

Tutorial 1

The following are multiple-choice questions. Please select the correct answer.

1. The binary equivalent of 5BCE hexadecimal is:

- A. 101101111001111
- B. 101101111001100
- C. 101101111000110
- D. 101101111011110
- E. 10110111100 1110

2. Which of the following is the main disadvantage of a star network:

- A. Data transmitted between the central server and the node is relatively high
- B. That the network is reliant on a central server
- C. All nodes compete for the network
- D. Nodes can only transmit data once they have a token

3. Which of the following is the main disadvantage of a ring network:

- A. Data transmitted between the central server and the node is relatively high
- B. That the network is reliant on a central server
- C. All nodes compete for the network
- D. A break in the ring stops data from being transmitted

4. Which of the following is the main disadvantage of a bus network:

- A. Data transmitted between the central server and the node is relatively high
- B. That the network is reliant on a central server
- C. All nodes compete for the network
- D. A break in the ring stops data from being transmitted

5. If the location of a fault is 1km from the start of a cable. How long will it take a pulse to reach the fault (assume that the pulse travels at the speed-of-light):

- A. 1 microsecond (1e-6)
- B. 2 microseconds (2e-6)
- C. 3.33 microseconds (3.33e-6)
- D. 6 microseconds (6e-6)
- E. 10 microseconds (6e-6)

6. If the location of a fault is 10km from the start of a cable. How long will it take a pulse to reach the fault (assume that the pulse travels at the speed-of-light):

- A. 10 microsecond (10e-6)
- B. 20 microseconds (20e-6)
- C. 33.3 microseconds (33.3e-6)
- D. 60 microseconds (60e-6)
- E. 100 microseconds (60e-6)

7. Which type of number format is used to display an Ethernet MAC address:

- A. Decimal
- B. Hexadecimal
- C. Binary
- D. Octal
- E. Text

8. Which type of number format is used to display an IP address:

- A. Decimal
- B. Hexadecimal
- C. Binary
- D. Octal
- E. Text

9. Which type of number format is used to display an IP subnet mask:

- A. Decimal
- B. Hexadecimal
- C. Binary
- D. Octal
- E. Text

10. Which is an example of a MAC address:

- A. 00:11:22:33:44:55
- B. 1.2.3.4
- C. 12345:5678
- D. 1011 1011 1111 0000
- E. Fred's Computer

11. Which is an example of an IP address:

- A. 00:11:22:33:44:55
- B. 1.2.3.4
- C. 12345:5678
- D. 1011 1011 1111 0000
- E. Fred's Computer

12. Which is an example of an IPX address:

- A. 00:11:22:33:44:55
- B. 1.2.3.4
- C. 12345:5678
- D. 1011 1011 1111 0000
- E. Fred's Computer

13. Which is an example of a hexadecimal number:

- A. 00:11:22:33:44:55
- B. 1.2.3.4
- C. 12345:5678
- D. 1011 1011 1111 0000
- E. 0x12345

14. For the same clocking rate, which is the fastest:

- A. Serial Communications
- B. Parallel Communications

15. For parallel communications, eight bits are sent at a rate of 10MHz. What is the data rate (MBytes/sec):

- A. 1
- B. 8
- C. 10
- D. 80
- E. 100

16. For parallel communications, eight bits are sent at a rate of 10MHz. What is the data rate (Mbits/sec):

- A. 1
- B. 8
- C. 10
- D. 80
- E. 100

17. Which type of communications only allows data to be sent in one direction at a time:

- A. Simplex
- B. Half-duplex
- C. Full-duplex
- D. Serial communications
- E. Parallel communications

18. Which type of communications only allows data to be sent in one direction:

- A. Simplex
- B. Half-duplex
- C. Full-duplex
- D. Serial communications
- E. Parallel communications

19. Which type of communications allows data to be sent in both directions, at a time:

- A. Simplex
- B. Half-duplex
- C. Full-duplex
- D. Serial communications
- E. Parallel communications

20. Which type of communications is a dial-up modem:

- A. Simplex
- B. Half-duplex
- C. Full-duplex

21. 1024 data packets, each with 1KB¹, are sent within 1 sec. What is the approximate overall data rate:

- A. 1 MB²/s
- B. 10 MB/s
- C. 100 MB/s
- D. 1 GB³/s
- E. 10 GB/s

22. 1024 data packets, each with 1MB, are sent within 1 sec. What is the approximate overall data rate:

- A. 1 MB/s
- B. 10 MB/s
- C. 100 MB/s
- D. 1 GB/s
- E. 10 GB/s

23. 1024 data packets, each with 1KB, are sent within 0.5 sec. What is the approximate overall data rate:

- A. 0.5 MB/s
- B. 1 MB/s
- C. 2 MB/s
- D. 5 MB/s
- E. 10 MB/s

¹ 1KB is 1024 Bytes

² 1MB is 1024 KB (1,048,576 Bytes)

³ 1GB is 1024 MB (1,073,741,824 Bytes)

24. 1024 data packets, each with 1KB, are sent within 2 sec. What is the approximate overall data rate:

- A. 0.5 MB/s
- B. 1 MB/s
- C. 2 MB/s
- D. 5 MB/s
- E. 10 MB/s