Cisco Certified Network Professional Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Don’t worry about getting everything right, your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations, and take breaks to retain information better.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning.

7. Use Other Tools

Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly — adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. What is the primary purpose of using Accelerated CEF in linecards?

A. To optimize routing tables for performance

B. To provide a small version of FIB

C. To enhance security features in the network

D. To manage inter-VLAN routing more effectively

2. What is the primary function of the root port in a spanning tree protocol (STP)?

A. To block all traffic from reaching the root bridge

B. To connect to the designated port

C. To facilitate communication towards the root bridge

D. To forward frames to all other switches

3. Which command is used to configure additional synchronization in network redundancy?

A. auto-sync standard

B. redundancy main-cpu auto-sync

C. backup active

D. sync-config

4. Which types of Ethernet interfaces are commonly found in networking devices?

A. FastEthernet and GigabitEthernet

B. Serial and ISDN

C. USB and FastEthernet

D. FDDI and TokenRing

5. What is the default value for bridge priority in STP?

A. 64,000

B. 32,768

C. 24,576

D. 48,000

6. In an 802.1X configuration, what role does EAPOL play?

A. Client authentication

B. Data encryption

C. Layer 2 protocol for authentication

D. Switch configuration

7. What is a Rogue DHCP server?

A. An authorized DHCP server with restricted access

B. Any unauthorized DHCP server on the network

C. A backup DHCP server for redundancy

D. A compliant DHCP server for VLAN management

8. In VTP, what does a larger revision number indicate?

A. It belongs to an older VTP configuration

B. It represents newer information

C. It indicates a faulty configuration

D. It is used for error checking

9. In context to TCAM, what does ACL stand for?

A. Acknowledge Control List

B. Access Control List

C. Access Configuration List

D. Attribute Control List

10. What command is utilized to prevent MAC address aging in port security?

A. switchport port-security aging

B. switchport port-security mac-address sticky

C. switchport port-security no aging

D. switchport port-security mac-address persistent

Answers

1. B
2. C
3. B
4. A
5. B
6. C
7. B
8. B
9. B
10. B

Explanations

1. What is the primary purpose of using Accelerated CEF in linecards?

A. To optimize routing tables for performance

B. To provide a small version of FIB

C. To enhance security features in the network

D. To manage inter-VLAN routing more effectively

The primary purpose of using Accelerated CEF (Cisco Express Forwarding) in linecards is indeed to provide a small version of the Forwarding Information Base (FIB). Accelerated CEF is an advanced packet forwarding architecture used by Cisco routers that allows for faster and more efficient processing of packets. When packets are processed, they need to be routed based on the information contained in the FIB, which is a critical structure for maintaining the routing choices that the router must make. Accelerated CEF helps by maintaining a more compact version of the FIB in the linecards, which reduces the amount of memory needed and speeds up the lookup process. This results in lower latency and better overall throughput, as it enables the router to handle larger volumes of traffic more efficiently. While optimizing routing tables for performance, enhancing security features, and managing inter-VLAN routing are important aspects of network operations, they are not the main objectives of Accelerated CEF on linecards. Instead, the focus is on improving the forwarding speed and resource efficiency through the use of a streamlined or smaller version of the FIB.

2. What is the primary function of the root port in a spanning tree protocol (STP)?

A. To block all traffic from reaching the root bridge

B. To connect to the designated port

C. To facilitate communication towards the root bridge

D. To forward frames to all other switches

The primary function of the root port in a spanning tree protocol (STP) is to facilitate communication towards the root bridge. Each switch in an STP topology determines its root port by selecting the port that has the lowest cost path to the root bridge, which is the central point in the STP hierarchy. This ensures that the switch can communicate efficiently with the root bridge and manage the network's data traffic flow in a loop-free manner. By having a designated root port, the switch can forward frames towards the root bridge, ensuring that there is a consistent path for data to travel back to the root, supporting the STP's goal of preventing network loops. The root port acts as the primary conduit for incoming and outgoing traffic related to the root bridge, allowing for optimal network performance and reliability. In contrast, a root port does not block traffic, connect directly to designated ports, or forward frames indiscriminately to all switches. Each role in STP is carefully defined to maintain loop-free topologies and efficient data transmission.

3. Which command is used to configure additional synchronization in network redundancy?

A. auto-sync standard

B. redundancy main-cpu auto-sync

C. backup active

D. sync-config

The command for configuring additional synchronization in network redundancy is "redundancy main-cpu auto-sync." This command is crucial in environments where high availability and redundancy are essential, such as in Cisco's High Availability solution using redundancy protocols. By enabling auto-sync, the primary and backup devices can automatically synchronize their configurations, ensuring that the backup device has the same settings as the active device. This minimizes configuration discrepancies that could lead to network issues if a failover occurs. The other options do not accurately represent valid Cisco commands for synchronization in redundancy: - "auto-sync standard" is not a recognized command in Cisco IOS for managing redundancy. - "backup active" relates to designating a primary system but does not address the synchronization of configurations. - "sync-config" lacks context and is not a standard command for setting up synchronization within Cisco redundant systems. Understanding the need for synchronization in redundant systems emphasizes the importance of having a consistent network configuration, which this command addresses directly.

4. Which types of Ethernet interfaces are commonly found in networking devices?

A. FastEthernet and GigabitEthernet

B. Serial and ISDN

C. USB and FastEthernet

D. FDDI and TokenRing

The types of Ethernet interfaces that are commonly found in networking devices are FastEthernet and GigabitEthernet. FastEthernet typically supports speeds of up to 100 Mbps, while GigabitEthernet supports speeds of up to 1 Gbps. These interfaces have become standard in most modern networking devices, as they provide the necessary bandwidth to accommodate various data-intensive applications. FastEthernet and GigabitEthernet are widely used due to their compatibility with a vast range of network equipment and their ability to efficiently handle local area network (LAN) connectivity. They are integrated into switches, routers, and even some servers, making them fundamental to network infrastructure in both enterprise and home environments. In contrast, the other options focus on technologies that either do not pertain specifically to Ethernet interfaces or represent outdated or less common technologies in current networking practices.

5. What is the default value for bridge priority in STP?

A. 64,000

B. 32,768

C. 24,576

D. 48,000

In Spanning Tree Protocol (STP), the bridge priority value is a crucial factor in determining which switch becomes the root bridge in the network topology. The default value for the bridge priority is 32,768. This value is set to facilitate the selection process among multiple switches in a network. When bridges are evaluated for root bridge status, the switch with the lowest bridge ID, which comprises the bridge priority and the MAC address, is elected as the root bridge. Since the default priority is 32,768, this means that if no modifications have been made to the configuration, all switches will start with the same priority. This establishes a baseline for comparison when determining the root bridge. If a network administrator wants to influence which switch becomes the root bridge, they can increase or decrease the bridge priority using the appropriate commands in the switch configuration.

6. In an 802.1X configuration, what role does EAPOL play?

A. Client authentication

B. Data encryption

C. Layer 2 protocol for authentication

D. Switch configuration

In an 802.1X configuration, EAPOL (Extensible Authentication Protocol over LAN) serves as a Layer 2 protocol specifically designed to facilitate the authentication process between a client and a network access device, such as a switch or wireless access point. EAPOL operates at the data link layer and is essential for establishing a secure connection before allowing network access. When a device attempts to connect to the network, EAPOL is used to encapsulate the EAP messages exchanged between the client and the authentication server. This encapsulation ensures that the authentication process can proceed securely within the context of the LAN, often involving mechanisms such as username and password validation, certificates, or other credential types. Understanding EAPOL's role is crucial because it delineates how the initial authentication handshake occurs before any user data can flow, thereby establishing a secure communication channel. This protocol is a fundamental component required for the 802.1X authentication framework, paving the way for secure networks by validating users before they can access network resources.

7. What is a Rogue DHCP server?

A. An authorized DHCP server with restricted access

B. Any unauthorized DHCP server on the network

C. A backup DHCP server for redundancy

D. A compliant DHCP server for VLAN management

A Rogue DHCP server is defined as any unauthorized DHCP server operating on a network without the consent or configuration of the network administrators. This unauthorized presence can lead to various issues, such as IP address conflicts, network disruptions, and potentially allow malicious users to intercept or manipulate network traffic. Since the Rogue DHCP server assigns IP addresses and other network configuration parameters, it can control the flow of communication and could expose systems to attacks. In a robust network environment, only designated and approved DHCP servers should handle IP address assignments to ensure secure and reliable network operations. This concept highlights the importance of network security protocols, such as regular monitoring and management of network devices, to prevent the introduction of unapproved services that could jeopardize system integrity.

8. In VTP, what does a larger revision number indicate?

A. It belongs to an older VTP configuration

B. It represents newer information

C. It indicates a faulty configuration

D. It is used for error checking

In VTP (VLAN Trunking Protocol), a larger revision number signifies the most recent configuration changes to the VLAN information being propagated throughout the network. Each time a VLAN configuration is altered—whether VLANs are added, deleted, or modified—the revision number is incremented. This system helps prevent outdated information from overwriting newer configurations. When switches receive VTP advertisements, they look at the revision number to determine if they should accept the information. If a switch receives a VTP update with a revision number higher than its own, it will apply this new configuration. This mechanism ensures that the most current and accurate VLAN information is distributed across the network. Therefore, the indication of newer information tied to a larger revision number is crucial for maintaining an updated and correctly functioning VLAN environment. Understanding this helps networking professionals manage VLANs efficiently and avoid potential misconfigurations caused by outdated data.

9. In context to TCAM, what does ACL stand for?

A. Acknowledge Control List

B. Access Control List

C. Access Configuration List

D. Attribute Control List

In the context of TCAM (Ternary Content Addressable Memory), ACL stands for Access Control List. ACLs are fundamental components in network security, used to define permissions and control the flow of traffic across network devices, such as routers and switches. When a packet arrives at a network interface, the device uses the ACL to determine whether to permit or deny the packet based on the rules defined in the list. TCAM is particularly efficient for implementing ACLs because it allows for fast lookups and can handle multiple match criteria, which is essential for traffic management in complex network environments. The other options do not accurately represent the concept associated with TCAM. An Acknowledge Control List, Access Configuration List, or Attribute Control List do not have established definitions or usage in networking contexts, particularly in relation to security policies and traffic filtering. Therefore, the correct identification of ACL as Access Control List highlights its essential role in network security and traffic management facilitated by TCAM technology.

10. What command is utilized to prevent MAC address aging in port security?

A. switchport port-security aging

B. switchport port-security mac-address sticky

C. switchport port-security no aging

D. switchport port-security mac-address persistent

The command that effectively prevents MAC address aging in port security is linked to the mechanism of making MAC addresses sticky. When you use the command that specifies the MAC address as sticky, it instructs the switch to learn the MAC addresses dynamically and remember them even after the switch reboots or the port goes down, thereby preventing them from aging out of the MAC address table. This is crucial within the context of port security, as it not only secures the switch ports by limiting access to known addresses but also maintains consistent access without the need for reconfiguration or re-learning of MAC addresses after inactivity. Other commands might influence how MAC addresses are managed, but they either don't prevent aging or serve different functionalities, such as changing the aging time or altering other security properties. The sticky learning feature is particularly effective for environments where endpoints may be static, as it eliminates the need to regularly update the security configuration.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://ccnp.examzify.com

We wish you the very best on your exam journey. You've got this!