

All the Multiple Choice Question and Answer (MCQs) have been compiled from the books of Data Communication and Networking by the well known author **behrouz A forouzan**.

This Data Communication and Networking – **Wired LANs: Ethernet** multiple choice (MCQ) based Questions and Answers PDF covers the below lists of topics.

1. Medium access methods Multiple Choice Question and Answer.
2. Carrier sense multiple-access (CSMA) method Multiple Choice Question and Answer.
3. Carrier sense multiple access with collision detection (CSMA/CD) Multiple Choice Question and Answer.
4. Carrier sense multiple access with collision avoidance (CSMA/CA) Multiple Choice Question and Answer.
5. Reservation, polling, and token passing controlled-access methods Multiple Choice Question and Answer.
6. FDMA, TDMA, and CDMA channelization methods Multiple Choice Question and Answer.

**Practice now to sharpen your concept.**

**1. What is the hexadecimal equivalent of the Ethernet address 01011010 00010001 01010101 00011000 10101010 00001111?**

- A. 5A:88:AA:18:55:F0
- B. 5A:81:BA:81:AA:0F
- C. 5A:11:55:18:AA:0F
- D. 5A:18:5A:18:55:0F

**2. If an Ethernet destination address is 07:01:02:03:04:05, then this is a \_\_\_\_\_ address.**

- A. unicast

- B. multicast
- C. broadcast
- D. any of the above

**3. If an Ethernet destination address is 08:07:06:05:44:33, then this is a \_\_\_\_\_ address.**

- A. unicast
- B. multicast
- C. broadcast
- D. any of the above

**4. Which of the following could not be an Ethernet unicast destination?**

- A. 43:7B:6C:DE:10:00
- B. 44:AA:C1:23:45:32
- C. 46:56:21:1A:DE:F4
- D. 48:32:21:21:4D:34

**5. Which of the following could not be an Ethernet multicast destination?**

- A. B7:7B:6C:DE:10:00
- B. 7B:AA:C1:23:45:32
- C. 7C:56:21:1A:DE:F4
- D. 83:32:21:21:4D:34

**6. \_\_\_\_\_ is the most widely used local area network protocol.**

- A. Token Ring
- B. Token Bus
- C. Ethernet
- D. none of the above

**7. The IEEE 802.3 Standard defines \_\_\_\_\_ CSMA/CD as the access method for first-generation 10-Mbps Ethernet.**

- A. 1-persistent
- B. p-persistent
- C. non-persistent
- D. none of the above

**8. The \_\_\_\_\_ layer of Ethernet consists of the LLC sublayer and the MAC sublayer.**

- A. data link
- B. physical
- C. network
- D. none of the above

**9. The \_\_\_\_\_ sublayer is responsible for the operation of the CSMA/CD access method and framing.**

- A. LLC
- B. MII
- C. MAC
- D. none of the above

**10. Each station on an Ethernet network has a unique \_\_\_\_\_ address imprinted on its network interface card (NIC).**

- A. 5-byte
- B. 32-bit
- C. 48-bit
- D. none of the above

<b>Answer key for MCQ SET- 1</b>	
<b>Q-1</b>	Correct Answer :5A:11:55:18:AA:0F
<b>Q-2</b>	Correct Answer :multicast
<b>Q-3</b>	Correct Answer :unicast
<b>Q-4</b>	Correct Answer :43:7B:6C:DE:10:00
<b>Q-5</b>	Correct Answer :7C:56:21:1A:DE:F4
<b>Q-6</b>	Correct Answer :Ethernet
<b>Q-7</b>	Correct Answer :1-persistent
<b>Q-8</b>	Correct Answer :data link
<b>Q-9</b>	Correct Answer :MAC
<b>Q-10</b>	Correct Answer :48-bit

### **Wired LANs: Ethernet MCQ Set-2**

**1. The minimum frame length for 10-Mbps Ethernet is \_\_\_\_\_ bytes.**

- A. 32
- B. 80
- C. 128
- D. none of the above

**2. The maximum frame length for 10-Mbps Ethernet is \_\_\_\_\_ bytes.**

- A. 1518
- B. 1500
- C. 1200
- D. none of the above

3. \_\_\_\_\_ uses thick coaxial cable
- A. 10Base5
  - B. 10Base2
  - C. 10Base-T
  - D. 10Base-F
4. \_\_\_\_\_ uses thin coaxial cable
- A. 10Base5
  - B. 10Base2
  - C. 10Base-T
  - D. 10Base-F
5. \_\_\_\_\_ uses four twisted-pair cables that connect each station to a common hub.
- A. 10Base5
  - B. 10Base2
  - C. 10Base-T
  - D. 10Base-F
6. \_\_\_\_\_ uses fiber-optic cable
- A. 10Base5
  - B. 10Base2
  - C. 10Base-T
  - D. 10Base-F
7. Fast Ethernet has a data rate of \_\_\_\_\_ Mbps.
- A. 10
  - B. 100
  - C. 1000
  - D. 10000

8. In \_\_\_\_\_, autonegotiation allows two devices to negotiate the mode or data rate of operation.

- A. Standard
- B. Fast Ethernet
- C. Gigabit Ethernet
- D. Ten-Gigabit Ethernet

9. \_\_\_\_\_ uses two pairs of twisted-pair cable.

- A. 100Base-TX
- B. 100Base-FX
- C. 100Base-T4
- D. none of the above

10. \_\_\_\_\_ uses two fiber-optic cables.

- A. 100Base-TX
- B. 100Base-FX
- C. 100Base-T4
- D. none of the above

### Answer key for MCQ SET- 2

Q-1	Correct Answer :none of the above
Q-2	Correct Answer :1518
Q-3	Correct Answer :10Base5
Q-4	Correct Answer :10Base2
Q-5	Correct Answer :10Base-T
Q-6	Correct Answer :10Base-F
Q-7	Correct Answer :100
Q-8	Correct Answer :Fast Ethernet

Q-9	Correct Answer :100Base-TX
Q-10	Correct Answer :100Base-FX

**Wired LANs: Ethernet MCQ Set-3**

1. \_\_\_\_\_ uses four pairs of voice-grade, or higher, twisted-pair cable.
  - A. 100Base-TX
  - B. 100Base-FX
  - C. 100Base-T4
  - D. none of the above
  
2. Gigabit Ethernet has a data rate of \_\_\_\_\_Mbps
  - A. 10
  - B. 100
  - C. 1000
  - D. 10000
  
3. Gigabit Ethernet access methods include \_\_\_\_\_ mode.
  - A. half-duplex
  - B. full-duplex
  - C. both (a) and (b)
  - D. neither (a) nor (b)
  
4. \_\_\_\_\_ uses two optical fibers and a short-wave laser source,
  - A. 1000Base-SX
  - B. 1000Base-LX
  - C. 1000Base-T
  - D. none of the above

**5. \_\_\_\_\_ uses two optical fibers and a long-wave laser source**

- A. 1000Base-SX
- B. 1000Base-LX
- C. 1000Base-T
- D. none of the above

**6. \_\_\_\_\_ uses four twisted pairs.**

- A. 1000Base-SX
- B. 1000Base-LX
- C. 1000Base-T
- D. none of the above

**7. \_\_\_\_\_ uses short-wave 850-nm multimode fiber**

- A. 10GBase-S
- B. 10GBase-L
- C. 10GBase-E
- D. none of the above

**8. \_\_\_\_\_ uses long-wave 1310-nm single mode fiber**

- A. 10GBase-S
- B. 10GBase-L
- C. 10GBase-E
- D. none of the above

**9. \_\_\_\_\_ uses 1550-nm single mode fiber**

- A. 10GBase-S
- B. 10GBase-L
- C. 10GBase-E



D. none of the above

**10. In Ethernet addressing, if the least significant bit of the first byte is 0, the address is \_\_\_\_\_**

- A. unicast
- B. multicast
- C. broadcast
- D. none of the above

Answer key for MCQ SET- 3	
Q-1	Correct Answer :100Base-T4
Q-2	Correct Answer :1000
Q-3	Correct Answer :both (a) and (b)
Q-4	Correct Answer :1000Base-SX
Q-5	Correct Answer :1000Base-LX
Q-6	Correct Answer :1000Base-T
Q-7	Correct Answer :10GBase-S
Q-8	Correct Answer :10GBase-L
Q-9	Correct Answer :10GBase-E
Q-10	Correct Answer :unicast

### **Wired LANs: Ethernet MCQ Set-4**

**1. In Ethernet addressing, if the least significant bit of the first byte is 1, the address is \_\_\_\_\_**

- A. unicast
- B. multicast
- C. broadcast

D. none of the above

**2. In Ethernet addressing, if all the bits are 1s, the address is**

- 
- A. unicast
  - B. multicast
  - C. broadcast
  - D. none of the above

**3. \_\_\_\_\_ defines a protocol data unit (PDU) that is somewhat similar to that of HDLC**

- A. MAC
- B. LLC
- C. LLU
- D. none of the above

**4. The purpose of the \_\_\_\_\_ is to provide flow and error control for the upper-layer protocols that actually demand these services**

- A. MAC
- B. LLC
- C. LLU
- D. none of the above

**5. In the Ethernet, the \_\_\_\_\_ field is actually added at the physical layer and is not (formally) part of the frame.**

- A. CRC
- B. preamble
- C. address
- D. none of the above

**6. In the Ethernet frame, the \_\_\_\_\_ field contains error detection information**

- A. CRC
- B. preamble
- C. address
- D. none of the above

**7. Standard Ethernet (10-Mbps) uses \_\_\_\_\_ encoding**

- A. NRZ
- B. AMI
- C. Manchester
- D. differential Manchester

**8. 100Base-TX uses \_\_\_\_\_ block coding and \_\_\_\_\_ line coding.**

- A. 4B/5B; NRZ
- B. 8B/10B; NRZ
- C. 4B/5B; MLT-3
- D. 8B/10B; NRZ

**9. 100Base-FX uses \_\_\_\_\_ block coding and \_\_\_\_\_ line coding**

- A. 4B/5B; NRZ-I
- B. 8B/10B; NRZ
- C. 4B/5B; MLT-3
- D. 8B/10B; NRZ

**10. 100Base-T4 uses \_\_\_\_\_ line coding**

- A. NRZ
- B. 8B6T

C. MLT-3  
D. Manchester

<b>Answer key for MCQ SET- 4</b>	
<b>Q-1</b>	Correct Answer :multicast
<b>Q-2</b>	Correct Answer :broadcast
<b>Q-3</b>	Correct Answer :LLC
<b>Q-4</b>	Correct Answer :LLC
<b>Q-5</b>	Correct Answer :preamble
<b>Q-6</b>	Correct Answer :CRC
<b>Q-7</b>	Correct Answer :Manchester
<b>Q-8</b>	Correct Answer :4B/5B; MLT-3
<b>Q-9</b>	Correct Answer :4B/5B; NRZ-I
<b>Q-10</b>	Correct Answer :8B6T