

CCNA 2 SWITCHING, ROUTING, AND WIRELESS ESSENTIALS, VERSION 7.0 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE

<https://ccna2switchingroutingwirelessessentialsv7.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	16

SAMPLE

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

SAMPLE

- 1. Which tab should a network administrator use to create a new VLAN interface on a Cisco 2500 series WLC?**
 - A. Controller
 - B. VLAN
 - C. Network
 - D. Settings

- 2. If the MAC address table on a switch is empty, how will the frame from PC-A be handled when sent to PC-C?**
 - A. SW ignores the frame completely
 - B. SW forwards the frame only to PC-B
 - C. SW floods the frame on all the ports on SW1, excluding the port through which the frame entered
 - D. SW forwards the frame to the default gateway

- 3. What information is displayed by the show spanning-tree command on a switch?**
 - A. The IP address of the switch
 - B. The root bridge BID and the role of the ports in all VLANs
 - C. The MAC address table of the switch
 - D. The security status of each port

- 4. Which DHCP message type confirms that the address lease has been accepted?**
 - A. DHCPOFFER
 - B. DHCPACK
 - C. DHCPREQUEST
 - D. DHCPDISCOVER

- 5. What is the role of the root bridge in a spanning tree protocol?**
 - A. It is the primary gateway for external networks
 - B. It serves as the central point for traffic and path determination
 - C. It filters traffic based on MAC addresses
 - D. It balances the load between multiple switches

- 6. In the context of wireless networking, what does SSID stand for?**
- A. Service Set Identifier
 - B. Service Security Identifier
 - C. System Set Identifier
 - D. Standard Set Identifier
- 7. When configuring a switch to avoid VLAN hopping, which practice should be avoided?**
- A. Setting the native VLAN to a different VLAN
 - B. Using dedicated trunk links
 - C. Enabling trunking on all ports
 - D. Implementing port security
- 8. What action will router R1 take with a packet that has a destination IPv6 address of 2001:db8:cafe:5::1?**
- A. Drop the packet
 - B. Forward the packet out Serial 0/0/0
 - C. Send the packet to the default gateway
 - D. Send an ICMP error message
- 9. Which configuration method is considered secure for remote access to a network device?**
- A. Configure Telnet
 - B. Configure HTTP
 - C. Configure FTP
 - D. Configure SSH
- 10. Which commands will allow hosts on a new subnet to receive addresses from the DHCPv4 server?**
- A. R1(config)#interface g0/0
 - B. R1(config-if)#ip helper-address 10.2.0.250
 - C. R1(config)#ip route 10.2.0.0 255.255.255.0
 - D. R1(config-if)#ip address dhcp

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Which tab should a network administrator use to create a new VLAN interface on a Cisco 2500 series WLC?

- A. Controller**
- B. VLAN
- C. Network
- D. Settings

To create a new VLAN interface on a Cisco 2500 series Wireless LAN Controller (WLC), the network administrator should navigate to the Controller tab. This tab provides the necessary settings and configuration options to manage VLANs and interfaces related to the wireless LAN. In the context of configuring VLANs, the Controller tab offers options to define and modify parameters related to the wireless environment, including the addition of VLAN interfaces, which are essential for segmenting network traffic and improving network management. The specific interface configurations are generally found under this tab, thus making it the appropriate choice for creating a new VLAN interface. While other tabs may contain relevant information or settings for other aspects of the WLC's operation, the Controller tab specifically caters to the creation and management of VLAN interfaces, providing the right tools for network administrators to effectively manage their wireless environments.

2. If the MAC address table on a switch is empty, how will the frame from PC-A be handled when sent to PC-C?

- A. SW ignores the frame completely
- B. SW forwards the frame only to PC-B
- C. SW floods the frame on all the ports on SW1, excluding the port through which the frame entered**
- D. SW forwards the frame to the default gateway

When a switch receives a frame and its MAC address table is empty, it does not have any entries to know which port to send the frame to for the specific destination MAC address. In this scenario, the switch will handle the incoming frame by flooding it out on all ports except the port it came from. This process allows the switch to learn which device is connected to which port. As the frame is flooded, all connected devices, including PC-B and PC-C, will receive a copy of the sent frame. Only the intended recipient, in this case PC-C, will respond and send a reply back, allowing the switch to learn PC-C's MAC address and the port it is connected to. Over time, this learning process helps the switch build its MAC address table, thus decreasing the need for flooding in future communications to that device. Flooding is a fundamental behavior of Ethernet switches, designed to support dynamic network configurations where devices can connect or disconnect without prior knowledge of their locations in the network. This mechanism ensures that frames can be reliably delivered, even in the absence of prior knowledge about the MAC address locations.

3. What information is displayed by the show spanning-tree command on a switch?

- A. The IP address of the switch
- B. The root bridge BID and the role of the ports in all VLANs**
- C. The MAC address table of the switch
- D. The security status of each port

The command "show spanning-tree" provides crucial information regarding the Spanning Tree Protocol (STP) configuration and status on a switch. Specifically, it displays the Bridge ID (BID) of the root bridge, which is essential in determining the overall topology of the network, as well as the roles of each port on the switch within the various VLANs configured. It reveals which ports are designated, root, blocked, or alternative, providing insights into how the switch contributes to loop prevention in the network. By understanding the role of each port and the identification of the root bridge, network administrators can troubleshoot connectivity issues, optimize STP settings, and ensure that the network topology remains loop-free. This information is vital for maintaining a healthy and efficient network infrastructure. The other choices do not relate to the STP configuration directly, as they pertain to different functionalities of the switch.

4. Which DHCP message type confirms that the address lease has been accepted?

- A. DHCP OFFER
- B. DHCP ACK**
- C. DHCP REQUEST
- D. DHCP DISCOVER

The DHCP ACK message type is used to confirm that the address lease has been accepted. When a client sends a DHCP REQUEST message, it is essentially requesting an IP address that it has previously received in the DHCP OFFER from a DHCP server. After this request, the DHCP server responds with a DHCP ACK, indicating that the lease is granted and the client can use the assigned IP address for the designated duration. This process ensures that both the client and server are in agreement about the lease of the IP address. The DHCP ACK is key to establishing a relationship between the client and the server with respect to the IP address assigned, as it signifies the successful completion of the DHCP lease process. In contrast, the DHCP OFFER is the initial message sent by the DHCP server to inform clients of available IP addresses, while the DHCP REQUEST is sent by the client to request an IP address formally. DHCP DISCOVER is the initial broadcast message that clients use to locate DHCP servers on the network. This distinction is crucial as it illustrates the sequential flow of the DHCP process, culminating in the DHCP ACK that solidifies the lease agreement.

5. What is the role of the root bridge in a spanning tree protocol?

- A. It is the primary gateway for external networks
- B. It serves as the central point for traffic and path determination**
- C. It filters traffic based on MAC addresses
- D. It balances the load between multiple switches

The root bridge in a spanning tree protocol plays a vital role in the network topology's management and operation. It serves as the central point for traffic and path determination, which is crucial for preventing loops in a Layer 2 network. The root bridge is selected based on its Bridge ID, which includes the bridge priority and MAC address. Once the root bridge is established, all other switches in the network compute the shortest path to it, which helps in determining the roles of all ports (e.g., root ports, designated ports) and ensures that there are no loops while maintaining an optimal path for data flow. The root bridge's designation as the focal point helps streamline the process of forwarding frames and maintaining a loop-free topology through the Spanning Tree Protocol (STP). With the root bridge as a reference, each switch can efficiently manage its paths, ensuring that data travels through the most efficient routes while maintaining network reliability.

6. In the context of wireless networking, what does SSID stand for?

- A. Service Set Identifier**
- B. Service Security Identifier
- C. System Set Identifier
- D. Standard Set Identifier

SSID stands for Service Set Identifier. It is a crucial component in wireless networking, serving as the unique name that identifies a wireless network. When devices, such as laptops or smartphones, search for available Wi-Fi networks, they are essentially looking for SSIDs. Each wireless network that broadcasts its signal includes its SSID, allowing users to distinguish between different networks. The SSID typically consists of a combination of letters and numbers, and it can be up to 32 characters long. In most cases, the SSID is configured in the wireless router or access point settings, and it can be changed by network administrators to reflect the network's purpose or identity. The visibility of the SSID can also be configured; it can either be broadcasted publicly or hidden from users, adding a layer of security to the wireless network. Understanding the importance of SSID is essential for network configuration, troubleshooting connectivity issues, and maintaining security in wireless environments.

7. When configuring a switch to avoid VLAN hopping, which practice should be avoided?

- A. Setting the native VLAN to a different VLAN
- B. Using dedicated trunk links
- C. Enabling trunking on all ports**
- D. Implementing port security

When configuring a switch to avoid VLAN hopping, it is essential to avoid enabling trunking on all ports. Trunking is the method of carrying multiple VLANs over a single link and is typically used between switches or network devices that require access to more than one VLAN. When trunking is enabled on all switch ports, it can expose the network to potential VLAN hopping attacks. VLAN hopping occurs when an unauthorized user sends frames to a switch port configured for a trunk link, potentially gaining access to multiple VLANs unintentionally. By limiting trunking only to the ports that specifically require it (such as those connecting switches), the risk of VLAN hopping can be significantly decreased. This practice ensures that only legitimate devices can traverse across VLANs, maintaining better security control within the network infrastructure. In contrast, other practices mentioned contribute positively to VLAN security – setting the native VLAN appropriately, using dedicated trunk links, and implementing port security can all help to reinforce the overall security posture of the VLANs.

8. What action will router R1 take with a packet that has a destination IPv6 address of 2001:db8:cafe:5::1?

- A. Drop the packet
- B. Forward the packet out Serial 0/0/0**
- C. Send the packet to the default gateway
- D. Send an ICMP error message

The router R1 will forward the packet out Serial 0/0/0 because it has a valid destination IPv6 address, and there is a route in R1's routing table that matches this address. When a packet is received, routers check their routing tables to find the best route to the destination. If there is a match, the router forwards the packet to the next hop based on that routing entry. In this instance, the destination address 2001:db8:cafe:5::1 corresponds to a specific network that R1 is aware of and has a route for. Therefore, it will use the designated outgoing interface, which in this case is Serial 0/0/0, to send the packet onward to its destination. Forwarding packets based on valid routing information is a fundamental function of routers in a network.

9. Which configuration method is considered secure for remote access to a network device?

- A. Configure Telnet
- B. Configure HTTP
- C. Configure FTP
- D. Configure SSH**

The configuration method that is considered secure for remote access to a network device is SSH (Secure Shell). SSH provides a secure channel over an unsecured network by utilizing encryption for both the command and data being transmitted. This encryption protects against eavesdropping, connection hijacking, and other attacks that can be more easily executed against unencrypted communications. In contrast, Telnet, HTTP, and FTP are not secure for the following reasons: - Telnet transmits data, including usernames and passwords, in plain text. This means that anyone with the ability to intercept the traffic can easily read the credentials and other sensitive information. - HTTP (Hypertext Transfer Protocol) is also unencrypted, which opens it to similar vulnerabilities as Telnet, making it unsuitable for transmitting sensitive login information over the network. - FTP (File Transfer Protocol) by itself does not provide encryption for the data or credentials being transmitted, leading to risks such as data and password interception. Using SSH ensures that remote access to the network device is maintained securely, making it the preferred choice for network administrators.

10. Which commands will allow hosts on a new subnet to receive addresses from the DHCPv4 server?

- A. R1(config)#interface g0/0**
- B. R1(config-if)#ip helper-address 10.2.0.250
- C. R1(config)#ip route 10.2.0.0 255.255.255.0
- D. R1(config-if)#ip address dhcp

The correct action for allowing hosts on a new subnet to receive addresses from a DHCPv4 server involves configuring the router to relay DHCP requests. Specifically, the command that facilitates this is the one that configures the interface of the router to point to the DHCP server's IP address using the helper address. For a DHCP server to provide addresses to clients in a different subnet, the router must be configured to forward the DHCP broadcast messages. The command to achieve this is to specify the IP address of the DHCP server within the interface context using "ip helper-address." This configuration allows the router to intercept the broadcast messages from the subnet and forward them to the specified DHCP server, which will then respond with an appropriate IP address. Setting the interface with "ip address dhcp" would enable the interface to receive its IP address from a DHCP server, but this is not the command required to assist other hosts in a different subnet. Similarly, creating an IP route or simply identifying the interface does not ensure that DHCP clients in a new subnet can get their addresses. By using the appropriate command to set the helper address, the connectivity for DHCP clients across different subnets is established, ensuring they can successfully receive an IP address from the DHCP server.

SAMPLE

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://ccna2switchingroutingwirelessessentialsv7.examzify.com>

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

SAMPLE