

- 1) There are _____ Internet service providers.
a) regional b) local c) national and international **d) all of the above**
- 2) _____ refers to the physical or logical arrangement of a network.
a) Topology b) Mode of operation c) Data flow d) None of the above
- 3) A _____ is a data communication system spanning states, countries, or the whole world
a) MAN **b) WAN** c) LAN d) none of the above
- 4) A _____ connection provides a dedicated link between two devices.
a) primary b) multipoint **c) point-to-point** d) secondary
- 5) Which topology requires a multipoint connection?
a) Bus b) Star c) Mesh d) Ring
- 6) A _____ is a set of rules that governs data communication.
a) protocol b) forum c) standard d) none of the above
- 7) In a _____ connection, two and only two devices are connected by a dedicated link.
a) multipoint **b) point-to-point** c) (a) and (b) d) none of the above
- 8) The information to be communicated in a data communications system is the _____.
a) Medium b) Protocol **c) Message** d) Transmission
- 9) _____ defines how a particular pattern to be interpreted, and what action is to be taken based on that interpretation.
a) Syntax **b) Semantics** c) Timing d) None of the above
- 10) Frequency of failure and network recovery time after a failure are measures of the _____ of a network.
a) Performance b) Security **c) Reliability** d) Feasibility
- 11) A television broadcast is an example of _____ transmission.
a) half-duplex **b) simplex** c) full-duplex d) automatic
- 12) Data flow between two devices can occur in a _____ way.
a) simplex b) half-duplex c) full-duplex **d) all of the above**

- 13) _____ are special-interest groups that quickly test, evaluate, and standardize new technologies.
- a) Standards organizations b) Regulatory agencies
c) Forums d) All of the above
- 14) Which agency developed standards for physical connection interfaces and electronic signaling specifications?
- a) ISO b) ITU-T c) ANSI **d) EIA**
- 15) A _____ is a data communication system within a building, plant, or campus, or between nearby buildings.
- a) LAN** b) MAN c) WAN d) none of the above
- 16) _____ refers to two characteristics: when data should be sent and how fast it can be sent.
- a) Semantics **b) Timing** c) Syntax d) none of the above
- 17) This was the first network.
- a) CSNET b) NSFNET **c) ARPANET** d) ANSNET
- 18) Devices may be arranged in a _____ topology.
- a) mesh b) ring c) bus **d) all of the above**
- 19) _____ is the protocol suite for the current Internet.
- a) UNIX b) NCP **c) TCP/IP** d) ACM
- 20) _____ is a collection of many separate networks.
- a) A WAN **b) An internet** c) A LAN d) None of the above
- 21) In a _____ connection, three or more devices share a link.
- a) point-to-point **b) multipoint** c) (a) and (b) d) none of the above
- 22) Which organization has authority over interstate and international commerce in the communications field?
- a) FCC** b) IEEE c) ITU-T d) ISOC
- 23) In the original ARPANET, _____ were directly connected together.
- a) routers b) host computers c) networks **d) IMPs**

- 24) Communication between a computer and a keyboard involves _____ transmission.
a) **simplex** b) half-duplex c) full-duplex d) automatic
- 25) Which topology requires a central controller or hub?
a) Mesh b) Bus **c) Star** d) Ring
- 26) The _____ is the physical path over which a message travels.
a) Protocol b) Signal **c) Medium** d) All the above
- 27) In a _____ connection, more than two devices can share a single link.
a) multipoint b) point-to-point c) primary d) secondary
- 28) _____ refers to the structure or format of the data, meaning the order in which they are presented.
a) Semantics **b) Syntax** c) Timing d) All of the above
- 29) An unauthorized user is a network _____ issue.
a) Security b) Reliability c) Performance d) All the above
- 30) _____ is an idea or concept that is a precursor to an Internet standard.
a) RCF b) ID **c) RFC** d) none of the above
- 31) In _____ transmission, the channel capacity is shared by both communicating devices at all times.
a) simplex b) half-duplex **c) full-duplex** d) half-simplex
- 32) This topology requires multipoint connection
a) Star b) Mesh c) Ring **d) Bus**
- 33) Data communication system within a building or campus is
a) LAN b) WAN c) MAN d) None of the mentioned
- 34) Expand WAN
a) World area network **b) Wide area network**
c) Web area network d) None of the mentioned
- 35) In TDM, slots are further divided into
a) Seconds **b) Frames** c) Packets d) None of the mentioned

36) Multiplexing technique that shifts each signal to a different carrier frequency

- a) **FDM** b) TDM c) Either a or b d) Both a and b

Explanation: FDM stands for Frequency division multiplexing.

37) Types of software programs are

- a) Application programs b) Replicate programs
c) Logical programs **d) both A and B**

38) Set of programs which consist of full set of documentations is termed as

- a) database packages b) file packages c) bus packages **d) software packages**

39) Specialized program that allows user to utilize in specific application is classified as

- a) relative programs **b) application programs**
c) relative programs d) replicate programs

40) Program which is used to control system performance is classified as

- a) experimental program **b) system program**
c) specialized program d) organized program

41) Examples of system programs includes

- a) operating system of computer b) trace program
c) compiler **b) all of above**

42) The Internet model consists of _____ layers.

- a) Three **b) Five** c) Seven d) Eight

43) The process-to-process delivery of the entire message is the responsibility of the _____ layer.

- a) Network **b) Transport** c) Application d) Physical

43) The _____ layer is the layer closest to the transmission medium.

- a) **Physical** b) Data link c) Network d) Transport

44) Mail services are available to network users through the _____ layer.

- a) Data link b) Physical c) Transport **d) Application**

45) As the data packet moves from the upper to the lower layers, headers are _____.

- a) **Added** b) Removed c) Rearranged d) Modified

- 46) The _____ layer lies between the network layer and the application layer.
a) Physical b) Data link c) **Transport** d) None of the above
- 47) Layer 2 lies between the physical layer and the _____ layer.
a) **Network** b) Data link c) Transport d) None of the above
- 48) When data are transmitted from device A to device B, the header from A's layer 4 is read by B's _____ layer.
a) Physical b) **Transport** c) Application d) None of the above
- 49) The _____ layer changes bits into electromagnetic signals.
a) **Physical** b) Data link c) Transport d) None of the above
- 50) Which of the following is an application layer service?
a) Remote log-in b) File transfer and access
c) Mail service d) **All the above**
- 51) Why was the OSI model developed?
a) Manufacturers disliked the TCP/IP protocol suite.
b) The rate of data transfer was increasing exponentially
c) **Standards were needed to allow any two systems to communicate**
d) None of the above
- 52) The _____ model shows how the network functions of a computer ought to be organized.
a) CCITT b) OSI c) ISO d) ANSI
- 53) The physical layer is concerned with the movement of _____ over the physical medium.
a) programs b) dialogs c) protocols d) **bits**
- 54) The OSI model consists of _____ layers.
a) three b) five c) **seven** d) eight
- 55) In the OSI model, as a data packet moves from the lower to the upper layers, headers are _____.
a) added b) **removed** c) rearranged d) modified
- 56) In the OSI model, when data is transmitted from device A to device B, the header from A's layer 5 is read by B's _____ layer.
a) Physical b) transport c) **session** d) presentation

- 57) In the OSI model, what is the main function of the transport layer?
a) node-to-node delivery b) **process-to-process message delivery**
c) synchronization d) updating and maintenance of routing tables
- 58) In the OSI model, encryption and decryption are functions of the _____ layer.
a) Transport b) **session** c) presentation d) application
- 59) When a host on network A sends a message to a host on network B, which address does the router look at?
a) Port b) **logical** c) physical d) none of the above
- 60) To deliver a message to the correct application program running on a host, the _____ address must be consulted.
a) **Port** b) IP c) physical d) none of the above
- 61) IPv6 has _____ -bit addresses.
a) 32 b) 64 c) **128** d) variable
- 62) ICMPv6 includes _____.
a) IGMP b) ARP c) **RARP** d) a and b
- 63) The _____ layer is responsible for moving frames from one hop (node) to the next.
a) Physical b) data link c) transport d) **none of the above**
- 64) The _____ layer adds a header to the packet coming from the upper layer that includes the logical addresses of the sender and receiver.
a) physical b) data link c) **network** d) none of the above
- 65) The _____ layer is responsible for the delivery of a message from one process to another.
a) Physical b) **transport** c) network d) None of the above
- 66) The Internetworking Protocol (IP) is a _____ protocol.
a) reliable b) connection-oriented c) both a and b d) **none of the above**
- 67) _____ is a process-to-process protocol that adds only port addresses, checksum error control, and length information to the data from the upper layer.
a) TCP b) UDP c) **IP** d) none of the above
- 68) _____ provides full transport layer services to applications.
a) **TCP** b) UDP c) ARP d) none of the above

- 69) The _____ address, also known as the link address, is the address of a node as defined by its LAN or WAN
a) port b) **physical** c) logical d) none of the above
- 70) Ethernet uses a _____ physical address that is imprinted on the network interface card (NIC).
a) 32- bit b) 64- bit c) **6- byte** d) none of the above
- 71) The _____ created a model called the Open Systems Interconnection, which allows diverse systems to communicate.
a) OSI b) **ISO** c) IEEE d) none of the above
- 72) The seven-layer _____ model provides guidelines for the development of universally compatible networking protocols.
a) **OSI** b) ISO c) IEEE d) none of the above
- 73) 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)
- 74) The session, presentation, and application layers are the _____ support layers.
a) **user** b) network c) both (a) and (b) d) neither (a) nor (b)
- 75) The _____ layer links the network support layers and the user support layers.
a) **transport** b) network c) data link d) session
- 76) The _____ layer coordinates the functions required to transmit a bit stream over a physical medium.
a) transport b) network c) data link d) **physical**
- 77) The _____ layer is responsible for delivering data units from one station to the next without errors.
a) transport b) network c) **data link** d) physical
- 78) The _____ layer is responsible for the source-to-destination delivery of a packet across multiple network links.
a) transport b) **network** c) data link d) physical
- 79) The _____ layer is responsible for the process-to-process delivery of the entire message.
a) **transport** b) network c) data link d) physical

- 80) The _____ layer establishes, maintains, and synchronizes the interactions between communicating devices.
a) transport b) network c) **session** d) physical
- 81) The _____ layer ensures interoperability between communicating devices through transformation of data into a mutually agreed upon format
a) transport b) network c) data link d) **presentation**
- 82) The _____ layer enables the users to access the network.
a) transport b) application c) data link d) physical
- 83) TCP/IP is a _____ hierarchical protocol suite developed _____ the OSI model.
a) **seven-layer; before** b) five-layer; before
c) six-layer; before d) five-layer; after
- 84) The TCP/IP _____ layer is equivalent to the combined session, presentation, and application layers of the OSI model.
a) application b) **network** c) data link d) physical
- 85) The _____ address uniquely defines a host on the Internet.
a) **physical** b) IP c) port d) specific
- 86) The _____ address identifies a process on a host.
a) physical b) **IP** c) port d) specific
- 87) If the ACK value is 200, then what byte has been received successfully TCP/IP handshake?
a) **199** b) 200 c) 201 d) 202
- 88) In a network, after the load reaches the capacity, throughput _____
a) Increases sharply b) **Increases proportionally with the load**
c) Declines sharply d) Declines proportionally with the load
- 89) Which of the internetworking device takes data sent from one network device and forwards it to the destination node based on MAC address?
a) **Switch** b) Router c) Hub d) Bridge
- 90) Which of the following event is not possible in wireless LAN?
a) **collision detection** b) Acknowledgement of data frames
c) multi-mode data transmission d) Collision avoidance

91) The Routing Information protocol (RIP) is an intra-domain routing based on _____ routing algorithm.

- a) **Distance vector** b) link state c) path vector d) OSPF

91) _____ is a subset of a network that includes all the routers but contains no loops.

- a) Spanning Tree b) LEACH c) Spider Structure **d) Spider Tree**

93) Which pf the following primarily uses guided media?

- a) Radio broadcasting b) Satellite communications
c) Local telephone system d) cellular telephone system

94) The _____ of errors is more difficult than the _____

- a) Detection; correction **b) Correction; detection**
c) Creation; correction; d) Creation; detection

95) How the redundancy helps in detecting or correcting the errors.

- a) By sending the data twice** b) using two different coding methods.
c) By creating smaller block size d) By sending extra bits with data.

96) The _____ sublayer is responsible for the operation of the CSMA/CD access method and framing.

- a) MAC b) MII **c) LLC** d) Datalink

97) An organization is granted a block of classless addresses with the starting address 199.34.76.128/29. How many addresses are granted?

- a) 8** b) 16 c) 32 d) 4

98) Which of the following application protocols generally does NOT use UDP as transport protocol

- a) Simple Mail Transfer protocol** b) Real-time Transport protocol
c) Simple Network Management protocol d) Domain Name System(DNS)

99) Which all transport layer header flags are involved while establishing a connection?

- a) SYN and FIN **b) SYN and ACK** c) SYN, ACK and FIN d) FIN and ACK

100) Identify the class of the following IP address : 4.5.6.7

- A. Class A**
B. Class B

- C. Class C
- D. Class D

101) IEEE has defined the specifications for a wireless LAN, called _____, which covers the physical and data-link layers.

- A. IEEE 802.3
- B. IEEE 802.5
- C. IEEE 802.11**
- D. IEEE 802.2

102) Repeaters function in the _____ layer

- A. Physical
- B. Network**
- C. Data link
- D. Transport

103) An IPv4 address consists of _____ bits

- A. 16
- B. 32**
- C. 64
- D. 128

104) _____ may be defined as range of frequencies assigned to a channel

- A. Bandwidth**
- B. Channel Noise
- C. Bit Rate
- D. Channel latency

105) The port number used in HTTP is _____

- A. 20
- B. 21
- C. 80**
- D. 81

106) Identify the class of IP address 229.1.2.3

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

107) The file transfer protocol is built on _____

- A. Data Centric Architecture
- B. Service Oriented Architecture
- C. Client Server Architecture**
- D. Peer to peer Architecture

108) What does the server HTTP error code 404 mean?

- A. Unauthorised
- B. Not Found**
- C. Forbidden
- D. Request Timeout

109) Conversion of Domain Name to IP address is done by

- A. DHCP
- B. DNS**
- C. VPN
- D. Proxy Servers

110) The default port for SSH client connections is _____

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

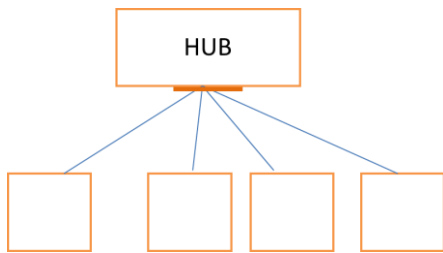
111) IPv6 address is a _____

- A. 16 bit address
- B. 32 bit address
- C. 64 bit address
- D. 128 bit address**

112) Which is a reserved IP address

- a) 172.12.0.0
- b) 152.12.0.0**
- c) 182.12.0.0
- d) 162.12.0.0

113) How many collisions and how many broadcast will happen



- a) Hub: 1 broadcast 4 collision
- b) Hub: 4 broadcast 4 collision
- c) Hub: 4 broadcast 1 collision
- d) Hub: 1 broadcast 1 collision**

114) Port 443 is reserved for which protocol

- a) CUPS
- b) HTTP
- c) HTTPS**
- d) TCP IP

115) In error correction, the receiver asks the sender to send the data again.

- A. forward
- B. backward
- C. retransmission**
- D. none of the above

116) Internet is a _____

- A: IP Switched Network**
- B: Data Switched Network
- C: Circuit Switched Network
- D: Packet Switched Network

117) Which of the following network topology is the most redundant in nature.

- A) bus
- B) Star
- C) Ring
- D) Mesh**

118) A _____ is a connecting device that operates in the physical and data link layers on the Internet model.

- A) router
- B) Repeater**
- C) Bridge
- D) Gateway

119) Identify the class of the following IPv4 address: 191.1.2.3.

- A) A
- B) B**
- C) c
- D) D

120) Circuit switching takes place at the layer.

- A) physical
- B) data line**
- C) network
- D) transport

121) HDLC is an acronym for

- A) Half—duplex digital link combination
- B) Host double-level circuit
- C) High-duplex line communication
- D) High-level data link control**

122) In Ethernet addressing, if all the bits are 1s, the address is_____.

- A) multicast
- B) Broadcast**
- C) Unicast
- D) anycast

123) What is the first address of a block of classless addresses if one of the addresses is 12.2.2.76/27?

- A) 12.2.2.0
- B) 12.22.32
- C) 12.22.64**
- D) 12.22.72

124) Which application layer protocol allows administrators to log into a server from remote locations and control a server as though logged in locally?

- A. DNS
- B. FTP
- C. SMTP
- D. Telnet**

125) What protocol is allowed a user to retrieve her/his mail from the mail server to her/his mail reader?

- A. POP3**
- B. FTP
- C. SMTP**
- D. SNMP

126) Which application layer protocol allows administrators to log into a server from remote locations and control a server as though logged in locally?

- A: DNS
- B: FTP
- C: SMTP
- D: Telnet**

127) Which of the following is uses IEEE 802.11 at the Data link layer

- A: WLAN**
- B: MAN
- C: WAN
- D: LAN

128) Which OSI layer corresponds to the TCP UDP layer?

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

129) Another term for CSMA/CD and the IEEE 802.3 is

- A: ethernet**
- B: token ring
- C: FDDI
- D: token bus

130) Which of the following protocol is used for sending or retrieving emails?

- A: SMTP
- B: POP3
- C: IMAP
- D: All of the above**

131) The technique of temporarily delaying outgoing acknowledgements so that they can be hooked onto the next outgoing data frame is known as

- A: retransmitting
- B: replaying
- C: piggybacking
- D: multicasting

132) Example of a device that uses duplex communication

A: radio

B: telephone

C: television

D: surveillance cameras

134) In CSMA/CD, CD stands for

A: contention detection

B: collision detection

C: carrier detection

D: congestion detection

135) Multiple ethernet segments can be connected by

A: port

B: bus

C: repeater

D: adapter

136) The _____ of errors is more difficult than the

A) Detection; correction

B) Correction; detection

C) Creation; correction

D) Creation; detection

1.7) What is the size of MAC(Ethernet) address?

A: 16 bits

B: 32 bits

C: 48 bits

D: 64 bits

138) The protocol does Three-Way Handshake for network communication is?

A: TCP

B: UDP

C: IP

D: Ethernet

139) The protocol is not part of Application Layer of OSI?

A: http

B: telnet

C: ftp

D: icmp

140) An IP-address with all host bits set to 1 is called?

A: Multicast

B: Class-less

C: Class-full

D: Broadcast

141) A port address in TCP/IP is _____ bits long.

a) 32

b) 48

c) 16

d) none of the above