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CCNA Cybersecurity Operations (Version 1.1) - CyberOps Chapter 4 Exam Answers

1. How is a DHCPDISCOVER transmitted on a network to reach a DHCP server?

- A DHCPDISCOVER message is sent with a multicast IP address that all DHCP servers listen to as the destination address.
- **A DHCPDISCOVER message is sent with the broadcast IP address as the destination address.**
- A DHCPDISCOVER message is sent with the IP address of the default gateway as the destination address.
- A DHCPDISCOVER message is sent with the IP address of the DHCP server as the destination address.

2. A high school in New York (school A) is using videoconferencing technology to establish student interactions with another high school (school B) in Russia. The videoconferencing is conducted between two end devices through the Internet. The network administrator of school A configures the end device with the IP address 209.165.201.10. The administrator sends a request for the IP address for the end device in school B and the response is 192.168.25.10. Neither school is using a VPN. The administrator knows immediately that this IP will not work. Why?

- This is a link-local address.
- This is a loopback address.
- There is an IP address conflict.
- **This is a private IP address.**

3. What is a socket?

- the combination of the source and destination sequence numbers and port numbers
- **the combination of a source IP address and port number or a destination IP address and port number**
- the combination of the source and destination sequence and acknowledgment numbers
- the combination of the source and destination IP address and source and destination Ethernet address

4. What part of the URL, http://www.cisco.com/index.html, represents the top-level DNS domain?

- www
- http
- index
- **com**

5. Refer to the exhibit. A cybersecurity analyst is viewing captured ICMP echo request packets sent from host A to host B on switch S2. What is the source MAC address of Ethernet frames carrying the ICMP echo request packets?

- 08-CB-8A-5C-D5-BA
- 00-D0-D3-BE-79-26

- **00-60-0F-B1-D1-11**
- 01-90-C0-E4-55-BB

6. Refer to the exhibit. A cybersecurity analyst is viewing captured packets forwarded on switch S1. Which device has the MAC address 50:6a:03:96:71:22?

- PC-A
- **router DG**
- DSN server
- router ISP
- web server

7. Which term is used to describe the process of placing one message format inside another message format?

- **encoding**
- multiplexing
- encapsulation
- segmentation

8. Which PDU format is used when bits are received from the network medium by the NIC of a host?

- **frame**
- file
- packet
- segment

9. What are two features of ARP? (Choose two.)

- An ARP request is sent to all devices on the Ethernet LAN and contains the IP address of the destination host and its multicast MAC address.
- If no device responds to the ARP request, then the originating node will broadcast the data packet to all devices on the network segment.
- When a host is encapsulating a packet into a frame, it refers to the MAC address table to determine the mapping of IP addresses to MAC addresses.
- **If a host is ready to send a packet to a local destination device and it has the IP address but not the MAC address of the destination, it generates an ARP broadcast.**
- **If a device receiving an ARP request has the destination IPv4 address, it responds with an ARP reply.**

12. In NAT translation for internal hosts, what address would be used by external users to reach internal hosts?

- outside global
- outside local
- inside local
- **inside global**

14. Refer to the exhibit. PC1 issues an ARP request because it needs to send a packet to PC2. In this scenario, what will happen next?

- SW1 will send an ARP reply with the PC2 MAC address.
- **PC2 will send an ARP reply with its MAC address.**
- RT1 will send an ARP reply with its Fa0/0 MAC address.
- RT1 will send an ARP reply with the PC2 MAC address.
- SW1 will send an ARP reply with its Fa0/1 MAC address.

15. Which two characteristics are associated with UDP sessions? (Choose two.)

- Unacknowledged data packets are retransmitted.
- **Destination devices receive traffic with minimal delay.**
- Destination devices reassemble messages and pass them to an application.
- Transmitted data segments are tracked.
- **Received data is unacknowledged.**

16. Refer to the exhibit. What is the global IPv6 address of the host in uncompressed format?

- **2001:0DB8:0000:0000:0BAF:0000:3F57:FE94**
- 2001:0DB8:0000:0BAF:0000:0000:3F57:FE94
- 2001:DB80:0000:0000:BAF0:0000:3F57:FE94
- 2001:0DB8:0000:0000:0000:0BAF:3F57:FE94

17. What is the purpose of the routing process?

- to provide secure Internet file transfer
- to convert a URL name into an IP address
- to forward traffic on the basis of MAC addresses
- to encapsulate data that is used to communicate across a network
- **to select the paths that are used to direct traffic to destination networks**

18. Which application layer protocol uses message types such as GET, PUT, and POST?

- SMTP
- POP3
- DHCP
- **HTTP**
- DNS

19. Which transport layer feature is used to guarantee session establishment?

- UDP sequence number
- **TCP 3-way handshake**
- TCP port number
- UDP ACK flag

20. What is the prefix length notation for the subnet mask 255.255.255.224?

- /26
- **/27**
- /28
- /25

21. What are two potential network problems that can result from ARP operation? (Choose two.)

- Multiple ARP replies result in the switch MAC address table containing entries that match the MAC addresses of hosts that are connected to the relevant switch port.
- **Network attackers could manipulate MAC address and IP address mappings in ARP messages with the intent of intercepting network traffic.**
- **On large networks with low bandwidth, multiple ARP broadcasts could cause data communication delays.**
- Manually configuring static ARP associations could facilitate ARP poisoning or MAC address spoofing.
- Large numbers of ARP request broadcasts could cause the host MAC address table to overflow and prevent the host from communicating on the network.

22. Which TCP mechanism is used to identify missing segments?

- **sequence numbers**

- FCS
- acknowledgments
- window size

23. What is the purpose of ICMP messages?

- **to provide feedback of IP packet transmissions**
- to monitor the process of a domain name to IP address resolution
- to inform routers about network topology changes
- to ensure the delivery of an IP packet

24. What happens if part of an FTP message is not delivered to the destination?

- The message is lost because FTP does not use a reliable delivery method.
- **The part of the FTP message that was lost is re-sent.**
- The FTP source host sends a query to the destination host.
- The entire FTP message is re-sent.

25. What is the primary purpose of NAT?

- **conserve IPv4 addresses**
- allow peer-to-peer file sharing
- enhance network performance
- increase network security

26. Why does a Layer 3 device perform the ANDing process on a destination IP address and subnet mask?

- **to identify the network address of the destination network**
- to identify the host address of the destination host
- to identify the broadcast address of the destination network
- to identify faulty frames

27. Refer to the exhibit. Using the network in the exhibit, what would be the default gateway address for host A in the 192.133.219.0 network?

- 192.135.250.1
- 192.133.219.0
- **192.133.219.1**
- 192.31.7.1

28. Which three IP addresses are private ? (Choose three.)

- 192.167.10.10
- **10.1.1.1**
- **192.168.5.5**
- **172.16.4.4**
- 172.32.5.2
- 224.6.6.6