

CISC 7334X Midterm Exam

Pick the best answer that fits the question. 5-points per question. Not all of the answers may be correct. If none of the answers fit, write your own answer.

1. The purpose of a network mask is:
 - a. To extract the host MAC address from the Ethernet frame.
 - b. To find the network address.
 - c. To add to the host address and get network address.
 - d. To cover up ugly IP addresses.
 - e. None of the above, answer is: _____

2. Polar coding method (as opposed to bipolar coding):
 - a. cannot synchronize on every bit
 - b. has an AC component
 - c. has a DC component
 - d. requires twice the bandwidth than bipolar coding method
 - e. None of the above, answer is: _____

3. The correct order of OSI model layers is:
 - a. Application, Presentation, Data Link, Transport, Network, Session, Physical
 - b. Application, Presentation, Transport, Session, Network, Data Link, Physical
 - c. Application, Presentation, Session, Network, Transport, Data Link, Physical
 - d. Application, Presentation, Session, Transport, Network, Data Link, Physical
 - e. None of the above, answer is: _____

4. Slotted ALOHA improved:
 - a. Latency Time.
 - b. Vulnerable Time.
 - c. Propagation Time.
 - d. Frame Time.
 - e. None of the above, answer is: _____

5. Which protocol is used to find the MAC address:
 - a. DNS
 - b. SMTP
 - c. ARP
 - d. TCP
 - e. None of the above, answer is: _____

6. For Fast Ethernet operating in half-duplex mode, the maximum length of the lan is about (in meters):
- (a) Answer is: _____
7. Length of an Ethernet network is limited by:
- a. data rate
 - b. frame size
 - c. CSMA/CD
 - d. all of the above
 - e. None of the above, answer is: _____
8. Which if the below is connectionless?
- a. FTP
 - b. NTP
 - c. SMTP
 - d. HTTP
- (a) Answer is: _____
9. The MAC layer is responsible for:
- a. Routing.
 - b. End to end error correction.
 - c. Dealing with collisions.
 - d. Converting ASCII to EBCDIC.
 - e. None of the above, answer is: _____
10. Time Division Multiplexing is applicable when:
- a. Carrier wavelength propagation delay is lower.
 - b. Carrier data rate exceeds that of our signal.
 - c. Carrier bandwidth exceeds that of our signal.
 - d. Signal to Noise ratio is lower.
 - e. None of the above, answer is: _____
11. Frequency Division Multiplexing is applicable when:
- a. Carrier wavelength propagation delay is lower.
 - b. Signal to Noise ratio is lower.
 - c. Carrier bandwidth exceeds that of our signal.
 - d. Carrier data rate exceeds that of our signal.
 - e. None of the above, answer is: _____
12. Ring network,

- a. devices connect using an active interface.
 - b. devices connect using a passive interface.
 - c. LLC layer handles CSMA/CD
 - d. all of the above
 - e. None of the above, answer is: _____
13. On a bus network,
- a. devices connect using an active interface.
 - b. devices connect using a passive interface.
 - c. LLC layer handles CSMA/CD
 - d. all of the above
 - e. None of the above, answer is: _____
14. If bandwidth is 8Mhz, and SNR is 120, max capacity of the channel is (in Mbps):
- (a) Answer is: _____
15. If bandwidth is 8Mhz, and SNR is 120, about how many voltage levels are required to achieve maximum capacity
- (a) Answer is: _____
16. (use calculator if needed) We are transmitting data at a rate of 1000 bits per second. During transmission, the noise introduces errors so that, on average, 10% of bits are received incorrectly (i.e.: a 0 as 1, or 1 as 0). The maximum error free capacity of this channel is (in bps):
- (a) Answer is: _____
17. We are transmitting data at 100W, and detect only 80W when receiving, attenuation in decibels is:
- (a) Answer is: _____
18. The Data-Link layer is responsible for:
- a. Routing
 - b. Name resolution
 - c. Point to Point transmission
 - d. Pinging
 - e. None of the above, answer is: _____
19. Routers operate at:
- a. Data Link Layer
 - b. Physical Layer
 - c. Network layer
 - d. Session Layer

e. None of the above, answer is: _____

20. Network switches operate at:

a. Session Layer

b. Network layer

c. Physical Layer

d. Data Link Layer

e. None of the above, answer is: _____