

Cisco Certified Technician Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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

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- 1. Which command provides a view of diagnostic information on switch components?**
 - A. show ip interface**
 - B. show diagnostic**
 - C. show idprom**
 - D. show status**
- 2. What is a key feature of the Cisco 2900 Series Integrated Services Routers?**
 - A. High-speed WAN Interface Cards**
 - B. Support for only IPv6 connectivity**
 - C. Lower cost than other series**
 - D. Only support DSL connections**
- 3. What type of encryption does the VPN module support?**
 - A. MD5 encryption**
 - B. AES encryption**
 - C. SSL encryption**
 - D. Firewall encryption**
- 4. What process is initiated by the router's bootstrap code stored in ROM?**
 - A. Basic configuration settings**
 - B. Power on self test (POST)**
 - C. Network interface initialization**
 - D. Data packet routing**
- 5. Which series of Cisco routers supports over 70 interfaces and a range of connectivity options?**
 - A. 2900 series**
 - B. 7200 series**
 - C. 3900 series**
 - D. 7600 series**

6. How does TFTP differ from FTP?

- A. It is more secure**
- B. It does not require authentication**
- C. It supports simultaneous connections**
- D. It uses encryption for data transfer**

7. What type of line is reserved for the private use of a customer by a communications carrier?

- A. Dedicated line**
- B. Shared line**
- C. Virtual line**
- D. Dial-up line**

8. In the context of POTS, what does "tip and ring" refer to?

- A. The two wires for telephone service connection**
- B. The two types of telephone services**
- C. The two configurations for network settings**
- D. The two main signal types in telecommunication**

9. What aspect of the OSI model is closest to the physical media?

- A. The application layer**
- B. The transport layer**
- C. The data link layer**
- D. The physical layer**

10. What is a characteristic of fixed-length cells used in ATM technology?

- A. They are designed for audio signals only**
- B. They reduce transit delays by processing in hardware**
- C. They vary in size to accommodate different types of data**
- D. They increase the complexity of packet routing**

Answers

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

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Explanations

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1. Which command provides a view of diagnostic information on switch components?

- A. **show ip interface**
- B. **show diagnostic**
- C. show idprom**
- D. **show status**

The command that provides a view of diagnostic information on switch components is indeed the one that allows the user to access information about the device's identity and hardware details. Issuing the command reveals critical data stored in the ID PROM (identification programmable read-only memory) of the switch. This memory contains essential details like the device's model number, serial number, manufacturing date, and other hardware specifications. It's crucial for troubleshooting and verifying hardware integrity or identifying what hardware is present in the switch. Thus, this command serves as a vital tool for network technicians who need to gather diagnostic data on the switch's components to ensure proper functionality and to assist in troubleshooting issues that may arise. The other commands do not focus specifically on the diagnostic information of switch components in the same way. For instance, commands related to IP interfaces, general diagnostics, or status do not provide the detailed hardware insights that the ID PROM command does.

2. What is a key feature of the Cisco 2900 Series Integrated Services Routers?

- A. High-speed WAN Interface Cards**
- B. **Support for only IPv6 connectivity**
- C. **Lower cost than other series**
- D. **Only support DSL connections**

The key feature of the Cisco 2900 Series Integrated Services Routers is their support for high-speed WAN Interface Cards. This capability enables the routers to accommodate various types of WAN connectivity, including Ethernet, T1/E1, and DSL, allowing for flexibility and scalability in diverse network environments. The high-speed WAN Interface Cards are essential for organizations that require robust performance, high bandwidth, and the ability to integrate with existing infrastructure while also supporting the demands of modern applications and services. This adaptability is crucial for ensuring reliable communication across diverse networking needs. The other options presented do not accurately capture the primary strengths of the Cisco 2900 Series. While the series does support IPv6 connectivity, it is not limited to only that protocol, and offering support for a wide range of network protocols is essential in current networking environments. Additionally, while cost considerations may vary, the focus of the Cisco 2900 Series is more on functionality and performance than being characterized specifically as a lower-cost option compared to other router series. Finally, the capability of Cisco 2900 Series routers extends beyond just DSL connections, accommodating various WAN technologies, which broadens their applicability and usefulness in enterprise networking setups.

3. What type of encryption does the VPN module support?

- A. MD5 encryption
- B. AFS encryption**
- C. SSL encryption
- D. Firewall encryption

The VPN module supports AES (Advanced Encryption Standard) encryption because it is widely regarded as a secure and efficient encryption standard used in various security protocols, including VPNs. AES operates on block sizes of 128, 192, and 256 bits, offering strong encryption that is resistant to a range of attacks. This makes it suitable for protecting sensitive data transmitted over the internet in a VPN environment, ensuring confidentiality and integrity. In contrast, while MD5 is a hashing algorithm, it does not provide encryption but rather checks the integrity of data. SSL encryption typically refers to the overall security protocol that may use various algorithms, including AES, but is not itself an encryption technique. The term "firewall encryption" is not a standard term used in the context of VPNs and does not specify a recognized encryption methodology. Therefore, AES stands out as the correct choice for its direct application in VPN encryption.

4. What process is initiated by the router's bootstrap code stored in ROM?

- A. Basic configuration settings
- B. Power on self test (POST)**
- C. Network interface initialization
- D. Data packet routing

The process initiated by the router's bootstrap code stored in ROM is the Power-On Self Test (POST). This is a diagnostic procedure that occurs during the boot-up sequence of the router. When the device is powered on, the bootstrap code runs the POST to check the hardware components of the router, such as the CPU, memory, and interfaces, to ensure they are functioning correctly. This step is crucial as it identifies any potential hardware failures before the device attempts to load the operating system. This initial self-test is essential for proper operation of the router, as it helps prevent the router from running with defective hardware, which could lead to suboptimal performance or failures in routing data. After the POST is completed successfully, the router can then proceed to load the operating system and continue with the boot process, including other initialization tasks necessary for operation.

5. Which series of Cisco routers supports over 70 interfaces and a range of connectivity options?

- A. 2900 series**
- B. 7200 series**
- C. 3900 series**
- D. 7600 series**

The 7200 series of Cisco routers is known for its ability to support a wide array of interfaces and connectivity options, making it suitable for various enterprise and service provider environments. This series can accommodate more than 70 interfaces, allowing for extensive scalability and flexibility in networking configurations. It supports a diverse range of interface types, including Ethernet, T1/E1, and even fiber optic options, which facilitates integration into complex and varied networking scenarios. This adaptability is crucial for organizations that require robust data routing capabilities and need to connect multiple services, whether for internal use or as part of a larger infrastructure that supports multiple clients or branches. The 7200 series routers are designed to handle high traffic loads and provide reliable performance, making them a preferred choice for environments where network capacity and versatility are priorities.

6. How does TFTP differ from FTP?

- A. It is more secure**
- B. It does not require authentication**
- C. It supports simultaneous connections**
- D. It uses encryption for data transfer**

TFTP, or Trivial File Transfer Protocol, is distinct from FTP (File Transfer Protocol) primarily in its simplicity and lack of authentication requirements. TFTP is designed to be lightweight and easy to implement, which is why it does not require user authentication to access files. This characteristic makes TFTP more straightforward for certain applications, especially in environments where secure transfer is not a priority or where quick and easy transfer of files is needed. In contrast, FTP typically requires a username and password for authentication, thereby ensuring that only authorized users can access the file system and transfer files. By removing this layer of security, TFTP allows for rapid file transfer without the overhead involved in managing user accounts. It's important to note that while TFTP has its advantages, the lack of authentication means that it may not be suitable for transferring sensitive or private data, positioning it more in the realm of local network operations or scenarios where security is a lesser concern.

7. What type of line is reserved for the private use of a customer by a communications carrier?

A. Dedicated line

B. Shared line

C. Virtual line

D. Dial-up line

A dedicated line is exclusively reserved for a single customer by a communications carrier, which means that the customer has full access to the line without sharing it with others. This type of line offers reliable and consistent performance since the bandwidth is not split among multiple users. Businesses often use dedicated lines for critical applications, such as secure data transfer or voice communication, where a stable connection is essential. This distinctiveness of dedicated lines makes them ideal for organizations that require high bandwidth and low latency consistent with their usage needs. In contrast, a shared line allows multiple customers to use the same physical infrastructure simultaneously, which can result in varying performance levels and increased latency. Virtual lines and dial-up lines serve different purposes entirely, further differentiating the dedicated line from other types of connections.

8. In the context of POTS, what does "tip and ring" refer to?

A. The two wires for telephone service connection

B. The two types of telephone services

C. The two configurations for network settings

D. The two main signal types in telecommunication

The term "tip and ring" refers specifically to the two wires used in traditional Plain Old Telephone Service (POTS) for connecting telephone devices to the network. The "tip" wire is usually the positive (-) wire, while the "ring" wire is the negative (+) wire. This configuration allows for the completion of a circuit, which is essential for making and receiving calls. In the POTS system, the tip and ring wires carry the electrical signals that encode voice data, enabling communication over the standard copper telephone lines. Understanding this terminology is fundamental for anyone working with telecommunication systems, as it underlies the basic wiring structure that has been in use for many decades. The other options refer to concepts that do not accurately represent the "tip and ring" terminology related to POTS. Thus, recognizing the correct association with the two wires used in telephone service is crucial for anyone studying telecommunication and networking systems.

9. What aspect of the OSI model is closest to the physical media?

- A. The application layer
- B. The transport layer
- C. The data link layer
- D. The physical layer**

The physical layer is the correct answer because it is the lowest layer of the OSI model and directly interacts with the physical media used for data transmission. This layer is responsible for the actual transmission of raw data bits over a physical medium, such as copper wires, fiber optic cables, or wireless signals. It defines the electrical, mechanical, procedural, and functional specifications for the physical medium. The physical layer encompasses a variety of hardware elements and focuses on the medium through which data is sent, including connectors, cables, and the signaling techniques that enable data transfer. It lays the foundation for the higher layers of the OSI model, which build upon the physical layer to provide more abstract services, such as error detection, data formatting, and end-to-end communication. Understanding the role of the physical layer is crucial for effectively managing and troubleshooting network communications.

10. What is a characteristic of fixed-length cells used in ATM technology?

- A. They are designed for audio signals only
- B. They reduce transit delays by processing in hardware**
- C. They vary in size to accommodate different types of data
- D. They increase the complexity of packet routing

Fixed-length cells in ATM (Asynchronous Transfer Mode) technology are characterized by their standard size of 53 bytes, composed of 5 bytes for the header and 48 bytes for the payload. This uniform cell size plays a critical role in handling data transmission efficiently. Processing fixed-length cells in hardware allows for quick and predictable routing decisions, minimizing the time each cell spends in transit. This operational design leads to reduced transit delays compared to variable-length packets, which can require more complex handling and processing in software. The consistent cell size simplifies the design of high-speed network hardware and supports high-throughput data communication, which is especially advantageous in environments where performance and low latency are vital. In contrast, the other options suggest features or characteristics that do not align with the principles of fixed-length cell transmission in ATM technology. For instance, suggesting that they are designed for audio signals only implies a limitation that does not account for ATM's ability to support various data types, including video and data files. The idea that cells vary in size contradicts the very definition of fixed-length cells, while claiming they increase complexity in routing overlooks how their uniformity simplifies processing.

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://ciscotechnician.examzify.com>

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

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