QUIZ Chapter 2

1. Which of the following is a limitation of early networks that used a daisy-chain method of connecting computers? (Choose all that apply.)
a. Total number of computers that could be connected
b. The processing speed of the computers connected
c. Cable length
d. No Internet access

2. Which of the following is true of a repeater?
a. Receives frames and forwards them
b. Determines which network to send a packet
c. Receives bit signals and strengthens them
d. Has a burned-in MAC address for each port

3. Which of the following is true of a hub? (Choose all that apply.)
a. Usually has just two ports
b. Transmits regenerated signals to all connected ports
c. Usually has four or more ports
d. Works with MAC addresses

4. Which of the following is the unit of measurement by which a hub's bandwidth is usually specified?
a. Bytes per second
b. Bits per second
c. Packets per second
d. Bytes per minute

5. Which of the following describes how devices connected to a hub use the speed at which the hub can transmit data?
a. Bandwidth optimization
b. Bandwidth dedication
c. Bandwidth sharing
d. Bandwidth multiplier

6. Which of the following is a likely indicator light on a hub? (Choose all that apply.)
a. CRC error
b. Link status
c. Connection speed
d. Activity
e. Signal strength

7. Which of the following describes how devices connected to a switch use the speed at which the switch can transmit data?
a. Dedicated bandwidth
b. Half-duplex bandwidth
c. Half-scale bandwidth
d. Shared bandwidth

8. What does a switch use to create its switching table?
a. Source IP addresses
b. Destination logical addresses

c. Destination physical addresses
d. Source MAC addresses

9. What purpose does the timestamp serve in a switching table?
a. Tells the switch when to forward a frame
b. Tells the switch how long to wait for a response
c. Tells the switch when to delete an entry
d. Tells the switch how long it has been running

10. What feature of a switch allows devices to effectively communicate at 200 Mbps on a 100 Mbps switch?
a. Uplink port
b. Full-duplex mode
c. Shared bandwidth
d. Bit strengthening
e. Frame doubling
f. Signal regeneration

11. To which device is a wireless access point most similar in how it operates?
a. Hub
b. Switch
c. NIC
d. Router

12. What's the purpose of an RTS signal in wireless networking?
a. It allows the AP to request which device is the transmitting station.
b. It allows the AP to tell all stations that it's ready to transmit data.
c. It allows a client to notify the AP that it's ready to send data.
d. It allows a client to request data from the AP.

13. Which of the following is a common operational speed of a wireless network?
a. 10 Kbps
b. 110 Gbps
c. 600 Kbps
d. 11 Mbps

14. Which of the following is a task performed by a NIC and its driver? (Choose all that apply.)
a. Provides a connection to the network medium
b. Converts bit signals into frames for transmission on the medium
c. Receives packets from the network protocol and creates frames
d. Adds a header before sending a frame to the network protocol
e. Adds error-checking data to the frame

15. Which of the following best describes a MAC address?
a. A 24-bit number expressed as 12 decimal digits
b. Two 24-bit numbers, in which one is the OUI
c. A 48-bit number composed of 12 octal digits
d. A dotted decimal number burned into the NIC

16. Under which circumstances does a NIC allow inbound communications to pass through the interface? (Choose all that apply.)

a. The source MAC address is the broadcast address.
b. The destination MAC address matches the built-in MAC address.
c. The destination MAC address is all binary 1s.
d. The NIC is operating in exclusive mode.

17. How does a protocol analyzer capture all frames?
a. It configures the NIC to capture only unicast frames.
b. It sets all incoming destination addresses to be broadcasts.
c. It configures the NIC to operate in promiscuous mode.
d. It sets the exclusive mode option on the NIC.
e. It captures only multicast frames.

18. In Windows 10, which of the following displays information about currently installed NICs?
a. Network Connections
b. NICs and Drivers
c. Local Area Networks
d. Computers and Devices

19. Which of the following is the purpose of an SSID?
a. Assigns an address to a wireless NIC
b. Acts as a unique name for a local area connection
c. Acts as a security key for securing a network
d. Identifies a wireless network

20. Which of the following describe the function of routers? (Choose all that apply.)
a. Forward frames from one network to another
b. Connect LANS
c. Attach computers to the internetwork
d. Work with packets and IP addresses

21. What information is found in a routing table?
a. Computer names and IP addresses
b. Network addresses and interfaces
c. MAC addresses and ports
d. IP addresses and MAC addresses

22. You currently have 15 switches with an average of 20 stations connected to each switch. The switches are connected to one another so that all 300 computers can communicate with each other in a single LAN. You have been detecting a high percentage of broadcast frames on this LAN. You think the number of broadcasts might be having an impact on network performance. What should you do?
a. Connect the switches in groups of five, and connect each group of switches to a central hub.
b. Upgrade the switches to a faster speed.
c. Reorganize the network into smaller groups and connect each group to a router.
d. Disable broadcast forwarding on the switches.

23. Review the routing table in Figure 2-25. Based on this figure, where does the router send a packet with the source network number 1.0 and the destination network number 3.0?
a. EthA
b. WAN A
c. WAN B
d. None of the above

Routing Table
Network
1.0
2.0
3.0
Interface
EthA
WAN A
WAN B
Figure 2-25 Routing table

24. If a router receives a packet with a destination network address unknown to the router, what does the router do?
a. Send the packet out all interfaces.
b. Discard the packet.
c. Add the destination network to its routing table.
d. Query the network for the destination network.

25. Which of the following is true about routers? (Choose all that apply.)
a. Forward broadcasts
b. Use default routes for unknown network addresses
c. Forward unicasts
d. Used primarily to connect workstations

Case Project 2-1

You have been hired to upgrade a network of 50 computers currently connected to 10 Mbps hubs. This long-overdue upgrade is necessary because of poor network response time caused by a lot of collisions occurring during long file transfers between clients and servers. How do you recommend upgrading this network? What interconnecting devices will you use, and what benefit will you get from using these devices? Write a short memo describing the upgrade and, if possible, include a drawing of the new network.

Case Project 2-2

Two hundred workstations and four servers on a single LAN are connected by a number of switches. You're seeing an excessive number of broadcast packets throughout the LAN and want to decrease the effect this broadcast traffic has on your network. What steps must you take to achieve this goal?

Case Project 2-3

In Chapter 3, you learn about network topologies and technologies. As preparation, do Internet research on the following topics:
• Physical versus logical topology
• Bus topology
• Star topology
• Ring topology
• Ethernet and CSMA/CD

Write a short explanation (two to three sentences) of each concept and be prepared to discuss it with the class.

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c. Cable length
d. No Internet access
Which of the following is true of a repeater?
c. Receives bit signals and strengthens them
Which of the following is true of a hub? (Choose all that apply.)
b. Transmits regenerated signals to all connected ports
c. Usually has four or more ports
Which of the following is the unit of measurement by which a hub's bandwidth is usually specified?
b. Bits per second
Which of the following describes how devices connected to a hub use the speed at which the hub can transmit data?
c. Bandwidth sharing
Which of the following is a likely indicator light on a hub? (Choose all that apply.)
b. Link status
d. Activity
Which of the following describes how devices connected to a switch use the speed at which the switch can transmit data?
a. Dedicated bandwidth
What does a switch use to create its switching table?
d. Source MAC addresses
What purpose does the timestamp serve in a switching table?
c. Tells the switch when to delete an entry
What feature of a switch allows devices to effectively communicate at 200 Mbps on a 100 Mbps switch?
b. Full-duplex mode
To which device is a wireless access point most similar in how it operates?

a. Hub

What's the purpose of an RTS signal in wireless networking?

c. It allows a client to notify the AP that it's ready to send data.

Which of the following is a common operational speed of a wireless network?

d. 11 Mbps

Which of the following is a task performed by a NIC and its driver? (Choose all that apply.)

a. Provides a connection to the network medium

c. Receives packets from the network protocol and creates frames

e. Adds error-checking data to the frame

Which of the following best describes a MAC address?

b. Two 24-bit numbers, in which one is the OUI

Under which circumstances does a NIC allow inbound communications to pass through the interface? (Choose all that apply.)

a. The source MAC address is the broadcast address.

b. The destination MAC address matches the built-in MAC address.

How does a protocol analyzer capture all frames?

c. It configures the NIC to operate in promiscuous mode.

In Windows 10, which of the following displays information about currently installed NICs?

a. Network Connections

Which of the following is the purpose of an SSID?

b. Acts as a unique name for a local area connection

Which of the following describe the function of routers? (Choose all that apply.)

a. Forward frames from one network to another

b. Connect LANS

d. Work with packets and IP addresses

What information is found in a routing table?

b. Network addresses and interfaces

You currently have 15 switches with an average of 20 stations connected to each switch. The switches are connected to one another so that all 300 computers can communicate with each other in a single LAN. You have been detecting a high percentage of broadcast frames on this LAN. You think the number of broadcasts might be having an impact on network performance. What should you do?

c. Reorganize the network into smaller groups and connect each group to a router.

Review the routing table in Figure 2-25. Based on this figure, where does the router send a packet with the source network number 1.0 and the destination network number 3.0?

c. WAN B

If a router receives a packet with a destination network address unknown to the router, what does the router do?

b. Discard the packet.

Which of the following is true about routers? (Choose all that apply.)

b. Use default routes for unknown network addresses

c. Forward unicasts