

Cybersecurity Professional Program

Exam Review

Computer Networking



The logo features three hexagons. The top-left hexagon is white with a blue outline. The bottom-left hexagon is white with a blue outline. The bottom-right hexagon is solid blue with a white target icon. To the right of the hexagons, the text "Exam Review" is in a small, grey, sans-serif font, and "Objectives" is in a large, blue, sans-serif font.

Exam Review Objectives

The objective of this lesson is to practice answering questions on topics learned during the course, in preparation for the final exam.

- Content and Sample Questions



Exam Review

Content and Sample Questions



Content and Sample Questions

Introduction to Networks

Network Types and Devices

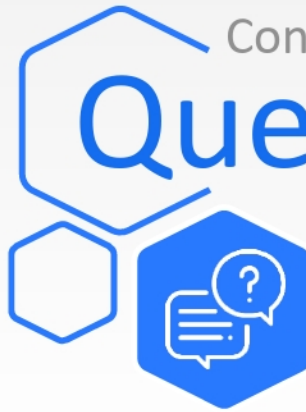
Network Media and Cables

Network Topologies and Architecture

Network Protocols & Commands

Wireless Technology





Content and Sample Questions

Question 1

A client was connected to a network of 1 Gbps with an ethernet cable. After a few hours, the client noticed that the performance peaked only at 100 Mbps. Which of the following may be the cause?

- A. The client is connected to a hybrid topology.
- B. The client is connected via CAT-5 cable.
- C. The ethernet cable lacks the RJ-45 connector.
- D. The router is off.



Content and Sample Questions

Network Fundamentals

Network Protocols and Models

OSI Model

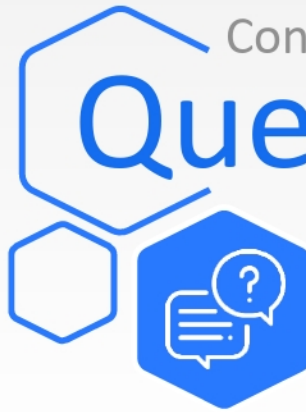
TCP/IP model

Transport Protocols and Logical Ports

Introduction to Wireshark

ARP and Encapsulation





Content and Sample Questions

Question 2

Connecting computers to a network enables them to communicate with each other. What is the main reason that computers can “understand” the transmitted information?

- A. They use HTTP protocol for communication.
- B. They follow the OSI communication model.
- C. They send and receive traffic on the same port.
- D. They use the same communication protocols.



Content and Sample Questions

Switch & IOS Fundamentals

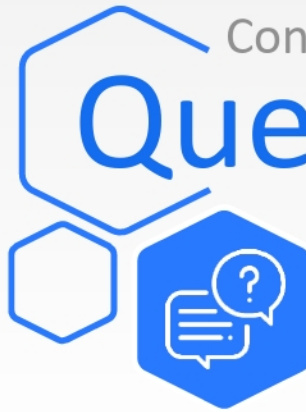
Switch Fundamentals

The Cisco IOS

Initial Device Configuration

Manage IOS & System Files





Content and Sample Questions

Question 3

A network administrator identified that in a switched network the computers received many corrupt packets. The administrator identified that the switch was configured with a **cut-through** switching method. What caused the forwarding of corrupt packets?

- A. The switch didn't examine the frame check sequence.
- B. It buffered the first 64 bytes without any error checking.
- C. The switch was not set to auto-negotiation mode.
- D. The switch's IOS wasn't updated to the latest version.

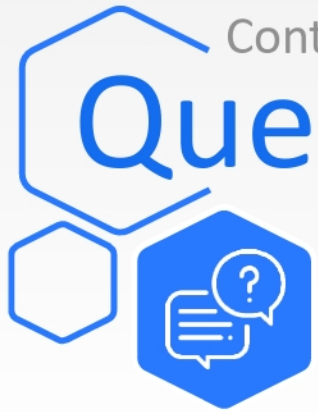


Content and Sample Questions

Switch Security

Port Security

Remote Access



Content and Sample Questions

Question 4

An employee was annoyed by his slow computer at the office. He decided to connect his new laptop to the network via the ethernet cable. When he connected, he noticed that he didn't receive any network communication. What may have been the cause?

- A. Port security was configured on the switch.
- B. The switch identified an invalid IP address from the computer.
- C. The switch was under a CAM table overflow attack.
- D. The switch entered error disabled mode.



Content and Sample Questions

IP & Routing Concepts

Decimal, Binary, and Hex

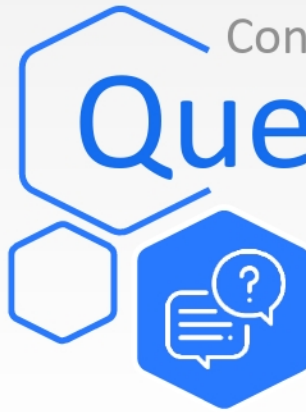
The Router

Routing Process

IPv4

IPv6





Content and Sample Questions

Question 5

A user noticed that she couldn't browse to websites. She checked the computer's IP address and found that its IP was 169.254.10.13. She called IT and asked them to solve the problem. What should the IT employee check first?

- A. Make sure the IPv6 address is configured on the computer.
- B. Make sure the DHCP server is operating properly.
- C. Make sure the DNS server is operating properly.
- D. Nothing, the IP address can be used like any other IP address.



Content and Sample Questions

Subnetting Concepts

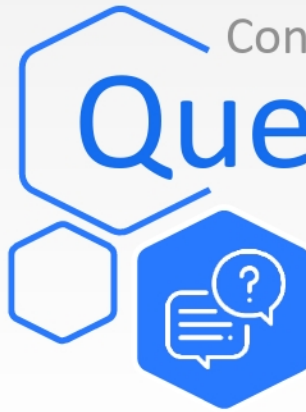
Subnetting

CIDR

VLSM

Network Address Scheme Design





Content and Sample Questions

Question 6

The network administrator asks you to subnet the address 172.16.0.0/16 to support 300 hosts in the network. Which of the following subnets is the most suitable?

- A. 172.16.0.0/24
- B. 172.16.0.0/23
- C. 172.16.0.0/26
- D. 172.16.0.0/20



Content and Sample Questions

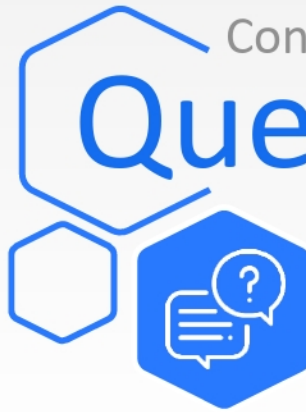
IPv4 & IPv6 Static Routing

Router Operation

IPv4 Static Routing

IPv6 Static Routing





Content and Sample Questions

Question 7

The network administrator configured four IPv4 static routes on a router, with the first being **10.0.0.0/8[1/0]**. By examining their AD values, which of the following static routes will be used if the first route fails?

- A. 10.0.0.0/8 [1/0]
- B. 192.168.0.1/24 [10/0]
- C. 172.16.0.1/16 [25/0]
- D. 192.168.5.1/24 [30/0]



Content and Sample Questions

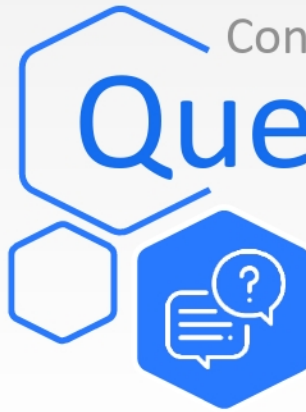
Dynamic Routing

Dynamic Routing Concepts

RIPv2

OSPFv2





Content and Sample Questions

Question 8

The TopFix company has a network that uses 17 routers. An employee hears about the RIPv2 protocol and suggests that IT implement it. Why would the IT department reject the idea?

- A. Because RIPv2 doesn't support the CIDR used on the network.
- B. Because RIPv2 doesn't support more than 16 hops.
- C. Because static routing is easier to implement on the network.
- D. Because RIPv2 works only on switched networks.



Content and Sample Questions

VLANs & Trunk

Virtual LANs

Trunk Protocols

Inter-VLAN Routing



Content and Sample Questions

Question 9

TopFix's network is separated into four VLANs. A user in VLAN 20 can ping a user in VLAN 30. What feature is implemented on the network to allow this action?

- A. DTP is enabled between computers and switches.
- B. The native VLAN was changed to 100.
- C. A router-on-a-stick was implemented on the network.
- D. Voice VLAN was implemented on the network.



Content and Sample Questions

Diagnostics & Troubleshooting

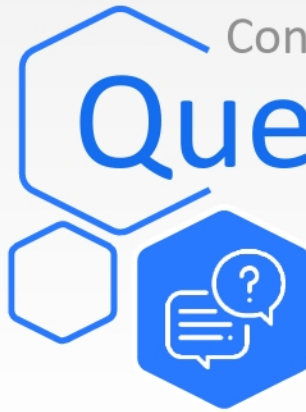
Troubleshooting Methods

Neighbor Discovery Protocols

Log Events & Syslog Server

Network Time Protocol





Content and Sample Questions

Question 10

Why is it recommended to disable CDP advertisements on ports with connections to end devices?

- A. They contain information that can be used for malicious purposes.
- B. They contain sensitive information, such as user passwords.
- C. They could create false security alerts on the end devices.
- D. They could create duplex mismatches.



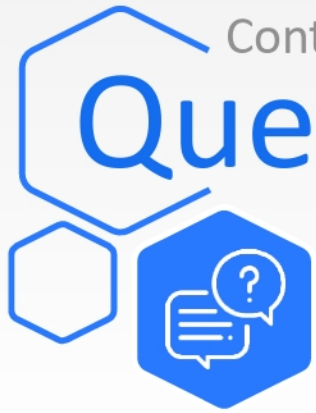
Content and Sample Questions

Access Control List

ACL Overview

Standard ACL Implementation

Extended ACL Implementation



Question 11

What will be the result of the following ACL:

```
#permit host 172.16.2.152
```

```
#deny any
```

```
#permit 192.168.0.1 0.0.0.255
```

- A. Communication by a device with IP address 172.16.2.152 and devices within IP address range 192.168.0.0/24 will be permitted.
- B. Communication by devices within IP address range 192.168.0.0/24 will be permitted.
- C. All communication will be denied.
- D. Communication only by a device with IP address 172.16.2.152 will be permitted.



Content and Sample Questions

Infrastructure Services

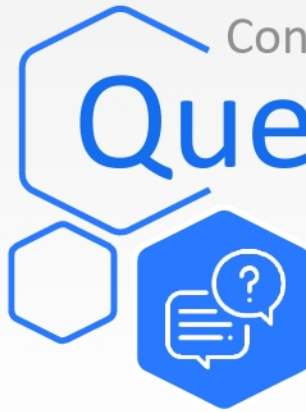
DHCP Overview

DHCP Implementation

NAT Overview

NAT Implementation





Content and Sample Questions

Question 12

Your organization operates two separate IPv4 networks and one DHCPv4 server. The DHCP server can allocate IP addresses for one of the networks but cannot reach the other one. What should be implemented to allow IP allocation on the second network as well?

- A. DHCPv4 Client
- B. DHCPv4 Relay
- C. DHCP DORA
- D. DHCPv6



Thank You

Questions?