CCNA 3 ENTERPRISE NETWORKING, SECURITY, AND AUTOMATION, VERSION 7.0 PRACTICE EXAM (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. 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.

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. 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. **Which command would you use to check the OSPF router ID of a neighboring router?**

   A. show ip interface

   B. show ip ospf neighbor

   C. show ip route

   D. show version

2. **Which of the following is considered best practice in the placement of ACLs?**

   A. Place extended ACLs close to the destination

   B. Filter unwanted traffic before it travels onto a low-bandwidth link

   C. Place standard ACLs close to the source

   D. Deploy all ACLs in the center of the network

3. **If a router has two interfaces and is routing both IPv4 and IPv6 traffic, how many ACLs could be created and used?**

   A. 4

   B. 6

   C. 8

   D. 10

4. **What is the purpose of placing standard ACLs close to the destination?**

   A. To allow traffic to flow freely

   B. To filter packets based on their source addresses

   C. To optimize bandwidth usage

   D. To minimize processing on the router

5. **Which technology does OSPF utilize to maintain routing information?**

   A. Distance Vector

   B. Protocol-Independent

   C. Link State

   D. Combination of Distance Vector and Link State

6. Which protocol is responsible for sending periodic advertisements to learn device information in Cisco networks?

A. LLDP

B. CDP

C. STP

D. PPP

7. Which of the following best describes a network baseline?

A. A fixed performance metric

B. A historical performance record

C. A standard operating condition reference

D. A temporary performance measure

8. What is defined as a physical connection from the customer to the service provider POP?

A. WAN link

B. Local loop

C. Network bridge

D. Access path

9. What is a common use of VLAN in enterprise networks?

A. To optimize server performance

B. To increase the number of IP addresses

C. To segment network traffic for better performance

D. To reduce the need for switches

10. What RESTful operation does the PUT/PATCH HTTP method correspond to?

A. Read

B. Update

C. Create

D. Delete

Answers

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

Explanations

1. Which command would you use to check the OSPF router ID of a neighboring router?

A. show ip interface

B. show ip ospf neighbor

C. show ip route

D. show version

The command to check the OSPF router ID of a neighboring router is "show ip ospf neighbor." This command provides detailed information about OSPF neighbors and their current state. Among the output is the OSPF router ID of each neighbor, which is crucial for understanding the network topology and diagnosing OSPF-related issues. Using this command allows network engineers to verify neighbor relationships, Router IDs, and the status of OSPF adjacencies, which are essential for ensuring efficient routing and troubleshooting OSPF configurations. The information retrieved can help determine if there are any issues with OSPF neighbor formation, such as mismatched configurations or network connectivity problems. Other options would not provide the OSPF router ID. The command for interfaces focuses on interface configurations, the routing table command displays routes but not neighbor associations, and the version command provides information about the device's software and hardware but does not include OSPF specifics.

2. Which of the following is considered best practice in the placement of ACLs?

A. Place extended ACLs close to the destination

B. Filter unwanted traffic before it travels onto a low-bandwidth link

C. Place standard ACLs close to the source

D. Deploy all ACLs in the center of the network

Placing access control lists (ACLs) in a network is crucial for ensuring efficient traffic management and security. The practice of filtering unwanted traffic before it travels onto a low-bandwidth link is considered best practice because it conserves network resources and enhances overall efficiency. By placing ACLs in a position where they can intercept and filter traffic before it consumes valuable bandwidth on constrained links, network administrators can reduce the likelihood of congestion and ensure that the available bandwidth is used for legitimate traffic. This proactive filtering approach also minimizes unnecessary load on network devices, allowing them to function more effectively and improving overall network performance. In contrast to this, placing extended ACLs close to the destination may still be effective in some scenarios but does not offer the same efficiency in managing bandwidth. Similarly, while placing standard ACLs close to the source can be beneficial, it is typically less effective at optimizing bandwidth usage compared to filtering traffic before it reaches more restricted resources. Deploying ACLs in the center of the network is not advisable because it may introduce unnecessary delays and complexity in traffic management.

3. If a router has two interfaces and is routing both IPv4 and IPv6 traffic, how many ACLs could be created and used?

A. 4

B. 6

C. 8

D. 10

When considering a router with two interfaces that is configured to route both IPv4 and IPv6 traffic, the design of access control lists (ACLs) allows for specific traffic management based on protocol types. Each interface on the router can have a set of ACLs applied to it for both IPv4 and IPv6 protocols. For each interface, you can apply one IPv4 ACL and one IPv6 ACL. Therefore, with two interfaces available on the router: - For Interface 1: - 1 IPv4 ACL - 1 IPv6 ACL - For Interface 2: - 1 IPv4 ACL - 1 IPv6 ACL This results in a total of four ACLs (2 interfaces x 2 ACLs per interface). However, it's also crucial to remember that standard configurations often allow for predefined ACLs that can be created for specific needs or use-cases and network management strategies. While a commonly discussed configuration might yield four ACLs based on typical usage, additional considerations or variations in specific scenarios (like extended ACLs or requirements for different protocols) could lead to configurations that allow for additional ACLs beyond the straightforward application described earlier. The provided answer states eight ACLs. This is

4. What is the purpose of placing standard ACLs close to the destination?

A. To allow traffic to flow freely

B. To filter packets based on their source addresses

C. To optimize bandwidth usage

D. To minimize processing on the router

The most appropriate reason for placing standard ACLs close to the destination relates to optimizing bandwidth usage. When standard ACLs are applied nearer to the destination, they can effectively block unnecessary traffic from traversing the network to the endpoint. By filtering out unwanted packets based on their source addresses before they reach the destination, the load on the network is reduced. This proactive filtering helps to conserve bandwidth, as fewer unnecessary packets consume the available network resources. Choosing the correct placement for ACLs is crucial for network efficiency. If standard ACLs were placed far from the destination, potentially a significant volume of irrelevant traffic could consume bandwidth and processing power through various network segments before being filtered out, leading to congestion and decreased performance. Therefore, strategically positioning ACLs close to the destination enhances overall network performance and reliability by minimizing unnecessary traffic right at the source point of entry.

5. Which technology does OSPF utilize to maintain routing information?

A. Distance Vector

B. Protocol-Independent

C. Link State

D. Combination of Distance Vector and Link State

OSPF (Open Shortest Path First) is classified as a Link State routing protocol. It uses a method where each router in the network maintains a complete view of the network topology by exchanging link state advertisements (LSAs) with other routers. This approach allows OSPF to understand the entire network's state and make more informed routing decisions based on the current state of all links, rather than relying solely on distance or hop count. In a Link State protocol like OSPF, routers gather information about their own links and send that information to all other routers in the area, which allows each router to independently calculate the shortest path to each destination using an algorithm like Dijkstra's shortest path first (SPF). This results in more efficient and accurate routing compared to Distance Vector protocols, which rely on routers periodically sharing their routing tables with their immediate neighbors. By understanding the entire topology rather than just vector information about distance, OSPF can quickly adapt to changes in the network and optimize routing paths effectively. This ensures that routing information remains current and reliable, considering the dynamic nature of network connections.

6. Which protocol is responsible for sending periodic advertisements to learn device information in Cisco networks?

A. LLDP

B. CDP

C. STP

D. PPP

The correct choice is the protocol that facilitates the exchange of information between directly connected Cisco devices, specifically Cisco Discovery Protocol (CDP). CDP operates at the Data Link Layer and is used primarily in Cisco environments to gather information about neighboring devices such as their device type, IP address, and capabilities. By sending periodic advertisements, CDP enables devices to discover relevant details automatically without manual configuration. This automatic discovery process helps network administrators gain visibility into the network topology and quickly troubleshoot connectivity issues. As devices periodically send CDP advertisements, they maintain updated information about themselves and their surroundings, creating a dynamic view of the network. In contrast, the other protocols mentioned serve different purposes. Link Layer Discovery Protocol (LLDP) is a vendor-neutral protocol similar to CDP but is not specific to Cisco devices. Spanning Tree Protocol (STP) is used for preventing loops in network topologies, and Point-to-Point Protocol (PPP) is primarily used for establishing direct connections between two nodes in point-to-point links. These protocols do not focus on advertisement and discovery of device information like CDP does.

7. Which of the following best describes a network baseline?

A. A fixed performance metric

B. A historical performance record

C. A standard operating condition reference

D. A temporary performance measure

A network baseline serves as a standard reference point for the normal operating conditions of a network. It is established by recording the performance metrics of the network over a certain period, capturing key metrics such as bandwidth utilization, latency, error rates, and response times under typical operating conditions. This baseline is essential for monitoring and troubleshooting, as any deviations from this standard can indicate potential issues or areas needing improvement. While historical performance records offer insight into past network behavior, they do not provide the same framework for ongoing comparison that a standard operating condition reference does. The baseline's purpose is to ensure continuous assessment of the network's performance against a consistent standard, which helps in identifying abnormalities promptly. A fixed performance metric implies an unchanging value, which does not represent the dynamic nature of network conditions that can vary over time. Similarly, a temporary performance measure lacks the stability and reliability that a baseline provides, as it does not represent ongoing or consistent conditions. Thus, the concept of a standard operating condition reference captures the essence of a network baseline accurately, making it the best answer.

8. What is defined as a physical connection from the customer to the service provider POP?

A. WAN link

B. Local loop

C. Network bridge

D. Access path

The local loop is defined as the physical connection from the customer premises to the service provider's point of presence (POP). This segment plays a crucial role in telecommunications, as it is the last mile that connects the end user to the broader network infrastructure managed by the service provider. The local loop can involve various types of technologies, including copper wiring (like twisted pair or coaxial cable) or fiber optics, depending on the technology deployed by the service provider. Its main purpose is to ensure that customers can access the service provider's network and ultimately connect to the internet or other services offered by the provider. Other options describe different concepts: a WAN link refers to a broader connection often used to link multiple sites over a wide area network, a network bridge connects different network segments at the data link layer, and an access path typically refers to a logical or physical pathway through which data can be transmitted, but it does not specifically denote the customer to network provider connection.

9. What is a common use of VLAN in enterprise networks?

A. To optimize server performance

B. To increase the number of IP addresses

C. To segment network traffic for better performance

D. To reduce the need for switches

VLANs, or Virtual Local Area Networks, are commonly used in enterprise networks to segment network traffic for better performance. By implementing VLANs, different types of traffic or groups of users can be isolated from each other, which helps to reduce congestion and improve overall network efficiency. When traffic is segmented into VLANs, broadcast domains are also created. This means that broadcast traffic from one VLAN will not affect other VLANs, thereby limiting unnecessary traffic and enhancing the performance of the network. Additionally, this segregation can enhance security by isolating sensitive data or operations from general network traffic, making it harder for unauthorized users to gain access. While optimizing server performance and addressing IP address limitations may be beneficial in certain contexts, these are not the primary reasons for using VLANs. Similarly, the advent of VLANs does not eliminate the need for switches; rather, it effectively utilizes switch capabilities to manage network resources more efficiently.

10. What RESTful operation does the PUT/PATCH HTTP method correspond to?

A. Read

B. Update

C. Create

D. Delete

The PUT and PATCH HTTP methods are primarily used to update existing resources in RESTful API architecture. When you use these methods, you are indicating to the server that you want to modify a resource that is already available. The PUT method typically requires the client to send the entire updated representation of the resource, essentially replacing the current resource with the new data provided. On the other hand, PATCH is used for partial updates, allowing the client to send only the changes, rather than the entire resource. This focus on changing existing data clearly aligns both methods with the operation of updating, distinguishing them from other HTTP methods like GET, which is used for reading data, POST, which is utilized for creating new resources, and DELETE, which is employed to remove existing resources.

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:

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