

Computer Networks MCQ (Multiple Choice Questions)

Branch-MCA

Semester-2nd

1. The _____ is the physical path over which a message travels
a) Protocol b) path c) Medium d) Route
2. What kind of transmission medium is most appropriate to carry data in a computer network that is exposed to electrical interferences?
a) Unshielded twisted pair b) Optical fiber c) Coaxial cable d) Microwave
3. Communication between a computer and a keyboard involves _____ transmission.
a) Automatic b) Half-duplex c) Full-duplex d) Simplex
4. The first Network was called _____
a) CNET b) NSFNET c) ASAPNET d) ARPANET
5. A _____ set of rules that governs data communication.
a) Protocols b) Standards c) RFCs d) Servers
6. Three or more devices share a link in _____ connection.
a) Unipoint b) Multipoint c) Point to point d) Simplex
7. Two devices are in network if _____
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 on different devices are same
d) a process is active and another is inactive
8. 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
9. Network congestion occurs _____
a) in case of traffic overloading
b) when a system terminates
c) when connection between two nodes terminates
d) in case of transfer failure
10. Which network topology requires a central controller or hub?
a) Star b) Mesh c) Ring d) Bus
11. _____ topology requires a multipoint connection.
a) Star b) Mesh c) Ring d) Bus

12. Data communication system within a building or campus is _____

- a) LAN
- b) WAN
- c) MAN
- d) PAN

13. In TDM, slots are further divided into _____

- a) Seconds
- b) Frames
- c) Packets
- d) Bits

14. _____ is the multiplexing technique that shifts each signal to a different carrier frequency.

- a) FDM
- b) TDM
- c) Both FDM & TDM
- d) PDM

15. The network layer is concerned with _____ of data.

- a) bits
- b) frames
- c) packets
- d) bytes

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

- a) routing
- b) inter-networking
- c) congestion control
- d) error control

17. In virtual circuit network each packet contains _____

- a) full source and destination address
- b) a short VC number
- c) only source address
- d) only destination address

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

- a) spanning tree
- b) spider structure
- c) spider tree
- d) special tree

19. The vast network of computers that connects millions of people all over the world is called

- (A) Internet
- (B) Hypertext
- (C) LAN
- (D) Web

20. A term related sending data to a satellite is?

- A. Downlink
- B. Modulate
- C. Demodulate
- D. Uplink

21. The common name for a modulator-demodulator is

- A. Modem
- B. Joiner
- C. Networker
- D. Connector

22. Which of the following device is used to connect two systems, especially if the systems use different protocols?

- A. Repeater
- B. Gateway
- C. Bridge
- D. Hub

23. Which of the following is correct IPv4 address?

- a) 124.201.3.1.52
- b) 01.200.128.123
- c) 300.142.210.64
- d) 128.64.0.0

24. How many versions available of IP?

- a. 6 version
- b. 4 version
- c. 2 version
- d. 1 version

25. Which layer of the TCP / IP stack corresponds to the OSI model transport layer?

- a. Host to host
- b. Application
- c. Internet
- d. Network Access

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

- a) logical link control sublayer
- b) media access control sublayer
- c) network interface control sublayer
- d) error control sublayer

27. Which of the following is the multiple access protocol for channel access control?

- a) CSMA/CD
- b) CSMA/CA
- c) Both CSMA/CD & CSMA/CA
- d) HDLC

28. The technique of temporarily delaying outgoing acknowledgements so that they can be hooked onto the next outgoing data frame is called _____

- a) piggybacking
- b) cyclic redundancy check
- c) fletcher's checksum
- d) parity check

29. A 4 byte IP address consists of _____

- a) only network address
- b) only host address
- c) network address & host address
- d) network address & MAC address

30. Transmission control protocol _____

- a) is a connection-oriented protocol

- b) uses a three way handshake to establish a connection
- c) receives data from application as a single stream
- d) all of the mentioned

31. The sharing of a medium and its link by two or more devices is called _____

- a) Fully duplexing
- b) Multiplexing
- c) Microplexing
- d) Duplexing

32. Multiplexing is used in _____

- a) Packet switching
- b) Circuit switching
- c) Data switching
- d) Packet & Circuit switching

33. In TDM, the transmission rate of a multiplexed path is always _____ the sum of the transmission rates of the signal sources.

- a) Greater than
- b) Lesser than
- c) Equal to
- d) Equal to or greater than

34. What is the max length of the Shielded twisted pair cable?

- a) 100 ft
- b) 200 ft
- c) 100 m
- d) 200 m

35. A local telephone network is an example of a _____ network.

- a) Packet switched
- b) Circuit switched
- c) Bit switched
- d) Line switched

36. Most packet switches use this principle _____

- a) Stop and wait
- b) Store and forward
- c) Store and wait
- d) Stop and forward

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

- a) udp header
- b) checksum

- c) source port
- d) destination port

38. MAC address is also called _____.

- a) Physical address
- b) Logical address
- c) Source address
- d) Destination address

39. Which has continuous transmission?

- a) Asynchronous
- b) Synchronous
- c) Asynchronous & Synchronous
- d) None of the mentioned

40. How error detection and correction is done?

- a) By passing it through equalizer
- b) By passing it through filter
- c) By amplifying it
- d) By adding redundancy bits

41. Which is more efficient?

- a) Parity check
- b) Cyclic redundancy check
- c) Parity & Cyclic redundancy check
- d) None of the mentioned

42. Which can detect two bit errors?

- a) Parity check
- b) Cyclic redundancy check
- c) Parity & Cyclic redundancy check
- d) None of the mentioned

43. What frequency range is used for FM radio transmission?

- (a) Very Low Frequency: 3 kHz to 30 kHz
- (b) Low Frequency: 30 kHz to 300 kHz
- (c) High Frequency: 3 MHz to 30 MHz
- (d) Very High Frequency: 30 MHz to 300 MHz

44. Frequency and period are _____.

- a) proportional to each other
- b) inverse of each other

c) the same

d) none of the above

45. _____ is a type of transmission impairment in which an outside source such as crosstalk corrupts a signal.

a) Noise b) Distortion c) Attenuation d) Decibel

46. Both Go-Back-N and Selective-Repeat Protocols use a _____.

a) sliding frame b) sliding window c) sliding packet d) none of the above

47. What is the size of the sender window in the Go Back N (ARQ) protocol?

a) 0 b) 1 c) 10 d) n

48. _____ are the random access protocols

a) ALOHA, CSMA, CSMA/CA, CSMA/CD

b) Reservation, polling, token passing

c) FDMA, TDMA, CDMA

d) All of the above

49. _____ framing uses two categories of protocols: character-oriented and bit-oriented.

a) Fixed-size b) Variable-size c) Standard d) None of the above

50. In _____ framing, there is no need for defining the boundaries of frames.

a) fixed size b) variable size c) standard d) none of the above

51. _____ is a type of transmission impairment in which the signal loses strength due to the different propagation speeds of each frequency that makes up the signal.

a. Attenuation

b. Noise

c. Distortion

d. Decibel

52. The wavelength of a signal depends on the _____.

a. Frequencies of the signal

b. Medium

c. Phase of the signal

d. (a) and (b)

53. A _____ sine wave is not useful in data communications; we need to send a _____ signal.

- a) composite; single-frequency
- b) single-frequency; composite
- c) single-frequency; double-frequency
- d) none of the above

54. A periodic signal completes one cycle in 0.001 s. What is the frequency?

- a) 1 Hz
- b) 100 Hz
- c) 1 KHz
- d) 1 MHz

55. _____ is a multiple-access method in which the available bandwidth of a link is shared in time, frequency, or through code, between different stations.

- a) Random access
- b) Controlled access
- c) Channelization
- d) none of the above

56. In _____ each station sends a frame whenever it has a frame to send.

- a) pure ALOHA
- b) slotted ALOHA
- c) both (a) and (b)
- d) neither (a) nor (b)

57. An IPv6 address consists of _____ bytes (octets)

- a) 4
- b) 8
- c) 16
- d) none of the above

58. When does the fixed path get established between the source and destination in the virtual packet switching network?

- a. Before the transmission of packets
- b. After the transmission of packets
- c. During the transmission of packets
- d. All of the above

59. Which ARQ mechanism deals with the transmission of only damaged or lost frames despite the other multiple frames by increasing the efficiency & its utility in noisy channels?

- a. Go-Back-N ARQ
- b. Selective Repeat ARQ
- c. Stop-and-Wait ARQ
- d. All of the above

60. The ability of a single network to span multiple physical networks is known as _____

- a. Subnetting
- b. Masking
- c. Fragmenting
- d. Hopping

61. The router has a _____

- a) Memory
- b) Stores routing table
- c) Both a and b
- d) None of the above

62. In slotted ALOHA the time is _____

- a) Discrete
- b) Not globally synchronized
- c) Globally synchronized
- d) Both a and c

63. Machine that places the request to access the data is generally called as _____.

- a. Server Machine
- b. Client Machine
- c. Request Machine
- d. None of the above

64. Which is not an application layer protocol?

- a) HTTP
- b) SMTP
- c) FTP
- d) TCP

65. Application layer offers _____ service.

- a) End to end
- b) Process to process
- c) Both End to end and Process to process
- d) None of the mentioned

66. Electronic mail uses which Application layer protocol?

- a) SMTP
- b) HTTP
- c) FTP
- d) SIP

67. When displaying a web page, the application layer uses the _____

- a) HTTP protocol
- b) FTP protocol
- c) SMTP protocol
- d) TCP protocol

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

- a) transmission control protocol
- b) user datagram protocol
- c) datagram congestion control protocol
- d) stream control transmission protocol

69. TCP sliding windows are _____ oriented.

- a. packet
- b. segment
- c. byte
- d. none of the above

70. Reliable data delivery guarantees that

- A. The receiver application receives the complete message data without any loss
- B. The data will not choke the network
- C. The data will not overflow the receiver's buffer
- D. None of the above

71. A DNS client is called _____

- a) DNS updater
- b) DNS resolver
- c) DNS handler
- d) none of the mentioned

72. DNS database contains _____

- a) name server records

- b) hostname-to-address records
- c) hostname aliases
- d) all of the mentioned

73. The domain name system is maintained by _____

- a) distributed database system
- b) a single server
- c) a single computer
- d) none of the mentioned

74. In Go-Back-N window, when the timer of the packet times out, several packets have to be resent even some may have arrived safe. Whereas in Selective Repeat window, the sender resends

- _____
- a) Packet which are not lost
 - b) Only those packets which are lost or corrupted
 - c) Packet from starting
 - d) All the packets

75. _____ allows you to connect and login to a remote computer

- a) Telnet
- b) FTP
- c) HTTP
- d) SMTP

76. Which operating mode of telnet is full duplex?

- a) default mode
- b) server mode
- c) line mode
- d) character mode

77. To do multicast routing, each router computes a

- (A) Binary tree (B) AVL tree
- (C) Spanning tree (D) None of these

78. Sending a packet to all destinations simultaneously is called

- (A) Multicasting (B) Unicasting
- (C) Telecasting (D) Broadcasting

79. Sending a message to a well defined group that are numerically large in size but small compared to the network as a whole is called

- (A) Unicasting (B) Multicasting
- (C) Broadcasting (D) None of these

80. The router algorithm takes the decision to changes the route when

- (A) router changes
- (B) topology changes

(C) user changes

(D) transmission time does not change

81. If router J is on the optimal path from router I to router K, then the optimal path from J to K also falls along the same route is known as

(A) Routing principle (B) Optimality principle

(C) Sink tree principle (D) Network principle

82. The set of optimal routes from all sources to a given destination from a tree rooted to the destination is known as

(A) Binary tree (B) Sparse tree

(C) Sink tree (D) AVL tree

83. The technique which requires no network information required is

A. flooding

B. variable routing

C. fixed routing

D. random routing

84. Why do we require hamming codes?

a) Error correction

b) Encryption only

c) Decryption

d) Bit stuffing

85. The checksum of 1111 and 1111 is _____.

A) 0000

B) 1111

C) 1110

D) 0111

86. In cyclic redundancy checking, the divisor is _____ the CRC.

A) one bit less than

B) one bit more than

C) The same size as

D) none of the above

87. The _____ between two words is the number of differences between corresponding bits.

A) Hamming rule

B) Hamming code

C) Hamming distance

D) none of the above

88. In modulo-2 arithmetic, _____ give the same results.

A) addition and subtraction

B) addition and multiplication

C) addition and division

D) none of the above

89. Which error detection method consists of just one redundant bit per data unit?

A) CRC

B) Checksum

C) Simple parity check

D) Two-dimensional parity check

90. In _____ coding, we divide our message into blocks, each of k bits, called ____.

A) block; blockwords

B) block; datawords

C) linear; datawords

D) none of the above

91. Adding 1 and 1 in modulo-2 arithmetic results in _____.

A) 0

B) 1

C) 2

D) none of the above

92. In modulo-2 arithmetic, we use the _____ operation for both addition and subtraction.

A) OR

B) XOR

C) AND

D) none of the above

93. A generator that contains a factor of _____ can detect all odd-numbered errors.

A) x

B) 1

C) $x + 1$

D) none of the above

94. Version 6 of IP address has how many bits.

a) 64 bits

b) 128 bits

c) 32 bits

d) 256 bits

95. 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

96. What IP address class allocates 8 bits for the host identification part?

a) Class A

b) Class B

c) Class C

d) Class D

97. What is the total vulnerable time value of pure Aloha?

- a) T_{fr}
- b) $\frac{1}{2} T_{fr}$
- c) $2 * T_{fr}$
- d) $4 * T_{fr}$

98. What is the size of the UDP header?

- a) 8 bytes
- b) 16 bytes
- c) 20 bytes
- d) 64 bytes

99. If there are n signal sources of same data rate, then the TDM link has _____ slots.

- a) n
- b) $n/2$
- c) $n*2$
- d) 2^n

100. Transmission delay does not depend on _____

- a) Packet length
- b) Distance between the routers
- c) Transmission rate
- d) Bandwidth of medium

Answer script

1. c	40.d	79.b
2. b	41.b	80.b
3.d	42.b	81.b
4.d	43.d	82.c
5.a	44.b	83.a
6.b	45.a	84.a
7.a	46.b	85.a
8.c	47.d	86.b
9.a	48.a	87.C
10.a	49.b	88.a
11.d	50.a	89.c
12.a	51.c.	90.b
13.b	52.d.	91.a
14.a	53.b	92.b
15.c	54.c	93.c
16.d	55.c	94.b
17.b	56.a	95.a
18.a	57.c	96.c
19.a	58.a	97.c
20.d	59.b	98.a
21.a	60.a	99.a
22.b	61.c	100.b
23.d	62.d	
24.c	63.b	
25.a	64.d	
26.b	65.a	
27.c	66.a	
28.a	67.a	
29.c	68.a	
30.d	69.c	
31.b	70.a	
32.b	71.b	
33.a	72.d	
34.c	73.a	
35.b	74.b	
36.b	75.a	
37.b	76.c	
38.a	77.C	
39.b	78.d	