

**Techno India Batanagar  
Computer Science and Engineering**

**Model Questions**

**Subject Name:** Computer Networks

**Subject Code:** CS 602

**Multiple Choice Questions**

1. Bluetooth uses .....to communicate between two devices.
  - a. Radiowave
  - b. Infrared
  - c. Microwave
  - d. None of these
2. When data moves from one hop to other hop then
  - a. Physical address will change
  - b. Logical address will change
  - c. Port address will change
  - d. None of these
3. In synchronous serial transmission, we send
  - a. One start bit 0 and one or more stop bit 0 at the end of each byte
  - b. One start bit 0 and one or more stop bit 1 at the end of each byte
  - c. One start bit 1 and one or more stop bit 0 at the end of each byte
  - d. One start bit 1 and one or more stop bit 1 at the end of each byte
4. Telephone system employs which of the following data transfer modes?
  - a. Simplex
  - b. Half duplex
  - c. Full duplex
  - d. Either Half duplex or Full duplex
5. All the packets in a message follow the same path in
  - a. Datagram switching
  - b. Datagram packet switching
  - c. Virtual circuit switching
  - d. Virtual circuit packet switching
6. For large networks.....topology is used.
  - a. Star
  - b. Mesh
  - c. Bus
  - d. Ring
7. The latest modulation technique used by data modem is
  - a. GMSK
  - b. PSK
  - c. BPSK
  - d. QPSK
8. A communication network which is used by large organizations over regional, national or global area is called
  - a. LAN
  - b. WAN
  - c. MAN
  - d. Intranet
9. The layer responsible for encryption technique in data communication is
  - a. Presentation
  - b. Application
  - c. Transport
  - d. Session

10. Which detection method can detect a single bit error?  
 a. CRC  
 b. Two dimensional parity checks  
 c. Simple parity check  
 d. All of the above
11. The sharing of a medium and its path by two or more devices is called  
 a. Modulation  
 b. Encoding  
 c. Multiplexing  
 d. Decoding
12. The total number of links required to connect  $n$  devices using Mesh topology is  
 a.  $2^n$   
 b.  $\frac{n(n+1)}{2}$   
 c.  $\frac{n(n-1)}{2}$   
 d.  $n^2$
13. A device operating at the Network layer is called  
 a. Bridge  
 b. HUB  
 c. Router  
 d. Repeater
14. What frequency range is used for microwave communications, satellite and radar?  
 a. Low Frequency : 30 kHz to 300 kHz  
 b. Medium Frequency : 300 kHz to 3 MHz  
 c. Super High Frequency : 3000 MHz to 30000 MHz  
 d. Extremely High Frequency :30,000 MHz
15. Which protocol is used for file transferring?  
 a. SMTP  
 b. SCTP  
 c. FTP  
 d. TCP
16. In CRC there is no error if the remainder at the receiver is.....  
 a. the quotient at the sender  
 b. zero  
 c. non-zero  
 d. equal to the remainder at the sender
17. Which error detection method involves polynomials?  
 a. CRC  
 b. LRC  
 c. VRC  
 d. Checksum calculation
18. Host to Host connectivity is provided by.....layer.  
 a. Transport  
 b. Network  
 c. Data Link  
 d. Session
19. Which of the encoding is used in Ethernet LAN?  
 a. Polar encoding  
 b. Differential Manchester encoding  
 c. Manchester encoding  
 d. Block encoding
20. Telephone networks are  
 a. Circuit-switching  
 b. Cell-switching  
 c. Packet-switching  
 d. Message-switching
21. In OSI network architecture, the routing is performed by  
 a. Network layer  
 b. Transport layer  
 c. Application layer  
 d. None of these
22. Error detection at the data link level is achieved by  
 a. Bit stuffing  
 b. Cyclic redundancy codes  
 c. Hamming codes  
 d. Equalization

23. In link state routing, after the construction of link state packets, new routes are computed using.....
- |                           |                           |
|---------------------------|---------------------------|
| a. Bellman Ford algorithm | b. DES algorithm          |
| c. Dijkstra's algorithm   | d. Leaky bucket algorithm |
24. Count-to-Infinity problem occurs in.....
- |                            |                         |
|----------------------------|-------------------------|
| a. Distance vector routing | b. Shortest path first  |
| c. Link state routing      | d. Hierarchical routing |
25. Distance vector routing algorithm is implemented in Internet as
- |         |         |
|---------|---------|
| a. OSPF | b. RIP  |
| c. ARP  | d. RARP |
26. Which of the following is not a guided transmission line?
- |                  |                  |
|------------------|------------------|
| a. Twisted pair  | b. Coaxial cable |
| c. Optical fiber | d. Laser beam    |
27. The highest data rate is provided by which of the following medium?
- |                  |                  |
|------------------|------------------|
| a. Microwave     | b. Coaxial cable |
| c. Optical fiber | d. None of above |
28. An effective way to prevent attenuation is:
- |  |                          |
|--|--------------------------|
| a. Adding repeaters or amplifiers to a circuit | b. Compressing a circuit |
| c. Shielding wires                             | d. None of above         |
29. Baud rate is:
- |  |  |
|--|--|
| a. Number of signal changes per second | b. Number of bits per second             |
| c. Number of bytes per second          | d. Number of ASCII characters per second |
30. The maximum data rate that a medium of 10 KHz and signal to noise ratio of 30dB is
- |             |            |
|-------------|------------|
| a. 10 Kbps  | b. 30 Kbps |
| c. 100 Kbps | d. 3 Kbps  |
31. What is the minimum header size of an IP packet?
- |             |             |
|-------------|-------------|
| a. 16 Bytes | b. 10 Bytes |
| c. 20 Bytes | d. 32 Bytes |
32. Repeater operates in which layer of the OSI model?
- |                   |                    |
|-------------------|--------------------|
| a. Physical layer | b. Data link layer |
| c. Network layer  | d. Transport layer |
33. The Internet is an example of
- |                            |                             |
|----------------------------|-----------------------------|
| a. Cell switched network   | b. Circuit switched network |
| c. Packet switched network | d. Message switched network |
34. What is the address size of IPv6?
- |            |            |
|------------|------------|
| a. 32 bit  | b. 64 bit  |
| c. 128 bit | d. 256 bit |
35. Which of the following layer is not network support layer?
- |                   |                    |
|-------------------|--------------------|
| a. Physical layer | b. Data link layer |
|-------------------|--------------------|

- c. Network layer
- d. Transport layer
- 36. The amount of data that can be carried from one point to another in a given time period is called
  - a. Scope
  - b. Bandwidth
  - c. Capacity
  - d. Limitation
- 37. The management of data flow between computers or devices or between nodes in a network is called
  - a. Flow control
  - b. Data control
  - c. Data management
  - d. Flow management
- 38. Which of the following is reliable communication?
  - a. TCP
  - b. IP
  - c. UDP
  - d. All of above
- 39. What is the size of Host bits in Class B of IP address?
  - a. 04 bits
  - b. 08 bits
  - c. 16 bits
  - d. 14 bits
- 40. Which of the following is/are protocols of Application layer?
  - a. FTP
  - b. DNS
  - c. TELNET
  - d. All of above
- 41. Which of the following is not the Networking device?
  - a. Gateways
  - b. Repeaters
  - c. Routers
  - d. None of above
- 42. The method of communication in which transaction takes place in both directions, but only in one direction at a time, is called
  - a. Simplex
  - b. Full duplex
  - c. Half duplex
  - d. Four wire circuit
- 43. Error detection at the data link layer is achieved by
  - a. Bit stuffing
  - b. Cyclic redundancy codes
  - c. Hamming code
  - d. Equalization
- 44. The topology with highest reliability is
  - a. Bus topology
  - b. Star topology
  - c. Mesh topology
  - d. Ring topology
- 45. In OSI model, dialog control and token management are responsibilities of
  - a. Session layer
  - b. Network layer
  - c. Transport layer
  - d. Data link layer
- 46. Which protocol does ping use?
  - a. TCP
  - b. ICMP
  - c. IGMP
  - d. BOOTP
- 47. Which layer is responsible for congestion control?
  - a. Session layer
  - b. Network layer
  - c. Transport layer
  - d. Data link layer
- 48. Preamble field of 802.3 frames is encoded using..... encoding
  - a. Manchester
  - b. Differential Manchester
  - c. Bipolar
  - d. Unipolar

49. ....is a static algorithm in which every incoming packet is sent out on every outgoing line except the one it arrives on.
- a. Distance vector
  - b. Congestion
  - c. Link state routing
  - d. Flooding
50. How many number of host/machine can be attached to a network using a class B address?
- a. 65,536
  - b. 128
  - c. 256
  - d. 16,777,216
51. Destination physical address in ARP request is .....address.
- a. Unicast
  - b. Broadcast
  - c. Multicast
  - d. Anycast
52. OSPF is based on
- a. Distance vector routing
  - b. Path vector routing
  - c. Link state routing
  - d. Both (a) and (b)
53. FTP servers by default listen on port \_\_\_\_\_ for incoming connections from FTP clients.
- a. 20
  - b. 21
  - c. 23
  - d. 25
54. ....is/ are caused by the random motion of the electrons in a wire and is unavoidable.
- a. Dispersion
  - b. Attenuation
  - c. Induced noise
  - d. Thermal noise
55. BGP is .....routing protocol used to.....routing table
- a. Intraautonomous system, update
  - b. Interautonomous system, update
  - c. Interautonomous system, create
  - d. Intraautonomous system, create
56. What is the maximum size of IP header in the UDP Datagram format?
- a. 40 Bytes
  - b. 50 Bytes
  - c. 60 Bytes
  - d. 80 Bytes
57. Which of the following provides a structure for conveying message through TCP/IP network?
- a. ARP
  - b. ICMP
  - c. BOOTP
  - d. DHCP
58. If the dataword is 111111, the divisor is 1010, the remainder is 1010, the CRC codeword is
- a. 1111111010
  - b. 111111110
  - c. 1010110
  - d. 1101010
59. Circuit switching takes place at the \_\_\_\_\_layer.
- a. Data link
  - b. Physical

- c. Transport  
d. None of these
60. PPP is a \_\_\_\_\_ oriented protocol.
- a. phase  
b. bit  
c. byte  
d. None of these
61. A digital signal has eight levels. How many bits are needed per level?
- a. 0  
b. 4  
c. 2  
d. 3
62. If a digital signal changes instantaneously, its frequency is
- a. 0  
b. finite  
c. infinite  
d. None of these
63. The hamming distance  $d(000, 011)$  is
- a. 0  
b. 1  
c. 2  
d. None of these
64. The address space of IPv4 is
- a. 0  
b. infinite  
c.  $2^{32}$   
d. None of these
65. Flow control is the responsibilities of the
- a. Data link layer  
b. Transport layer  
c. Both of these  
d. None of these
66. ICMP resides at the same layer as which of the following protocols mentioned below?
- a. TCP  
b. IP  
c. UDP  
d. ARP
67. Which channel access method is used in Ethernet network?
- a. CSMA/CD  
b. Token Bus  
c. Token Ring  
d. All of these
68. When a host knows its IP address but not its physical address, it can use

- a. RARP
  - b. ARP
  - c. ICMP
  - d. IGMP
69. Which of the following is a valid host for network 192.168.10.32/28
- a. 192.168.10.39
  - b. 192.168.10.47
  - c. 192.168.10.14
  - d. 192.168.10.54
70. Pure ALOHA has a maximum efficiency of
- a. 18%
  - b. 37%
  - c. 10%
  - d. None of these
71. Which class of IP address is reserved for multicast communication?
- a. Class A
  - b. Class B
  - c. Class C
  - d. Class D
72. How much of channel output of slotted ALOHA will be in comparison to pure ALOHA?
- a. Same
  - b. Double
  - c. Three times
  - d. None of these
73. ....is a collision free technique.
- a. Token Passing
  - b. CSMA
  - c. ALOHA
  - d. CSMA/CD
74. Repeaters function in the .....layer.
- a. Physical
  - b. Data Link
  - c. Network
  - d. Transport
75. Frames from one LAN can be transmitted to another LAN via the device
- a. Router
  - b. Bridge
  - c. Repeater
  - d. Modem
76. Which of the following is used for modulation and demodulation?
- a. Modem
  - b. Gateway
  - c. Protocol
  - d. Multiplexer
77. The Internet Control Message Protocol (ICMP)
- a. allows gateways to send error a control messages to other gateways or hosts

- b. provides communication between the Internet Protocol Software on one machine and the Internet Protocol Software on another
  - c. reports error conditions to the original source, the source must relate errors to individual application programs and take action to correct the problem
  - d. All the above
78. Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?
- a. FTP
  - b. SNMP
  - c. SMTP
  - d. DHCP
79. Which of the following device is used to connect two systems, especially if the systems use different protocols?
- a. Hub
  - b. Gateway
  - c. Bridge
  - d. Repeater
80. What part of 192.168.10.51 is the Network ID, assuming a default subnet mask?
- a. 192.168
  - b. 192.168.10
  - c. 192
  - d. 51
81. A noiseless 3 KHz Channel transmits bits with binary level signals. What is the maximum data rate?
- a. 3 Kbps
  - b. 9 Kbps
  - c. 6 Kbps
  - d. 27 Kbps
82. The geostationary satellite used for communication systems
- a. rotates with the earth
  - b. remains stationary relative to the earth
  - c. is positioned over equator
  - d. All the above
83. An error-detecting code inserted as a field in a block of data to be transmitted is known as
- a. Frame check sequence
  - b. Error detecting code
  - c. Flow control
  - d. Checksum
84. FDDI is a



- a. Ring network
  - b. Star network
  - c. Mesh network
  - d. None of the above
85. Which address is the loopback address?
- a. 0.0.0.1
  - b. 127.0.0.0
  - c. 127.0.0.1
  - d. 255.255.255.255
86. If the ASCII character G is sent and the character D is received, what type of error is this?
- a. Single-bit
  - b. burst
  - c. multiple-bit
  - d. All the above
87. TCP is:
- a. Operates at the application layer
  - b. Connection-oriented and unreliable
  - c. Connection-oriented and reliable
  - d. Connectionless and unreliable
88. End-to-end connectivity is provided from host-to-host in:
- a. Session layer
  - b. Network layer
  - c. Data link layer
  - d. Transport layer
89. Which of the following is an example of a client-server model?
- a. TELNET
  - b. FTP
  - c. DNS
  - d. All the above
90. What does the acronym ISDN stand for?
- a. Indian Standard Digital Network
  - b. Integrated Services Digital Network
  - c. Intelligent Services Digital Network
  - d. Integrated Services Data Network