

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: Address Mapping, Error Reporting, and Multicasting** multiple choice Questions and Answers (MCQ) PDF covers the below lists of topics.

1. RIP and OSPF Multiple Choice Question and Answer.
2. LSA and BGP Multiple Choice Question and Answer.
3. Internet Group Management Protocol (IGMP) Multiple Choice Question and Answer.
4. DVRMP Multiple Choice Question and Answer.
5. Reverse path forwarding (RPF) Multiple Choice Question and Answer.
6. Reverse path broadcasting (RPB) Multiple Choice Question and Answer.
7. Core-Based Tree (CBT) protocol Multiple Choice Question and Answer.
8. PIM-DM – a source-based routing protocol Multiple Choice Question and Answer.
9. PIM-SM – a group-shared routing protocol Multiple Choice Question and Answer.

Practice now to sharpen your concept.

1. A _____ address is an internetwork address with universal jurisdiction.

- A. physical
- B. logical

- C. a and b
- D. none of the above

2. The logical addresses in the Internet are called _____ addresses

- A. port
- B. IP
- C. Email
- D. none of the above

3. A _____ is a local address. Its jurisdiction is over a local network.

- A. physical
- B. logical
- C. a and b
- D. none of the above

4. If the sender is a host and wants to send a packet to another host on the same network, the logical address that must be mapped to a physical address is _____

- A. the destination IP address in the datagram header
- B. the IP address of the router found in the routing table
- C. either a or b
- D. none of the above

5. If the sender is a host and wants to send a packet to another host on another network, the logical address that must be mapped to a physical address is _____.

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D. none of the above

6. The sender is a router that has received a datagram destined for a host on another network. The logical address that must be mapped to a physical address is _____.

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7. The sender is a router that has received a datagram destined for a host on the same network. The logical address that must be mapped to a physical address is _____.

- A. the destination IP address in the datagram header
- B. the IP address of the router found in the routing table
- C. either a or b
- D. none of the above

8. In _____, a table associating a logical address with a physical address is updated manually.

- A. static mapping
- B. dynamic mapping
- C. physical mapping
- D. none of the above

9. _____ is a dynamic mapping protocol in which a physical address is found for a given logical address.

- A. ARP
- B. RARP
- C. both a and b

D. none of the above

10. The target hardware address on an Ethernet is _____ in an ARP request

- A. 0x000000000000
- B. 0.0.0.0
- C. variable
- D. class dependent

Answer key for MCQ SET- 1	
Q-1	Correct Answer :logical
Q-2	Correct Answer :IP
Q-3	Correct Answer :physical
Q-4	Correct Answer :the destination IP address in the datagram header
Q-5	Correct Answer :the IP address of the router found in the routing table
Q-6	Correct Answer :the IP address of the router found in the routing table
Q-7	Correct Answer :the destination IP address in the datagram header
Q-8	Correct Answer :static mapping
Q-9	Correct Answer :ARP
Q-10	Correct Answer :0x000000000000

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MCQ Set-2

- 1. An ARP reply is normally _____**
 - A. broadcast
 - B. multicast
 - C. unicast
 - D. none of the above

- 2. An ARP request is normally _____**
 - A. broadcast
 - B. multicast
 - C. unicast
 - D. none of the above

- 3. A technique called _____ is used to create a subnetting effect.**
 - A. ARP
 - B. RARP
 - C. proxy ARP
 - D. none of the above

- 4. A _____ is an ARP that acts on behalf of a set of hosts**
 - A. ARP
 - B. RARP
 - C. proxy ARP
 - D. none of the above

- 5. ICMP is a _____ layer protocol**
 - A. data link
 - B. transport
 - C. network
 - D. none of the above

6. ICMP messages are divided into two broad categories:

-
- A. query and error reporting messages
 - B. request and response messages
 - C. request and reply messages
 - D. none of the above

7. An ICMP message has _____ header and a variable-size data section

- A. a 16-byte
- B. a 32-byte
- C. an 8-byte
- D. none of the above

8. Which of the following is true about ICMP messages?

- A. An ICMP error message may be generated for an ICMP error message
- B. An ICMP error message may be generated for each fragment
- C. An ICMP error message may be generated for a multicast datagram.
- D. none is true

9. Which of the following is true about ICMP messages?

- A. An ICMP error message may be generated for an ICMP error message
- B. An ICMP error message may be generated only for the first fragment
- C. An ICMP error message may be generated for a multicast datagram.
- D. none is true

10. IGMP is a companion to the _____ protocol.

- A. UDP
- B. TCP
- C. ICM
- D. none of the above

Answer key for MCQ SET- 2	
Q-1	Correct Answer :unicast
Q-2	Correct Answer :broadcast
Q-3	Correct Answer :proxy ARP
Q-4	Correct Answer :proxy ARP
Q-5	Correct Answer :network
Q-6	Correct Answer :query and error reporting messages
Q-7	Correct Answer :an 8-byte
Q-8	Correct Answer :none is true
Q-9	Correct Answer :An ICMP error message may be generated only for the first fragment
Q-10	Correct Answer :none of the above

Network Layer: Address Mapping, Error Reporting, and Multicasting
MCQ Set-3

1. IGMP is _____ protocol

- A. an error reporting
- B. a group management
- C. a transmission
- D. none of the above

2. IGMP helps a _____ router create and update a list of loyal members related to each router interface.

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

3. IGMP operates _____

- A. locally
- B. globally
- C. both a and b
- D. none of the above

4. An IGMP query is sent from a _____ to a _____

- A. host; host
- B. host; router
- C. router; host or router
- D. none of the above

5. The _____ is used by a router in response to a received leave report

- A. general query message
- B. special query message
- C. membership report
- D. none of the above

6. The least significant 23 bits in a 48-bit Ethernet address identify a

- _____
- A. multicast router
 - B. host
 - C. multicast group
 - D. none of the above

7. The _____ field of the IGMP message is all zeros in a query message.

- A. version
- B. type
- C. group address
- D. none of the above

8. A multicast message is sent from _____ to _____.

- A. one source; one destination
- B. one source; multiple destinations
- C. multiple sources; one destination
- D. none of the above

9. In networks that do not support physical multicast addressing, multicasting can be accomplished through _____

- A. mapping
- B. queries
- C. tunneling
- D. none of the above

10. If four hosts on a network belong to the same group, a total of _____ sent in response to a general query message.

- A. one membership report is
- B. two membership reports are
- C. three membership reports are
- D. none of the above

Answer key for MCQ SET- 3	
Q-1	Correct Answer :a group management
Q-2	Correct Answer :multicast
Q-3	Correct Answer :locally
Q-4	Correct Answer :router; host or router
Q-5	Correct Answer :special query message
Q-6	Correct Answer :multicast group
Q-7	Correct Answer :group address
Q-8	Correct Answer :one source; multiple destinations
Q-9	Correct Answer :tunneling
Q-10	Correct Answer :two membership reports are