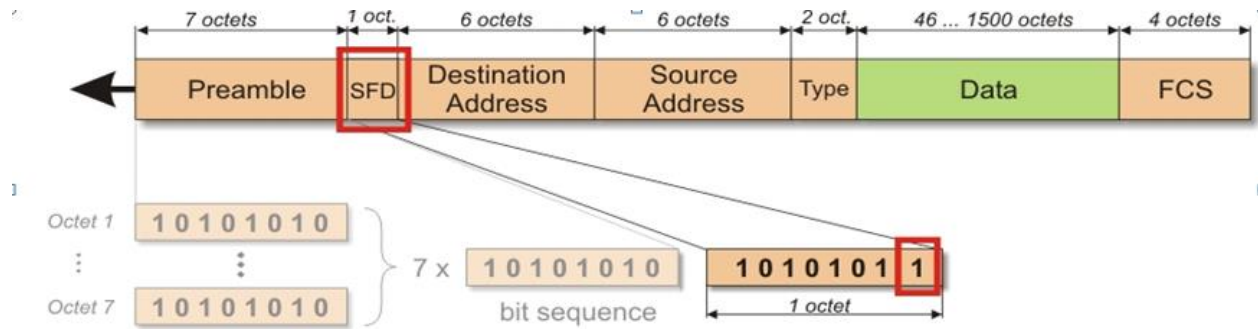**What is start frame delimeter (SFD) in ethernet frame?**

null

- **A**
  10101010
- **B**
  10101011
- **C**
  00000000
- **D**
  11111111

Correct Answer :B

Explanation

The Start frame delimiter is a single byte, 10101011, which is a frame flag, indicating the start of a frame.

#299 Explained Report Bookmark

What is the size of Host bits in Class B of IP address?

null

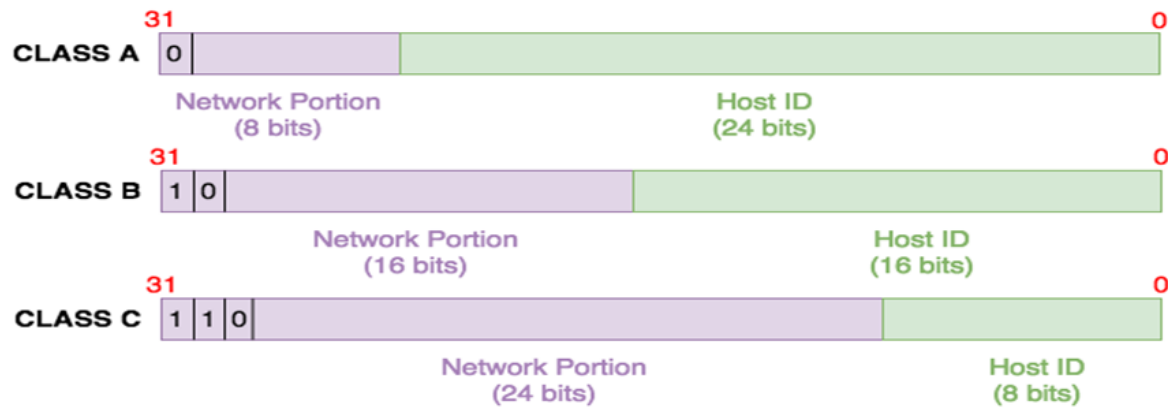- **A**
  04
- **B**
  08
- **C**
  16
- **D**
  32

Correct Answer :C

Explanation
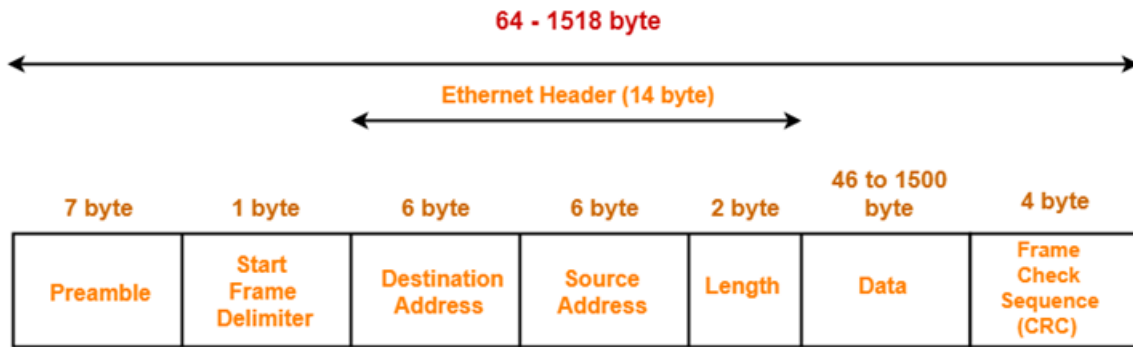
#300

Ethernet frame consists of

null

- **A**
  MAC address
- **B**
  IP address
- **C**
  . both MAC address and IP address
- **D**
  none of the mentioned

Correct Answer :A

Explanation

The Ethernet frame has a header that contains the source and destination MAC address. Each MAC address is of 48 bits.

64 - 1518 byte

Ethernet Header (14 byte)

7 byte	1 byte	6 byte	6 byte	2 byte	46 to 1500 byte	4 byte
Preamble	Start Frame Delimiter	Destination Address	Source Address	Length	Data	Frame Check Sequence (CRC)

IEEE 802.3 Ethernet Frame Format

#301

Routing tables of a router keeps track of

null

- **A**
  MAC Address Assignments
- **B**
  Assignments to network devices
- **C**
  . Distribute IP address to network devices
- **D**
  Routes to use for forwarding data to its destination

Correct Answer :D

Explanation

The routing table contains network/next hop associations. These associations tell a router that a particular destination can be optimally reached by sending the packet to a specific router that represents the next hop on the way to the final destination.

#302
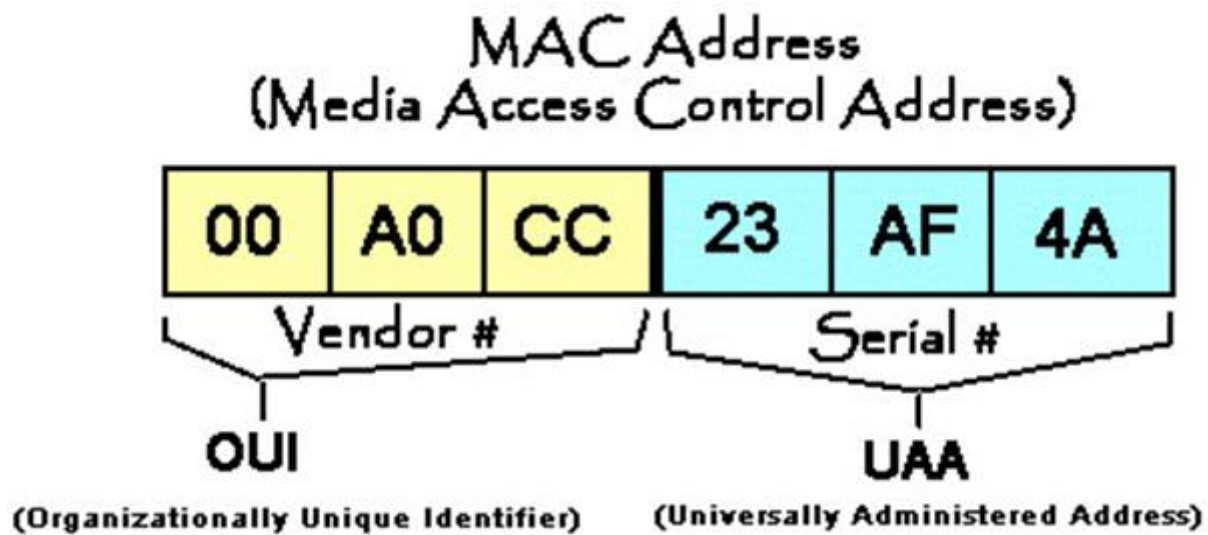
What is the size of MAC Address?

null

- **A**
  16-bits
- **B**
  32-bits
- **C**
  48-bits
- **D**
  64-bits

Correct Answer :C

Explanation

The Media Access Control (MAC) address is a binary number used to identify computer network adapters. These numbers (sometimes called hardware addresses or physical addresses) are embedded into the network hardware during the manufacturing process, or stored in firmware, and designed to not be modified.MAC addresses are 12-digit (6 bytes or 48 bits) hexadecimal numbers. By convention, these addresses are usually written in one of the following three formats:

- MM:MM:MM:SS:SS:SS
- MM-MM-MM-SS-SS-SS
- MMM.MMM.SSS.SSS

MAC Address
(Media Access Control Address)

| 00 | A0 | CC | 23 | AF | 4A |

Vendor #   Serial #

OUI   UAA

(Organizationally Unique Identifier)   (Universally Administered Address)

#303 Explained Report Bookmark

In the layer hierarchy as the data packet moves from the upper to the lower layers, headers are

null

- **A**
  Added
- **B**
  Removed
- **C**
  Rearranged
- **D**
  Modified

Correct Answer :A

Explanation

Each layer adds its own header to the packet from the previous layer. For example, in the Internet layer, the IP header is added over the TCP header on the data packet that came from the transport layer.

#304

The network address of 172.16.0.0/19 provides how many subnets and hosts?

null

- **A**
  7 subnets, 30 hosts each
- **B**
  8 subnets, 8,190 hosts each
- **C**
  8 subnets, 2,046 hosts each
- **D**
  7 subnets, 2,046 hosts each

Correct Answer :B

Explanation

A CIDR address of/19 is 255.255.224.0. This is a Class B address, so that is only 3 subnet bits, but it provides 13 host bits, or 8 subnets, each with 8,190 hosts.

#305

The services of _____ is used by DNS at well known port 53

null

- **A**
  TCP

- **B**
  UDP
- **C**
  SCTP
- **D**
  TCP or UDP

Correct Answer :D

Explanation

DNS has always been designed to use both UDP and TCP port 53 .The DNS uses TCP Port 53 for zone transfers, for maintaining coherence between the DNS database and the server. The UDP protocol is used when a client sends a query to the DNS server. The TCP protocol should not be used for queries as it gives a lot of information, which is useful to attackers

#306 Explained Report Bookmark

The network availability calculated as

null

- **A**
  (Total Time Available + Downtime) * Total Time Available
- **B**
  (Total Time Available - Downtime)
- **C**
  (Total Time Available + Downtime)
- **D**
  . (Total Time Available + Downtime) / Total Time Available

Correct Answer :D

Explanation

Network availability is the amount of uptime in a network system over a specific time interval. Uptime refers to the amount of time a network is fully operational

#307 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

A Bluetooth network consists of _____ primary devices and upto _____ secondary devices.

null

- **A**
  one , five
- **B**
  three, five
- **C**
   two, six
- **D**
  one, seven

Correct Answer :D

Explanation

Bluetooth network is a Wireless Personal Area Network (WPAN) technology and is used for exchanging data over smaller distances.It allows you to transfer data and files from one system to the other through wireless transmission

#308 <mark>Explained</mark> <mark>Report</mark> <mark>Bookmark</mark>

The DHCP server assigns an IP address to a client

- **A**
  for unlimited period
- **B**
   for limited period
- **C**
  not dependent on time
- **D**
  daily basis

Correct Answer :B

Explanation

In dynamic allocation DHCP assigns an IP address to a client for a limited period of time but in Automatic allocation—DHCP assigns a permanent IP address to a client from the range defined by the administrator. This is like dynamic allocation, but the DHCP server keeps a table of past IP address assignments, so that it can preferentially assign to a client the same IP address that the client previously had.

#309 Explained Report Bookmark

_____ **uses distance vector routing algorithm on the internet.**

null

- **A**
  OSPF
- **B**
  ARP
- **C**
  RIP
- **D**
  RARP

Correct Answer :C

Explanation

Routing Information Protocol (RIP) is a dynamic routing protocol which uses hop count as a routing metric to find the best path between the source and the destination network. It is a distance vector routing protocol. And the Hop count is the number of routers occurring in between the source and destination network. The path with the lowest hop count is considered as the best route to reach a network and therefore placed in the routing table.

#310 Explained Report Bookmark

_____ **method is used by HTTP request line to request a document from the server.**

null

- **A**
  GET
- **B**
  PUT
- **C**
  COPY
- **D**
  PUSH

Correct Answer :A

Explanation

HTTP protocol defines a set of request methods, e.g., GET, POST, HEAD, and OPTIONS. The client can use one of these methods to send a request to the server.

#311

Short Message service is a message consisting of maximum of alphanumeric characters.

null

- **A**
  100
- **B**
  150
- **C**
  160
- **D**
  170

Correct Answer :C

Explanation

The SMS service is simply a digital network facility that allows digital phone users to receive text messages on their digital phones. Each message may be a maximum of 160 characters long.

#312

A mobile station can communicate with two base stations at the same time in a _____ handoff

null

- **A**
  Hard
- **B**
  Soft

- **C**
  Medium
- **D**
  Moderate

Correct Answer :B

Explanation

In Soft Handoff, at least one of the links is kept when radio signals are added or removed to the Base Station. Soft Handoff adopted the 'make before break' policy. Soft Handoff is more costly than Hard Handoff. And it can communicate with tow base station at the same time

#313 `Explained` `Report` `Bookmark`

A connection device that operates in all five layers of the internet model or seven layers of OSI model is called _____

null

- **A**
  Repeater
- **B**
  Bridge
- **C**
  Router
- **D**
  Gateway

Correct Answer :D

Explanation

A gateway is a hardware device that acts as a gate between two networks. It may be a router, firewall, server, or other device that enables traffic to flow in and out of the network and gateway is the connection device that operates in all five layers of the internet model or seven layer of OSI model

#314 Explained Report Bookmark

The _____ layer adds a header that includes the logical addresses of the sender and receiver to the packet coping from the upper layer

null

- **A**
  Physical layer
- **B**
  Data Link
- **C**
  Network
- **D**
  Transport

Correct Answer :C

Explanation

Network layer works for the transmission of data from one host to the other located in different networks. It also takes care of packet routing which means it selects the shortest path to transmit the packet, from the number of routes available. The sender & receiver's IP address are placed in the header by the network layer

#315 Explained Report Bookmark

The Physical, data link, and network layers are the _____ support layers.

- **A**
  user
- **B**
  network
- **C**
  both (a) and (b)
- **D**
  neither (a) nor (b)

Correct Answer :B

Explanation

The network support layers are Physical layer, Data link layer and Network layer. These deals with electrical specifications, physical connection, transport timing and reliability

The physical layer is the lowest layer of the OSI model. It is responsible for the actual physical connection between the devices. The physical layer contains information in the form of bits. It is responsible for transmitting individual bits from one node to the next

Examples of hardware in the physical layer are network adapters, ethernet, repeaters, networking hubs, etc

The data link layer is responsible for the node to node delivery of the message. The main function of this layer is to make sure data transfer is error-free from one node to another, over the physical layer

Network layer works for the transmission of data from one host to the other located in different networks. It also takes care of packet routing which

means it selects the shortest path to transmit the packet, from the number of routes available. The sender & receiver's IP address are placed in the header by the network layer.

#316

The slowest transmission speeds are those of

null

- **A**
  twisted pair wire
- **B**
  coaxial cable
- **C**
  fiber-optic cable
- **D**
  microwaves

Correct Answer :A

Explanation

Twisted pair cable is the most common form of wiring in data communication application.It is a type of cable made by putting two separate insulated wires together in a twisted pattern and running them parallel to each other. This type of cable is widely used in different kinds of data and voice infrastructures.

It is incapable of carrying a signal over long distances without the use of repeaters only because of high attenuation but it is easy to install and maintain. And it can be easily connected

#317

Which of these is not a guided media?

null

- **A**
  Fiber optical cable
- **B**
  Coaxial cable
- **C**
  Wireless LAN
- **D**
  Copper wire

Correct Answer :C

Explanation

An unguided transmission transmits the electromagnetic waves without using any physical medium. Therefore it is also known as wireless transmission. In unguided media, air is the media through which the electromagnetic energy can flow easily. It is less secure and uses the large distance.

#318

Data communication system spanning states, countries, or the whole world is _____

null

- **A**
  LAN
- **B**
  WAN

- **C**
  WAN
- **D**
  None of the above

Correct Answer :B

Explanation

A wide area network (WAN) is a data network, usually used for connecting computers, that spans a wide geographical area. WANs can be used to connect cities, states, or even countries.WANs are often used by larger corporations or organizations to exchange data.

#319 Explained Report Bookmark

Which transmission media has the highest transmission speed in a network?

null

- **A**
   coaxial cable
- **B**
  twisted pair cable
- **C**
  optical fiber
- **D**
  electrical cable

Correct Answer :C

Explanation

Optical fiber is used as a medium for telecommunication and computer networking because it is flexible and can be bundled as cables. It is especially advantageous for long-distance communications

An optical fiber is a thin fiber which is made up of glass or plastic. An optical fiber is long usually in the shape of a cylinder from inside. It has a core part around which cladding

And it has the highest transmission speed in a network.because it can carry more data because it has greater bandwidth than metal cables.

#320 Explained Report Bookmark

Computer Network is

null

- **A**
  Collection of hardware components and computers
- **B**
  Interconnected by communication channels
- **C**
  Sharing of resources and information
- **D**
  All of the Above

Correct Answer :D

Explanation

A computer network is a set of connected computers. Computers on a network are called nodes. The connection between computers can be done via cabling, most commonly the Ethernet cable, or wirelessly through radio

waves. Connected computers can share resources, like access to the Internet, printers, file servers, and others.

#321

Bluetooth is an example of

null

- **A**
  Personal area network
- **B**
  Local area network
- **C**
  virtual private network
- **D**
  none of the mentioned

Correct Answer :A

Explanation

A personal area network, or PAN, is a computer network that enables communication between computer devices near a person. PANs can be wired, such as USB or they can be wireless, such as infrared and Bluetooth. The range of a PAN typically is a few meters

Bluetooth is a standard for a short-distance wireless connection between electronic devices. Instead of sending data through a cable, it sends data over radio waves. It communicates with a variety of electronic devices and creates personal networks

#322

Which is not an application layer protocol?

null

- **A**
  HTTP
- **B**
  SMTP
- **C**
  FTP
- **D**
  TCP

Correct Answer :D

Explanation

Application layer protocols are - TELNET, FTP, HTTP, SMTP, HTTP but TCP is the transport layer protocol.

Application layer is the top most layer of the OSI Model. Some services provided by this layer includes: E-Mail, transferring files, distributing the results to user, directory services, network resources, etc. In networking, a user mainly interacts with the application layer to create and send information to other computers or networks. It provides the interface between applications and the network

#323 `Explained` `Report` `Bookmark`

ICMP is primarily used for

null

- **A**
  error and diagnostic functions

- **B**
  addressing
- **C**
  forwarding
- **D**
   none of the mentioned

Correct Answer :A

Explanation

ICMP stands for Internet Control Message Protocol. It is an error-reporting protocol network devices like routers use to generate error messages to the source IP address when network problems. It is not used regularly in end-user applications, it is used by network administrators to troubleshoot Internet connections.

#324 Explained Report Bookmark

The Internet is an example of

null

- **A**
   Cell switched network
- **B**
  circuit switched network
- **C**
  Packet switched network
- **D**
  All of above

Correct Answer :C

Explanation

A packet switched network is a type of computer communications network that groups and sends data in the form of small packets. It enables the sending of data or network packets between a source and destination node over a network channel that is shared between multiple users and applications.

Networks that use packet switching can either be connectionless or connection-oriented. Examples of connectionless networks are Ethernet and IP, while connection-oriented examples are X. 25 and TCP.

#325 `Explained` `Report` `Bookmark`

Which of the following protocols is/are defined in the Transport layer?

null

- **A**
  FTP
- **B**
  TCP
- **C**
  UDP
- **D**
  Both TCP and UDP

Correct Answer :D

Explanation

The transport layer is the fourth layer in the open system interconnection (OSI) model, and is responsible for end-to-end communication over a network. It provides logical communication between application processes running on different hosts.

The transport layer is represented by two protocols: TCP and UDP.

TCP stands for Transmission Control Protocol. It is a connection-oriented protocol that means the connection established between both the ends of the transmission.

UDP stands for User Datagram Protocol. It is a connectionless protocol.This protocol is used when reliability and security are less important than speed and size.

#326 Explained Report Bookmark

Controlling access to a network by analyzing the incoming and outgoing packets is called

null

- **A**
  IP Filtering
- **B**
  Data Filtering
- **C**
  Packet Filtering
- **D**
   Firewall Filtering

Correct Answer :C

Explanation

 Packet filtering is a firewall technique used to control network access by monitoring outgoing and incoming packets and allowing them to pass or

halt based on the source and destination Internet Protocol (IP) addresses, protocols and ports.

#327 Explained Report Bookmark

Which address identifies a process on a host?

null

- **A**
  physical address
- **B**
  logical address
- **C**
  port address
- **D**
  specific address

Correct Answer :C

Explanation

A port number is the logical address of each application or process that uses a network or the Internet to communicate. A port number uniquely identifies a network-based application on a computer. Each application/program is allocated a 16-bit integer port number. This number is assigned automatically by the OS

#328 Explained Report Bookmark

For error detection _____ is used by the higher layer protocols (TCP/IP).

null

- **A**
  framing

- **B**
  error control
- **C**
  flow control
- **D**
  channel coding

Correct Answer :B

Explanation

Error control includes a mechanism for correcting errors after they are detected. Error detection and correction in TCP is achieved through the use of three simple tools: checksum, acknowledgment, and time-out

#329 Explained Report Bookmark

Which one of the following tasks is not done by the data link layer?

null

- **A**
  framing
- **B**
  error control
- **C**
  flow control
- **D**
  channel coding

Correct Answer :D

Explanation

The data link layer is the second layer in the OSI Model. The three main functions of the data link layer are to deal with transmission errors,framing, regulate the flow of data, and provide a well-defined interface to the network layer. Data link layer is the layer where the packets are encapsulated into frames.

Channel coding is the function of the physical layer.

#330 Explained Report Bookmark

Coaxial cable has conductors with….

null

- **A**
  a common axis
- **B**
  equal resistance
- **C**
  the same diameter
- **D**
  none of these

Correct Answer :A

Explanation

A coaxial cable is a type of shielded and insulated copper cable that is used in computer networks and to deliver cable TV services to end users. Coaxial cables have two types of conductors one is inner and other is outer that has a common axis.

#331 Explained Report Bookmark

Buffering is….......

null

- **A**
  the process of temporarily storing the data to allow for small variation in device speeds.
- **B**
  a method to reduce cross-talks
- **C**
  storage of data within the transmitting medium until the receiver is ready to receive
- **D**
  a method to reduce the routing overhead

Correct Answer :A

Explanation

The main memory has an area called buffer that is used to store or hold the data temporarily that is being transmitted either between two devices or an application. Buffering is an act of storing data temporarily in the buffer. It helps in matching the speed of the data stream between the sender and the receiver. If the speed of the sender's transmission is slower than the receiver, then a buffer is created in the main memory of the receiver, and it accumulates the bytes received from the sender and vice versa.

#332 Explained Report Bookmark

Some computers systems supports dual mode operation-the user mode and the supervisor or monitor mode. These refers to the modes

- **A**
  by which user programs handle their data
- **B**
  by which the operating system executes user programs
- **C**
  in which the processor and the associated hardware operate
- **D**
  of memory access

Correct Answer :C

Explanation

Some computers systems supports dual mode operation-the user mode and the supervisor or monitor mode. These refers to the modes in which the processor and the associated hardware operate