CISCO CERTIFIED NETWORK ASSOCIATE (CCNA) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://ciscoccna.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.

SAMPLE

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!

SAMPLE

Questions

SAMPLE

1. What is the purpose of an IPv6 Anycast address?

A. To send packets to all interfaces in a network

B. To send packets to the latest interface based on routing metrics

C. To send packets to a specific pre-defined interface

D. To send packets to an unknown group of nodes

2. Which of the following approaches is NOT used when migrating from an IPv4 addressing scheme to an IPv6 scheme?

A. Dual-stack routing

B. Configure IPv4 tunnels between IPv6 islands

C. Port forwarding

D. Proxying and translation to translate IPv6 packets into IPv4 packets

3. To disable automatic summarization in EIGRP, which command is used?

A. no-auto-summary

B. maximum-paths NUMBER

C. config-line#end

D. network NETWORK TO BE ADVERTISED

4. What does it indicate if the line status is up and the protocol status is down?

A. Layer 1 issue

B. Layer 2 issue

C. Configuration mismatch

D. No incoming traffic

5. What is the primary function of GLBP in a network?

A. Load balancing among multiple gateways

B. Providing firewall protection

C. Network address translation

D. Routing data packets

SAMPLE

6. At what layer does the PPP Link Control Protocol (LCP) operate, and what is its purpose?

A. Layer 1; to route packets

B. Layer 2; to establish, maintain, and terminate the PPP connection

C. Layer 3; to manage IP addressing

D. Layer 4; to control data flow

7. Which command is appropriate to confirm that OSPF v3 links are up?

A. #debug ipv6 ospf

B. #show ipv6 ospf interface

C. #show ipv6 ospf neighbor

D. #show ipv6 interface brief

8. Which command propagates a default route in OSPF?

A. (config-router)#default-information originate never

B. (config-router)#default-information originate always

C. (config-router)#redistribute static

D. (config-router)#propagate default-route

9. What is the destination MAC address when a host sends a message to an IP on a different subnet?

A. MAC address of the host

B. MAC address of the switch

C. MAC address of the default gateway

D. Unicast MAC address of a random host

10. What is the first command to configure EIGRP for IPv6 on a router interface?

A. (config)#ipv6 unicast-routing

B. (config)#ipv6 router eigrp AS NUMBER

C. (config-router)#router-id ROUTER ID

D. (config-if)#ipv6 address IPV6 ADDRESS/64

SAMPLE

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is the purpose of an IPv6 Anycast address?

A. To send packets to all interfaces in a network

B. To send packets to the latest interface based on routing metrics

C. To send packets to a specific pre-defined interface

D. To send packets to an unknown group of nodes

The purpose of an IPv6 Anycast address is to send packets to the nearest interface among a group of potential recipients based on the routing metrics. In essence, when an IPv6 Anycast address is utilized, the network selects the closest node that is configured with that specific Anycast address to handle the packet. This mechanism is particularly useful for services such as content delivery networks and distributed services, where users benefit from reduced latency by connecting to the nearest server or node. In contrast, sending packets to all interfaces in a network would involve multicast addressing, which serves a very different function. Targeting a specific pre-defined interface pertains to unicast addressing, where the packet is directed to a unique address. Finally, the notion of sending packets to an unknown group of nodes does not align with the defined purpose of Anycast, which involves a set of known addresses from which routing selects the best candidate based on metrics.

2. Which of the following approaches is NOT used when migrating from an IPv4 addressing scheme to an IPv6 scheme?

A. Dual-stack routing

B. Configure IPv4 tunnels between IPv6 islands

C. Port forwarding

D. Proxying and translation to translate IPv6 packets into IPv4 packets

When migrating from an IPv4 addressing scheme to an IPv6 scheme, various approaches facilitate the transition while ensuring that both protocols can coexist and communicate as needed. The correct answer highlights a method not typically associated with this migration process. Dual-stack routing allows a network to run both IPv4 and IPv6 simultaneously, enabling devices to communicate using either protocol without disrupting existing services. This approach is essential during the transition as it accommodates both addressing schemes. Configuring IPv4 tunnels between IPv6 islands is another common method where encapsulation techniques create paths for IPv6 packets to travel over an IPv4 infrastructure. This supports interoperability across networks that have not yet fully transitioned to IPv6. Proxying and translation involve mechanisms like NAT64, which enable IPv6 devices to communicate with IPv4 resources by translating and proxying the packets. This method is instrumental in helping the old and new addressing schemes interact. In contrast, port forwarding is not a recognized approach specifically employed during the migration from IPv4 to IPv6. It is primarily a technique used in network address translation to redirect traffic from one IP address and port combination to another, typically within the same IPv4 address space. While port forwarding has its merits in IPv4 environments, it doesn't directly aid in the transition to IPv

SAMPLE

3. To disable automatic summarization in EIGRP, which command is used?

A. no-auto-summary

B. maximum-paths NUMBER

C. config-line#end

D. network NETWORK TO BE ADVERTISED

The correct command to disable automatic summarization in EIGRP is "no auto-summary." Automatic summarization allows EIGRP to summarize routes at classful boundaries, which can be useful in networks that are designed to use classful addressing. However, in many modern networking environments that utilize classless addressing, automatic summarization can lead to suboptimal routing decisions and issues such as route flapping or black hole routes. By using the command "no auto-summary," EIGRP will continue to advertise subnets individually rather than summarizing them at the network boundaries. This will lead to more precise and efficient routing information being shared among router peers, especially in scenarios where discontiguous subnets need to be communicated. The other options presented do not relate specifically to disabling automatic summarization, highlighting that they serve different purposes within the EIGRP configuration context. For instance, "maximum-paths NUMBER" is used to configure the number of equal-cost paths that will be used for load-balancing, while "network NETWORK TO BE ADVERTISED" is used to define which networks EIGRP will include in its advertisements. Lastly, "config-line#end" does not correspond to any EIGRP configuration command but simply indicates a method to exit

4. What does it indicate if the line status is up and the protocol status is down?

A. Layer 1 issue

B. Layer 2 issue

C. Configuration mismatch

D. No incoming traffic

When the line status is up but the protocol status is down, it indicates that the physical layer of the connection is functioning correctly, meaning there is a valid physical link between the devices. However, the protocol layer is experiencing a problem, which may point to a Layer 2 issue. This situation often arises due to issues such as mismatched encapsulation types, VLAN mismatches, or problems with spanning tree protocol. Each of these issues affects how data is being processed at the data link layer, which results in the protocol being down despite the physical connection being good. While it might seem like the issue could stem from configuration mismatches in some cases, the specific indication of the protocol being down while the line status is up firmly situates the problem at Layer 2, where the data link layer must manage how data packets are formatted for transmission over the physical medium.

SAMPLE

5. What is the primary function of GLBP in a network?

A. Load balancing among multiple gateways

B. Providing firewall protection

C. Network address translation

D. Routing data packets

The primary function of GLBP, or Gateway Load Balancing Protocol, is to load balance traffic among multiple gateways. GLBP allows a group of routers to present a single virtual router IP address to the hosts on a local network. When a host sends a packet to the default gateway, GLBP distributes the traffic across the available routers in the group, thus ensuring better utilization of network resources and providing redundancy. This means that if one of the routers in the GLBP group fails, traffic can be seamlessly redirected to the other operational routers, maintaining network availability and performance. Load balancing effectively helps to prevent any single router from becoming a bottleneck, improving overall network efficiency. In contrast, providing firewall protection, network address translation, and routing data packets are functions associated with different networking protocols and devices. These options do not align with the specific role of GLBP in managing gateway redundancy and balance.

6. At what layer does the PPP Link Control Protocol (LCP) operate, and what is its purpose?

A. Layer 1; to route packets

B. Layer 2; to establish, maintain, and terminate the PPP connection

C. Layer 3; to manage IP addressing

D. Layer 4; to control data flow

The PPP Link Control Protocol (LCP) operates at Layer 2 of the OSI model. Its primary purpose is to establish, maintain, and terminate Point-to-Point Protocol (PPP) connections between two directly connected nodes. At Layer 2, LCP is responsible for configuring and testing the data link connection, enabling error detection, handling control options such as authentication methods, and ensuring the link is upgraded or terminated as needed. This functionality is essential in a variety of network setups, particularly in dial-up and other point-to-point scenarios, where reliable and efficient communication is crucial. Understanding LCP's role at this layer highlights its importance in ensuring that data packets can be transmitted reliably over the established link, thus facilitating effective communication between devices.

7. Which command is appropriate to confirm that OSPF v3 links are up?

A. #debug ipv6 ospf

B. #show ipv6 ospf interface

C. #show ipv6 ospf neighbor

D. #show ipv6 interface brief

The command that accurately confirms if OSPFv3 links are up is the one that checks the state of the interfaces participating in OSPFv3. The command that achieves this is related to displaying OSPF interface details or neighboring relationships. The command that lists IPv6 interface statuses, including whether they are up or down and other relevant metrics, is the one that directly checks interface status. By using this command, you can see which interfaces are operationally up and can carry traffic, thus confirming the readiness for OSPFv3 operation. The other commands serve different purposes: - The command that involves debugging is used for troubleshooting and does not directly confirm the link state. - Checking the OSPF interface provides specific information about OSPF, but can be more focused on OSPF-specific metrics and not just the link state. - The neighbor command displays OSPF neighbors and their states, which is essential but secondary to determining if the links themselves are operational. Thus, the command to show interface statuses is the most appropriate for confirming that OSPFv3 links are indeed up.

SAMPLE

8. Which command propagates a default route in OSPF?

A. (config-router)#default-information originate never

B. (config-router)#default-information originate always

C. (config-router)#redistribute static

D. (config-router)#propagate default-route

The correct command for propagating a default route in OSPF is to use the "default-information originate" command with the "always" argument. This command tells the OSPF process to advertise a default route to other OSPF routers in the network, regardless of whether the router has a default route configured or not. When the "always" keyword is added, the command will force OSPF to always send out a default route, making sure that all neighboring routers are aware of it. This is particularly useful in networks where you want to ensure all devices can reach an outside network, such as the internet, and facilitates the routing of all traffic that doesn't match any other known routes. In contrast, using "never" in the first command would prevent the propagation of a default route, even if one exists, making it unsuitable for the task at hand. The third option, "redistribute static," would only send static routes, and while it could include a default route if it exists in the routing table, it does not guarantee that a default route will be included. The last option, "propagate default-route," is not a valid command in the context of OSPF, which makes it invalid as well.

9. What is the destination MAC address when a host sends a message to an IP on a different subnet?

A. MAC address of the host

B. MAC address of the switch

C. MAC address of the default gateway

D. Unicast MAC address of a random host

When a host sends a message to an IP address located on a different subnet, it must first send the packet to the default gateway. The MAC address associated with the default gateway is crucial in this scenario, as it serves as the next hop in the process of routing the packet to its destination. In the context of local area networking, when a device wants to communicate with another device that is outside its local subnet, it doesn't know the MAC address of the remote device. Instead, the device relies on the gateway—often a router configured for routing traffic between different subnets. The host will use an Address Resolution Protocol (ARP) request to find the MAC address of its default gateway, which is typically a router's interface on the local network. Once the MAC address of the default gateway has been resolved, the host then encapsulates its IP packet within a frame addressed to this MAC address. This is why the correct answer is the MAC address of the default gateway. It ensures that the frame is sent to the correct device that can route it toward its final destination, enabling successful communication across different subnets.

SAMPLE

10. What is the first command to configure EIGRP for IPv6 on a router interface?

A. (config)#ipv6 unicast-routing

B. (config)#ipv6 router eigrp AS NUMBER

C. (config-router)#router-id ROUTER ID

D. (config-if)#ipv6 address IPV6 ADDRESS/64

The command to enable IPv6 routing on the router is essential before configuring any routing protocols, such as EIGRP for IPv6. By using "ipv6 unicast-routing," you effectively instruct the router to handle IPv6 network traffic, which is a prerequisite for any further configuration related to IPv6 routing protocols, including EIGRP. This command must be executed in global configuration mode to activate IPv6 unicast routing on the router. Once this is done, you can subsequently define EIGRP settings and address assignments on specific interfaces. Other options revolve around configuring EIGRP settings and might be implemented after enabling IPv6 routing, but they do not serve as the initial command necessary to bring IPv6 functionality into play on the router.

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://ciscoccna.examzify.com

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

SAMPLE