CISC 7334X Final 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. Slotted ALOHA improved:
    a. Latency Time.
    b. Propagation Time.
    c. Vulnerable Time.
    d. Frame Time.
    e. None of the above, answer is: _____

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

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

4. In Sliding Window ARQ, selective reject NAK:
    a. Rejects all messages prior to NAK.
    b. Retransmits all frames following the NAK.
    c. Selectively rejects all messages following NAK.
    d. Acknowledges everything prior to NAK.
    e. None of the above, answer is: _____

5. Length of an Ethernet network is limited by:
    a. packet size
    b. data rate
    c. CSMA/CD
    d. all of the above
    e. None of the above, answer is: _____

6. Which protocol is used to find the MAC address:

a. SMTP

b. DNS

c. TCP

d. ARP

e. None of the above, answer is: _____

7. For Gigabit Ethernet operating in half-duplex mode, the maximum length of the lan is about (in meters):

   (a) Answer is: _____

8. For Fast Ethernet, the CSMA/CD happens during first N of each frame. What is N in microseconds?

   (a) Answer is: _____

9. Frequency Division Multiplexing is applicable when:

   a. Signal to Noise ratio is lower.

   b. Carrier wavelength propagation delay is lower.

   c. Carrier data rate exceeds that of our signal.

   d. Carrier bandwidth exceeds that of our signal.

   e. None of the above, answer is: _____

10. Time Division Multiplexing is applicable when:

    a. Carrier data rate exceeds that of our signal.

    b. Carrier wavelength propagation delay is lower.

    c. Signal to Noise ratio is lower.

    d. Carrier bandwidth exceeds that of our signal.

    e. None of the above, answer is: _____

11. The MAC layer is responsible for:

    a. End to end error correction.

    b. Routing.

    c. Converting ASCII to EBCDIC.

    d. Dealing with collissions.

    e. None of the above, answer is: _____

12. Ring network,

    a. LLC layer handles CSMA/CD

    b. devices connect using a passive interface.

    c. devices connect using an active interface.

    d. all of the above

e. None of the above, answer is: _____

13. On a bus network,

    a. LLC layer handles CSMA/CD

    b. devices connect using a passive interface.

    c. devices connect using an active interface.

    d. all of the above

    e. None of the above, answer is: _____

14. If bandwidth is 8Mhz, and SNR is 60, max capacity of the channel is (in Mbps):

    (a) Answer is: _____

15. If bandwidth is 8Mhz, and SNR is 60, 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, 15% 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 15W, and detect only 10W when recieving, attenuation in decibels is:

    (a) Answer is: _____

18. The Data-Link layer is responsible for:

    a. Name resolution

    b. Routing

    c. Pinging

    d. Point to Point transmission

    e. None of the above, answer is: _____

19. Network switches operate at:

    a. Network layer

    b. Session Layer

    c. Data Link Layer

    d. Physical Layer

    e. None of the above, answer is: _____

20. Routers operate at:

    a. Physical Layer

    b. Data Link Layer

c. Session Layer

d. Network layer

e. None of the above, answer is: _____