CCNA (CISCO CERTIFIED NETWORK ASSOCIATE) ANKI PRACTICE TEST (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. What is the prefix length of a class B IPv4 address?

A. /8

B. /16

C. /24

D. /32

2. What is the Extended VLAN range?

A. 1 to 1005

B. 1 to 4094

C. 1006 to 4094

D. 0 to 4094

3. When a switch rapidly and continuously updates a MAC address in its MAC address table, what is this known as?

A. MAC address flapping

B. MAC address flooding

C. Address resolution

D. Address saturation

4. UDP is a connection-oriented protocol. True or False?

A. True

B. False

C. Both

D. Depends on application

5. Which of the following is NOT a field in the STP Bridge ID?

A. Bridge Priority

B. Extended System ID

C. Port ID

D. MAC Address

6. Interaction between the same OSI layer on different devices is referred to as what?

A. Cross-layer interaction

B. Adjacent-layer interaction

C. Same-layer interaction

D. Session-layer interaction

7. What command is used to clear all dynamic MAC addresses from the MAC Address Table in a Cisco switch?

A. clear mac address-table dynamic

B. remove mac addresses

C. reset mac address-table

D. flush mac address-table

8. What is the dotted decimal equivalent of a /25 prefix length?

A. 255.255.255.0

B. 255.255.255.128

C. 255.255.255.192

D. 255.255.255.248

9. How do you configure the native VLAN on a trunk port?

A. switchport native vlan vlan-number

B. switchport trunk native vlan vlan-number

C. switchport trunk set native vlan vlan-number

D. switchport vlan native set vlan-number

10. What is a static route that has a higher administrative distance than a dynamic route called?

A. Permanent static route

B. Floating static route

C. Dynamic static route

D. Conditional static route

Answers

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

Explanations

1. What is the prefix length of a class B IPv4 address?

A. /8

B. /16

C. /24

D. /32

The prefix length of a class B IPv4 address is indicated as /16. This means that in a class B address, the first 16 bits are used for the network portion, while the remaining 16 bits are allocated for the host portion. In IPv4 addressing, class B addresses fall within the range of 128.0.0.0 to 191.255.255.255. The structure of a class B address allows for a significant number of networks since it utilizes a larger portion of the address space for host addresses compared to class A, which has a /8 prefix. This balance is particularly useful for organizations that require a moderate number of networks and a large number of host addresses per network. The other prefix lengths mentioned are specific to different classes: /8 is associated with class A, /24 with class C, and /32 indicates a single host in the context of IPv4, often used for point-to-point links or host-specific routing. Understanding these class designations and their corresponding prefix lengths is critical for efficient network design and IP address management.

2. What is the Extended VLAN range?

A. 1 to 1005

B. 1 to 4094

C. 1006 to 4094

D. 0 to 4094

The Extended VLAN range refers to VLANs that are assigned to a range extending from 1006 to 4094. This range is used for configurations that exceed the limitations of the normal VLAN range, which is from 1 to 1005. In Cisco networking, VLANs are categorized into two main ranges: - The normal range spans from 1 to 1005 and is commonly used for standard VLAN configurations. - The extended range, on the other hand, allows for greater flexibility and scalability in large networks by providing additional VLAN IDs beyond the normal range. The purpose of the extended VLAN range is to accommodate larger networks that may need more VLANs than what the normal range can offer. This is particularly useful in enterprise environments and data centers where segmentation and organization of network traffic are critical. The other ranges mentioned in alternative choices do not apply correctly to VLAN configurations. Specifically, VLAN IDs cannot go below 1, and while the VLAN ID 4095 is considered a reserved VLAN, it is not usable for standard configurations.

3. When a switch rapidly and continuously updates a MAC address in its MAC address table, what is this known as?

A. MAC address flapping

B. MAC address flooding

C. Address resolution

D. Address saturation

The phenomenon of rapidly and continuously updating a MAC address in a switch's MAC address table is referred to as MAC address flapping. This occurs when a switch detects that a MAC address is coming from different physical ports in a short amount of time. Normally, a MAC address should be associated with a single port where a device is connected. However, if a device is moving between ports or if there is a misconfiguration in the network, the switch can become confused, leading it to rapidly update the table with the new port information. This can result in routing issues and is indicative of network instability or topology changes. In contrast, MAC address flooding involves overwhelming a switch by sending a large number of Ethernet frames with unknown destination MAC addresses, causing it to broadcast the frames out of all ports. Address resolution refers to the process of determining the MAC address that corresponds to an IP address, typically managed through protocols like ARP. Address saturation does not specifically refer to MAC address behavior in switches but generally refers to a state where a network device is overwhelmed by the amount or rate of incoming data and cannot process it effectively.

4. UDP is a connection-oriented protocol. True or False?

A. True

B. False

C. Both

D. Depends on application

User Datagram Protocol (UDP) is a connectionless protocol, which means it does not establish a dedicated end-to-end connection before data is sent. Each datagram is sent independently, and there is no guarantee of delivery, order, or integrity. This lack of a connection-oriented nature means that UDP is faster than connection-oriented protocols like TCP (Transmission Control Protocol), as it avoids the overhead associated with connection setup and management. In contrast, connection-oriented protocols, such as TCP, ensure reliable transmission through features like error recovery, flow control, and maintaining a session between sender and receiver. These differences highlight why the statement regarding UDP being a connection-oriented protocol is false.

5. Which of the following is NOT a field in the STP Bridge ID?

A. Bridge Priority

B. Extended System ID

C. Port ID

D. MAC Address

The Bridge ID in Spanning Tree Protocol (STP) is key in determining the role of a switch in a network topology. The Bridge ID is comprised of three main components that work together to uniquely identify a Bridge within a network. The correct answer, which is Port ID, is not a part of the Bridge ID. The Bridge ID consists of the Bridge Priority, which allows network administrators to influence the design of the network by determining which bridge will become the root bridge, and the Extended System ID, which includes the VLAN ID, making it context-specific for VLAN configurations. Additionally, the MAC Address of the switch is included as part of the Bridge ID, providing a unique identifier for the switch hardware. In contrast, the Port ID is an identifier for an individual port on a switch and is used in the context of defining path costs and roles on a switch-per-port basis. Therefore, while the Port ID is essential in the STP process, it is not part of the Bridge ID itself. Understanding these distinctions is crucial for effectively working with STP in network design and management.

6. Interaction between the same OSI layer on different devices is referred to as what?

A. Cross-layer interaction

B. Adjacent-layer interaction

C. Same-layer interaction

D. Session-layer interaction

Interactions between the same OSI layer on different devices are described as same-layer interaction. This term is used to illustrate how protocols at the same layer on different systems can communicate with each other. For example, when two devices communicate over a network using the TCP protocol in the transport layer, they are engaging in same-layer interaction. In this scenario, both devices utilize the same protocol to facilitate communication, which is essential for data exchange between them. This concept emphasizes the importance of protocol adherence at each OSI layer to ensure seamless communication across different network devices. The other terms mentioned refer to different kinds of interactions. Cross-layer interaction involves multiple layers communicating or sharing information, while adjacent-layer interaction typically refers to interactions between layers that are directly above or below each other in the OSI model. Session-layer interaction, on the other hand, specifically describes functions pertaining to the session layer, which involves managing sessions for ongoing communications. Understanding these distinctions helps clarify the unique roles each layer plays in network communications.

7. What command is used to clear all dynamic MAC addresses from the MAC Address Table in a Cisco switch?

A. clear mac address-table dynamic

B. remove mac addresses

C. reset mac address-table

D. flush mac address-table

The command used to clear all dynamic MAC addresses from the MAC Address Table in a Cisco switch is "clear mac address-table dynamic." This command specifically targets dynamic entries in the table, which are learned MAC addresses that are added automatically through the switch's normal operation as devices communicate on the network. When executing this command, the switch removes all dynamically learned MAC addresses, effectively refreshing the MAC Address Table. This can be useful for troubleshooting purposes, such as when network devices have changed their locations, or after a network has undergone significant changes, ensuring that the switch operates with the most current network topology. The other choices do not correspond to valid commands recognized in Cisco IOS for this purpose. The command "remove mac addresses" is not a recognized command in the context of manipulating the MAC Address Table, and "reset mac address-table" may imply a broader reset that isn't a specific Cisco command. Lastly, "flush mac address-table" is not a valid command in Cisco IOS syntax. Thus, "clear mac address-table dynamic" is the correct and precise command for clearing dynamic entries from the table.

8. What is the dotted decimal equivalent of a /25 prefix length?

A. 255.255.255.0

B. 255.255.255.128

C. 255.255.255.192

D. 255.255.255.248

A /25 prefix length indicates that the first 25 bits of the subnet mask are set to 1 (representing the network portion), and the remaining 7 bits are set to 0 (representing the host portion). To understand this in terms of the dotted decimal format, we convert the binary representation of the subnet mask. A /25 translates to: - The first octet (8 bits) is 255 (binary 11111111), - The second octet (8 bits) is 255 (binary 11111111), - The third octet (8 bits) is 255 (binary 11111111), - The fourth octet is 128 (binary 10000000), representing the first bit set to 1 and the rest set to 0. Therefore, when combining these together, the complete subnet mask in dotted decimal notation for a /25 prefix length is 255.255.255.128. This reflects that the network can accommodate 128 IP addresses, 126 of which are usable for hosts (after accounting for the network and broadcast addresses).

9. How do you configure the native VLAN on a trunk port?

A. switchport native vlan vlan-number

B. switchport trunk native vlan vlan-number

C. switchport trunk set native vlan vlan-number

D. switchport vlan native set vlan-number

The correct way to configure the native VLAN on a trunk port is through the command that specifies the trunking context, which is the second option. In this case, the command "switchport trunk native vlan vlan-number" directly establishes the native VLAN on a trunk interface. When you configure a VLAN on a trunk port, it is essential to indicate that the settings pertain to the trunking protocol because trunk ports carry multiple VLANs. The use of the term "trunk" in the command clarifies the port's role and ensures that the switch understands that you are specifying a parameter relevant to trunking. The native VLAN is critical for legacy equipment and for interoperability with devices that may not understand VLAN tagging. By explicitly setting the native VLAN in the trunking context, you ensure that untagged traffic sent through the trunk is properly recognized and associated with the specified VLAN. This command effectively instructs the switch to treat any packets received without a VLAN tag on that trunk port as belonging to the specified native VLAN. Other options do not provide the correct syntax or context needed to assign the native VLAN correctly, which is why they are not suitable for configuring the native VLAN on trunk ports.

10. What is a static route that has a higher administrative distance than a dynamic route called?

A. Permanent static route

B. Floating static route

C. Dynamic static route

D. Conditional static route

A static route with a higher administrative distance than a dynamic route is referred to as a floating static route. This term is used to describe static routes that are intentionally configured with a higher administrative distance, causing them to be less preferred than dynamically learned routes. In networking, administrative distance is a value used to rate the trustworthiness of the source of a routing information. Dynamic routes, which are learned via protocols such as RIP, EIGRP, or OSPF, typically have lower administrative distances and are preferred by routers when making routing decisions. By configuring a static route with a higher administrative distance, network administrators can create backup routes that are only used when the primary dynamic route becomes unavailable. This is particularly useful for adding redundancy to a network. For instance, if a dynamic route fails for any reason, the router can then switch to the floating static route as a backup to maintain connectivity. The other terms mentioned do not accurately describe this routing concept. A permanent static route would suggest that the route is always in place and does not take failure or dynamic routing into account. Dynamic static routes and conditional static routes are not standard terminology in routing and do not exist in the context of routing protocols and their associated administrative distances. Therefore, the term “floating static

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://ccnaanki.examzify.com

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