Brooklyn College, CIS Dept, CISC 7332X
Midterm Exam

Name: _____

Section: _____ Id.: _____

(*Each question is worth 5 points. You get 1 point for leaving an answer blank. You get no points for a wrong answer.*)

1. (5 pts) 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, Session, Transport, Network, Data Link, Physical
   d. Application, Presentation, Transport, Session, Network, Data Link, Physical
   e. None of the above, answer is: _____

2. (5 pts) What ARQ did ALOHA use:
   a. Go back N
   b. Sliding Window
   c. Stop and wait
   d. Selective Reject
   e. None of the above, answer is: _____

3. (5 pts) Slotted ALOHA improved:
   a. Principle Time.
   b. Vulnerable Time.
   c. Propagation Time.
   d. Flight Time.
   e. None of the above, answer is: _____

4. (5 pts) In Sliding Window ARQ, selective reject NAK:
   a. Retransmits all frames following the NAK.
   b. Acknowledges everything prior to NAK.
   c. Rejects all messages prior to NAK.
   d. Selectively rejects all messages following NAK.
   e. None of the above, answer is: _____

5. (5 pts) Length of an Ethernet network is limited by:
   a. data rate
   b. packet size
   c. CSMA/CD

d. all of the above

e. None of the above, answer is: _____

6. (5 pts) For Ethernet 10, the maximum length of the lan is closer to:

   a. 5km
   b. 500km
   c. 50m
   d. 500m
   e. None of the above, answer is: _____

7. (5 pts) For Gigabit Ethernet operating in half-duplex mode, the maximum length of the lan is closer to:

   a. 5km
   b. 500km
   c. 50m
   d. 500m
   e. None of the above, answer is: _____

8. (5 pts) For Fast Ethernet, the CSMA/CD happens during first N of each frame. What is N?

   a. 512 microseconds
   b. 51.2 microseconds
   c. 5.12 microseconds
   d. 0.512 microseconds
   e. None of the above, answer is: _____

9. (5 pts) Frequency Division Multiplexing is applicable when:

   a. Carrier wavelength propagation delay is lower.
   b. Carrier bandwidth exceeds that of our signal.
   c. Signal to Noise ratio is lower.
   d. Carrier data rate exceeds that of our signal.
   e. None of the above, answer is: _____

10. (5 pts) Time Division Multiplexing is applicable when:

    a. Carrier wavelength propagation delay is lower.
    b. Carrier bandwidth exceeds that of our signal.
    c. Signal to Noise ratio is lower.
    d. Carrier data rate exceeds that of our signal.
    e. None of the above, answer is: _____

11. (5 pts) The MAC layer is responsible for:

a. Routing.
b. Dealing with collissions.
c. Converting ASCII to EBCDIC.
d. End to end error correction.
e. None of the above, answer is: _____

12. (5 pts) 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: _____

13. (5 pts) 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: _____

14. (5 pts) If bandwidth is 8Mhz, and SNR is 30, max capacity of the channel closer to:

a. 20Mbps
b. 30Mbps
c. 40Mbps
d. 50Mbps
e. None of the above, answer is: _____

15. (5 pts) If bandwidth is 8Mhz, and SNR is 30, about how many voltage levels are required to achieve maximum capacity

a. 3
b. 6
c. 12
d. 24
e. None of the above, answer is: _____

16. (5 pts)

$$usecalculator$$

We are transmitting data at a rate of 1000 bits per second. During transmission, the noise introduces errors so that, on average, 16% of bits are received incorrectly (i.e.: a 0 as 1, or 1 as 0). The maximum error free capacity of this channel is closer to:

a. 350bps
b. 550bps
c. 650bps
d. 850bps
e. None of the above, answer is: _____

17. (5 pts) We are transmitting data at 100W, and detect only 90W when recieving, attenuation in decibels is closer to:

a. -2.0
b. -1.5
c. -1.0
d. -0.5
e. None of the above, answer is: _____

18. (5 pts) The Data-Link layer is responsible for:

a. Point to Point transmission
b. Routing
c. Name resolution
d. Pinging
e. None of the above, answer is: _____

19. (5 pts) Network switches operate at:

a. Session Layer
b. Network layer
c. Data Link Layer
d. Physical Layer
e. None of the above, answer is: _____

20. (5 pts) Routers operate at:

a. Physical Layer
b. Network layer
c. Data Link Layer
d. Session Layer
e. None of the above, answer is: _____