

# MULTIPLE CHOICE QUESTIONS IN DATA COMMUNICATIONS AND NETWORKING

## A Complete Chapter Quiz

### Wired LANs: Ethernet

Compilation of all the quizzes (MCQs) for each and every chapters in the book of Data Communications and Networking 4th Edition by Behrouz A. Forouzan.

1. \_\_\_\_\_ uses four [twisted pairs](#).
  - A) 1000Base-LX
  - B) 1000Base-T**
  - C) 1000Base-SX
  - D) none of the above
2. 1000Base-SX, 1000Base-LX, and 1000Base-CX use \_\_\_\_\_ block coding and \_\_\_\_\_ line coding.
  - A) 8B/10B; NRZ**
  - B) 4B/5B; NRZ
  - C) 8B/10B; MLT-3
  - D) 4B/5B; MLT-3
3. \_\_\_\_\_ uses two fiber-optic cables.
  - A) 100Base-FX**
  - B) 100Base-T4
  - C) 100Base-TX
  - D) none of the above
4. \_\_\_\_\_ uses two optical fibers and a short-wave laser source.
  - A) 1000Base-LX
  - B) 1000Base-SX**
  - C) 1000Base-T
  - D) none of the above
5. What is the hexadecimal equivalent of the [Ethernet address](#) 01011010 00010001 01010101 00011000 10101010 00001111?
  - A) 5A:81:BA:81:AA:0F
  - B) 5A:11:55:18:AA:0F**
  - C) 5A:88:AA:18:55:F0
  - D) 5A:18:5A:18:55:0F
6. In Ethernet addressing, if all the bits are 1s, the address is \_\_\_\_\_.
  - A) multicast
  - B) broadcast**
  - C) unicast
  - D) none of the above
7. If an Ethernet destination address is 07:01:02:03:04:05, then this is a \_\_\_\_\_ address.
  - A) broadcast
  - B) unicast
  - C) multicast**
  - D) any of the above
8. Each station on an Ethernet network has a unique \_\_\_\_\_ address imprinted on its network interface card ([NIC](#)).
  - A) 48-bit**
  - B) 32-bit
  - C) 5-byte
  - D) none of the above
9. Gigabit Ethernet has a data rate of \_\_\_\_\_ Mbps.
  - A) 10,000
  - B) 1000**
  - C) 100
  - D) 10
10. In the Ethernet frame, the \_\_\_\_\_ field contains error detection information.
  - A) address
  - B) preamble
  - C) CRC**
  - D) none of the above
11. 100Base-T4 uses \_\_\_\_\_ line coding.
  - A) 8B6T**
  - B) Manchester
  - C) MLT-3
  - D) NRZ
12. \_\_\_\_\_ uses long-wave 1310-nm single mode fiber.
  - A) 10GBase-E
  - B) 10GBase-S
  - C) 10GBase-L**
  - D) none of the above

13. \_\_\_\_\_ defines a protocol data unit (PDU) that is somewhat similar to that of HDLC.
- A) LLC
  - B) LLU
  - C) MAC
  - D) none of the above
14. 100Base-TX uses \_\_\_\_\_ block coding and \_\_\_\_\_ line coding.
- A) 8B/10B; NRZ
  - B) 4B/5B; MLT-3
  - C) 4B/5B; NRZ
  - D) 8B/10B; MLT-3
15. The \_\_\_\_\_ sublayer is responsible for the operation of the CSMA/CD access method and framing.
- A) MAC
  - B) MII
  - C) LLC
  - D) none of the above
16. \_\_\_\_\_ is the most widely used local area network protocol.
- A) Token Bus
  - B) Ethernet
  - C) Token Ring
  - D) none of the above
17. In Ethernet addressing, if the least significant bit of the first byte is 1, the address is \_\_\_\_\_.
- A) multicast
  - B) broadcast
  - C) unicast
  - D) none of the above
18. Gigabit Ethernet access methods include \_\_\_\_\_ mode.
- A) full-duplex
  - B) half-duplex
  - C) both (a) and (b)
  - D) neither (a) nor (b)
19. \_\_\_\_\_ uses four pairs of voice-grade, or higher, twisted-pair cable.
- A) 100Base-T4
  - B) 100Base-FX
  - C) 100Base-TX
  - D) none of the above
20. Standard Ethernet (10-Mbps) uses \_\_\_\_\_ encoding.
- A) AMI
  - B) Manchester
  - C) NRZ
  - D) differential Manchester
21. In \_\_\_\_\_, auto negotiation allows two devices to negotiate the mode or data rate of operation.
- A) Ten-Gigabit Ethernet
  - B) Gigabit Ethernet
  - C) Fast Ethernet
  - D) Standard
22. If an Ethernet destination address is 08:07:06:05:44:33, then this is a \_\_\_\_\_ address.
- A) broadcast
  - B) unicast
  - C) multicast
  - D) any of the above
23. \_\_\_\_\_ uses short-wave 850-nm multimode fiber.
- A) 10GBase-E
  - B) 10GBase-L
  - C) 10GBase-S
  - D) none of the above
24. Which of the following could not be an Ethernet multicast destination?
- A) 7B:AA:C1:23:45:32
  - B) 7C:56:21:1A:DE:F4
  - C) 83:32:21:21:4D:34

- D) B7:7B:6C:DE:10:00
25. \_\_\_\_\_ uses thin coaxial cable.
- A) 10Base2
  - B) 10Base5
  - C) 10Base-F
  - D) 10Base-T
26. In the Ethernet, the \_\_\_\_\_ field is actually added at the physical layer and is not (formally) part of the frame.
- A) address
  - B) CRC
  - C) preamble
  - D) none of the above
27. Fast Ethernet has a data rate of \_\_\_\_\_ Mbps.
- A) 10,000
  - B) 1000
  - C) 100
  - D) 10
28. The purpose of the \_\_\_\_\_ is to provide flow and error control for the upper-layer protocols that actually demand these services.
- A) LLC
  - B) LLU
  - C) MAC
  - D) none of the above
29. \_\_\_\_\_ uses two pairs of twisted-pair cable.
- A) 100Base-T4
  - B) 100Base-TX
  - C) 100Base-FX
  - D) none of the above
30. \_\_\_\_\_ uses fiber-optic cable.
- A) 10Base2
  - B) 10Base-F
  - C) 10Base-T
  - D) 10Base5
31. In Ethernet addressing, if the least significant bit of the first byte is 0, the address is \_\_\_\_\_.
- A) broadcast
  - B) multicast
  - C) unicast
  - D) none of the above
32. \_\_\_\_\_ uses 1550-mm single mode fiber.
- A) 10GBase-E
  - B) 10GBase-S
  - C) 10GBase-L
  - D) none of the above
33. 1000Base-T uses \_\_\_\_\_ line coding.
- A) MLT-3
  - B) 4D-PAM5
  - C) Manchester
  - D) 8B6T
34. The maximum frame length for 10-Mbps Ethernet is \_\_\_\_\_ bytes.
- A) 1200
  - B) 1518
  - C) 1500
  - D) none of the above
35. The minimum frame length for 10-Mbps Ethernet is \_\_\_\_\_ bytes.
- A) 128
  - B) 80
  - C) 32
  - D) none of the above
36. \_\_\_\_\_ uses two optical fibers and a long-wave laser source.
- A) 1000Base-T
  - B) 1000Base-SX
  - C) 1000Base-LX
  - D) none of the above

37. The \_\_\_\_\_ layer of Ethernet consists of the LLC sublayer and the MAC sublayer.
- A) network
  - B) data link**
  - C) physical
  - D) none of the above
38. 100Base-FX uses \_\_\_\_\_ block coding and \_\_\_\_\_ line coding.
- A) 8B/10B; NRZ
  - B) 4B/5B; MLT-3
  - C) 8B/10B; MLT-3
  - D) 4B/5B; NRZ-I**
39. Which of the following could not be an Ethernet unicast destination?
- A) 46:56:21:1A:DE:F4
  - B) 43:7B:6C:DE:10:00**
  - C) 48:32:21:21:4D:34
  - D) 44:AA:C1:23:45:32
40. \_\_\_\_\_ uses thick coaxial cable.
- A) 10Base2
  - B) 10Base5**
  - C) 10Base-F
  - D) 10Base-T
41. The IEEE 802.3 Standard defines \_\_\_\_\_ CSMA/CD as the access method for first-generation 10-Mbps Ethernet.
- A) non-persistent
  - B) p-persistent
  - C) 1-persistent**
  - D) none of the above
42. \_\_\_\_\_ uses four twisted-pair cables that connect each station to a common hub.
- A) 10Base-F
  - B) 10Base-T**
  - C) 10Base5
  - D) 10Base2