

MULTIPLE CHOICE QUESTIONS IN DATA COMMUNICATIONS AND NETWORKING

A Complete Chapter Quiz

Network Layer: Address Mapping, Error Reporting, and Multicasting

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. The IP packet that carries an IGMP packet has a value of _____ in its protocol field.

- A) 3
- B) 2**
- C) 1
- D) none of the above

2. IGMP is _____ protocol.

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

3. 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

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

- A) 0x000000000000**
- B) 0.0.0.0
- C) variable
- D) class dependent

5. 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

6. 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

7. 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

8. An IGMP packet is carried in an _____ packet.

- A) UDP
- B) IP**
- C) Ethernet frame
- D) none of the above

9. 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

10. 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

11. 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

12. An ARP request is normally _____.

A) broadcast

B) multicast

C) unicast

D) none of the above

13. 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 _____.

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

14. 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

15. A technique called _____ is used to create a subnetting effect.

A) ARP

B) RARP

C) proxy ARP

D) none of the above

16. 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

17. 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 _____.

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

18. 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

19. IGMP operates _____.

A) locally

B) globally

C) both a and b

D) none of the above

20. 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

21. In IGMP, the general query message _____ group.

A) does not define a particular

B) explicitly defines a

C) can define more than one

D) none of the above

22. 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

23. IGMP is a companion to the _____ protocol.

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

24. ICMP is a _____ layer protocol.

- A) data link
- B) transport
- C) network
- D) none of the above

25. An ARP reply is normally _____.

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

26. _____ 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

27. 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

28. 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

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

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

30. 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

31. 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

32. 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

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

A) physical

B) logical

C) a and b

D) none of the above

34. In IGMP, a membership report is sent

_____.

A) once

B) twice

C) three times

D) none of the above