

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 – **Network Layer: Internet Protocol** multiple choice Questions and Answers (MCQ) PDF covers the below lists of topics.

1. Address Resolution Protocol (ARP) Multiple Choice Question and Answer.
2. Internet Protocol Multiple Choice Question and Answer.
3. Internet Control Message Protocol (ICMP) Multiple Choice Question and Answer.
4. IPv6 Multiple Choice Question and Answer.

**Practice now to sharpen your concept.**

- 1. A best-effort delivery service such as IPv4 includes \_\_\_\_\_.**
  - A. error checking
  - B. error correction
  - C. datagram acknowledgment
  - D. none of the above
  
- 2. In IPv4 header, an HLEN value of decimal 10 means \_\_\_\_\_**
  - A. there are 10 bytes of options
  - B. there are 40 bytes of options
  - C. there are 10 bytes in the header
  - D. there are 40 bytes in the header
  
- 3. In IPv4, what is the value of the total length field in bytes if the header is 28 bytes and the data field is 400 bytes?**

- A. 428
- B. 407
- C. 107
- D. 427

**4. In IPv4, what is the length of the data field given an HLEN value of 12 and total length value of 40,000?**

- A. 39,988
- B. 40,012
- C. 40,048
- D. 39,952

**5. An IPv4 datagram is fragmented into three smaller datagrams. Which**

**of the following is true?**

- A. The do not fragment bit is set to 1 for all three datagrams.
- B. The more fragment bit is set to 0 for all three datagrams
- C. The identification field is the same for all three datagrams.
- D. The offset field is the same for all three datagrams

**6. In IPv4, if the fragment offset has a value of 100, it means that**

- 
- A. the datagram has not been fragmented
  - B. the datagram is 100 bytes in size
  - C. the first byte of the datagram is byte 100
  - D. the first byte of the datagram is byte 800

**7. In IPv4, what is needed to determine the number of the last byte of a fragment?**

- A. Identification number

- B. Offset number
- C. Total length
- D. (b) and (c)

**8. The IPv4 header size \_\_\_\_\_**

- A. is 20 to 60 bytes long
- B. is always 20 bytes long
- C. is always 60 bytes long
- D. depends on the MTU

**9. Which of the following is a necessary part of the IPv6 datagram?**

- A. Base header
- B. Extension header
- C. Data packet from the upper layer
- D. (a) and (c)

**10. In IPv6, the \_\_\_\_\_ field in the base header restricts the lifetime of a datagram**

- A. version
- B. next-header
- C. hop limit
- D. neighbor-advertisement

Answer key for MCQ SET- 1	
Q-1	Correct Answer :none of the above
Q-2	Correct Answer :there are 40 bytes in the header
Q-3	Correct Answer :428
Q-4	Correct Answer :39,952

Q-5	Correct Answer :The identification field is the same for all three datagrams.
Q-6	Correct Answer :the first byte of the datagram is byte 800
Q-7	Correct Answer :(b) and (c)
Q-8	Correct Answer :is 20 to 60 bytes long
Q-9	Correct Answer :Base header
Q-10	Correct Answer :hop limit

### Network Layer: Internet Protocol MCQ Set-2

**1. The \_\_\_\_\_ protocol is the transmission mechanism used by the TCP/IP suite.**

- A. ARP
- B. IP
- C. RARP
- D. none of the above

**2. IP is \_\_\_\_\_ datagram protocol**

- A. an unreliable
- B. a connectionless
- C. both a and b
- D. none of the above

**3. The term \_\_\_\_\_ means that IP provides no error checking or tracking. IP assumes the unreliability of the underlying layers and does its best to get a transmission through to its destination, but with no guarantees.**

- A. reliable delivery
- B. connection-oriented delivery
- C. best-effort delivery

D. none of the above

**4. In IPv4, an HLEN value of decimal 10 means \_\_\_\_\_**

- A. there are 10 bytes of options
- B. there are 40 bytes of options
- C. there are 40 bytes in the header
- D. none of the above

**5. In IPv4, which field or bit value unambiguously identifies the datagram as a fragment?**

- A. Do not fragment bit ? 0
- B. More Fragment bit ? 0
- C. Fragment offset = 1000
- D. none of the above

**6. The IPv4 header size \_\_\_\_\_**

- A. is 20 to 60 bytes long
- B. is 20 bytes long
- C. is 60 bytes long
- D. none of the above

**7. In IPv4, when a datagram is encapsulated in a frame, the total size of the datagram must be less than the \_\_\_\_\_**

- A. MUT
- B. MAT
- C. MTU
- D. none of the above

**8. The IPv4 header field formerly known as the service type field is now called the \_\_\_\_\_ field**

- A. IETF
- B. checksum
- C. differentiated services
- D. none of the above

**9. In IPv6, options are inserted between the \_\_\_\_\_ and the \_\_\_\_\_ data**

- A. base header; extension header
- B. base header; upper-layer data
- C. base header; frame header
- D. none of the above

**10. IPv6 allows \_\_\_\_\_ security provisions than IPv4.**

- A. more
- B. less
- C. the same level
- D. none of the above

<b>Answer key for MCQ SET- 2</b>	
Q-1	Correct Answer :IP
Q-2	Correct Answer :both a and b
Q-3	Correct Answer :best-effort delivery
Q-4	Correct Answer :there are 40 bytes in the header
Q-5	Correct Answer :Fragment offset = 1000
Q-6	Correct Answer :is 20 to 60 bytes long
Q-7	Correct Answer :MTU
Q-8	Correct Answer :differentiated services

Q-9	Correct Answer :base header; upper-layer data
Q-10	Correct Answer :more