CompTIA A+ Core 2 (220-1002) Certification Practice Exam (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

1. **Which of the following is the strongest form of wireless encryption?**

   A. WPA

   B. WEP

   C. AES

   D. TKIP

2. **What should be incorporated into the MDM profile to enable Android smartphones to connect to a VPN securely?**

   A. AV software

   B. Certificate

   C. Remote wipe

   D. Authentication app

3. **Name a common method used to prevent unauthorized access to wireless networks.**

   A. WEP encryption

   B. WPA encryption

   C. WPA2 encryption

   D. WPA3 encryption

4. **What is the main purpose of updating a device driver?**

   A. To increase storage space

   B. To enhance hardware compatibility

   C. To improve display resolution

   D. To install new software applications

5. **What does the term "ring topology" primarily refer to in networking?**

   A. A linear connection of devices

   B. A circular connection of devices where each device is connected to two others

   C. A network structure that does not follow a specific layout

   D. A centralized control system

6. Which command would show the path of routers between your computer and a specific web server?

A. ping

B. ipconfig

C. tracert

D. nbstat

7. To list a variable number 16 times without typing 16 lines of code, which technique should you use?

A. If-Then

B. Looping

C. Environmental variables

D. Comment syntax

8. Which command will show the configuration details of a wireless connection in Linux?

A. ifconfig

B. ipconfig

C. iwconfig

D. grep

9. What is the key difference between IPv4 and IPv6?

A. IPv4 uses 128-bit addresses, while IPv6 uses 32-bit addresses

B. IPv4 uses 32-bit addresses, while IPv6 uses 128-bit addresses

C. IPv4 addresses are textual only, while IPv6 addresses are numerical

D. IPv4 is no longer in use, while IPv6 is the only version available

10. If a keyboard is leaving residue and irritating a user's hands, what should you do?

A. Call the department

B. Contact the facilities department

C. Contact the manufacturer of the keyboard

D. Call OSHA and complain

Answers

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

Explanations

1. Which of the following is the strongest form of wireless encryption?

A. WPA

B. WEP

C. AES

D. TKIP

The strongest form of wireless encryption among the given choices is Advanced Encryption Standard (AES). AES is a symmetric encryption algorithm widely used across various security protocols due to its robustness and efficiency. It supports key sizes of 128, 192, and 256 bits, providing a strong level of security that is considerably more secure than older standards. When implemented in wireless networks, specifically within the WPA2 (Wi-Fi Protected Access 2) and WPA3 protocols, AES is utilized to encrypt the data being transmitted. This makes it an excellent choice for securing wireless communications against eavesdropping and unauthorized access. In contrast, the other options represent earlier or less secure forms of encryption. WPA (Wi-Fi Protected Access) is a security protocol that uses TKIP (Temporal Key Integrity Protocol), which was designed as a stopgap measure to improve WEP (Wired Equivalent Privacy), but it is not as strong as AES. WEP, while an early encryption standard, has significant vulnerabilities and is largely considered insecure today. TKIP also has known weaknesses and is not as robust as AES, particularly when it comes to resisting attacks. Thus, AES stands out as the most secure and reliable option for wireless encryption in contemporary security practices.

2. What should be incorporated into the MDM profile to enable Android smartphones to connect to a VPN securely?

A. AV software

B. Certificate

C. Remote wipe

D. Authentication app

To enable Android smartphones to connect to a VPN securely, incorporating a certificate into the Mobile Device Management (MDM) profile is essential. Certificates are used to establish trust between devices and the VPN server. By deploying a digital certificate, the MDM can ensure that only authorized devices can initiate a VPN connection, effectively encrypting the communication and enhancing security. Certificates facilitate mutual authentication, which is crucial in a VPN environment. The device uses the certificate to identify itself to the VPN server, and the server uses its own certificate to validate its identity back to the device. This process prevents man-in-the-middle attacks and ensures that the data sent over the VPN tunnel is secured. While antivirus software, remote wipe capabilities, and authentication apps are important components of mobile device security, they do not specifically ensure a secure VPN connection. Antivirus software helps protect against malware, remote wipe enables data protection if a device is lost, and authentication apps provide an additional layer of user authentication, but none fulfill the role of enabling secure VPN connections in the same way that certificates do.

3. Name a common method used to prevent unauthorized access to wireless networks.

A. WEP encryption

B. WPA encryption

C. WPA2 encryption

D. WPA3 encryption

WPA3 encryption is considered a common and improved method for securing wireless networks against unauthorized access. It includes several enhancements over its predecessor WPA2, such as improved security for open networks through the use of opportunistic wireless encryption (OWE) and better password protection with a more robust authentication mechanism. This makes it more resilient against brute-force attacks and provides an overall stronger defense for users connecting to Wi-Fi networks. In addition, WPA3 uses the Simultaneous Authentication of Equals (SAE) protocol for secure authentication, which prevents attackers from accessing the network even if they have knowledge of the password. By offering better encryption standards and improved security features, WPA3 significantly reduces the risk of unauthorized access compared to earlier methods. While WEP encryption is outdated and no longer considered secure, WPA encryption and WPA2 encryption were significant advancements in wireless security at their time. However, WPA3 is the most current standard and provides the best protection against today's security threats in wireless networking, making it the common choice for preventing unauthorized access.

4. What is the main purpose of updating a device driver?

A. To increase storage space

B. To enhance hardware compatibility

C. To improve display resolution

D. To install new software applications

The primary purpose of updating a device driver is to enhance hardware compatibility. Device drivers serve as intermediaries between the operating system and the hardware components of a computer. When a driver is updated, it often includes bug fixes, performance improvements, and additional support for newer hardware. This ensures that peripherals like printers, graphics cards, and network adapters work seamlessly with the operating system and other software applications. When a device driver is kept up to date, it can improve the interaction between the hardware and software, potentially enabling the use of new features or enhancing the overall performance of the hardware device. This is particularly important as operating systems and other software continue to evolve, as outdated drivers may lead to compatibility issues or decreased functionality. In contrast, increasing storage space, improving display resolution, and installing new software applications are not direct purposes of updating device drivers. These tasks might require different actions such as upgrading hardware, changing display settings, or installing additional software, rather than simply updating drivers.

5. What does the term "ring topology" primarily refer to in networking?

A. A linear connection of devices

B. A circular connection of devices where each device is connected to two others

C. A network structure that does not follow a specific layout

D. A centralized control system

The term "ring topology" refers to a network configuration where each device is connected to exactly two other devices, forming a circular or closed loop. This arrangement allows data to travel in one direction (or sometimes both, in the case of dual-ring topologies), creating a continuous path for signals. As data packets traverse the ring, they pass through each device until they reach their intended destination, making the structure efficient for certain types of communication. This topology is distinct from other configurations, such as a linear bus topology, where devices are connected along a single cable, or a star topology, where all devices connect to a central hub. The uniqueness of ring topology also sets it apart from decentralized or ad-hoc networks, which do not adhere to a defined structure, and from centralized control systems where operation and management are focused on a single point or device. Understanding ring topology is crucial for network design and troubleshooting, as it has specific advantages and limitations, especially in terms of data transmission speed, reliability, and the impact of a single device failure on network performance.

6. Which command would show the path of routers between your computer and a specific web server?

A. ping

B. ipconfig

C. tracert

D. nbstat

The command that would show the path of routers between your computer and a specific web server is indeed the one known as 'tracert.' This command is used to trace the route that packets take from your computer to the destination server, providing a step-by-step account of each router's address (often called a hop) that the data passes through along the way. When you use 'tracert,' it sends out a sequence of Internet Control Message Protocol (ICMP) Echo Requests, incrementally increasing the Time-to-Live (TTL) value for each hop. As packets reach each router along the path, that router decrements the TTL and returns a timed-out message to your computer, allowing 'tracert' to record the address of each router and the time it takes to reach each one. This detailed route information helps in diagnosing network issues and understanding the path data takes across the internet. The ping command simply checks if a host is reachable and measures the time it takes for a packet to travel to the destination and back, without providing any details about the routers in between. The ipconfig command displays the current network configuration of your machine, such as IP address and subnet mask, but does not provide routing information. The nbstat command

7. To list a variable number 16 times without typing 16 lines of code, which technique should you use?

A. If-Then

B. Looping

C. Environmental variables

D. Comment syntax

Using looping is the most efficient technique for listing a variable multiple times, such as 16 times, without needing to write the same line of code repeatedly. A loop allows you to iterate through a block of code a specified number of times, thus significantly reducing redundancy and enhancing code maintainability. For instance, a simple loop structure can be set up to execute a command or output a variable 16 times consecutively. This approach not only saves time during initial coding but also makes future modifications easier; changing the number of iterations requires altering just one part of the code rather than 16 separate lines. In contrast, an if-then structure is used for conditional execution, which does not lend itself to repetitive tasks like listing a number multiple times. Environmental variables deal with configurations and settings for the execution environment, and comment syntax is intended for notes within the code rather than for executing commands. Therefore, while each alternative has its specific function, looping is clearly the most suitable option for efficiently repeating an action multiple times.

8. Which command will show the configuration details of a wireless connection in Linux?

A. ifconfig

B. ipconfig

C. iwconfig

D. grep

The command that shows the configuration details of a wireless connection in Linux is "iwconfig." This utility is specifically designed to display wireless network interfaces and their associated parameters. When executed, it provides information such as the SSID (network name), signal strength, bit rate, frequency, and the encryption method used for the wireless connection. In contrast, "ifconfig" is an older command that is used to configure and display network interfaces on Unix-like operating systems, including both wired and wireless connections. However, it does not provide specialized details for wireless connections that are specific to the nuances of wireless networking. "ipconfig" is primarily a Windows command that displays the configuration of network interfaces, including their IP addresses, subnet masks, and default gateways, but it does not apply to Linux systems. "grep" is a command-line utility used for searching plain-text data for lines that match a regular expression. While it can be used in conjunction with other commands to filter their output, it does not directly provide configuration details for wireless connections. Therefore, utilizing "iwconfig" is the most appropriate method for obtaining comprehensive details about wireless network settings on a Linux system.

9. What is the key difference between IPv4 and IPv6?

A. IPv4 uses 128-bit addresses, while IPv6 uses 32-bit addresses

B. IPv4 uses 32-bit addresses, while IPv6 uses 128-bit addresses

C. IPv4 addresses are textual only, while IPv6 addresses are numerical

D. IPv4 is no longer in use, while IPv6 is the only version available

The correct answer highlights a fundamental characteristic of the two protocols: IPv4 utilizes 32-bit addresses, yielding a theoretical maximum of about 4.3 billion unique addresses. In contrast, IPv6 was developed to address the limitations of IPv4, particularly the exhaustion of available IP addresses due to the growth of the internet and connected devices. By using 128-bit addresses, IPv6 can accommodate an astronomical number of unique addresses—around 340 undecillion (3.4 x 10^38). This vast addressing capability is crucial for the expansion and sustainability of internet-connected devices. The remaining options contain inaccuracies regarding the characteristics of both protocols. For instance, the first choice misrepresents the bit lengths of the addresses, while the third option incorrectly describes the types of addresses; both IPv4 and IPv6 can be represented in both numerical and textual (dotted-decimal or hexadecimal) formats. The last option incorrectly suggests that IPv4 is no longer in use, whereas it is still widely utilized despite the gradual transition to IPv6. This distinction is vital for understanding networking concepts and the evolution of internet protocols.

10. If a keyboard is leaving residue and irritating a user's hands, what should you do?

A. Call the department

B. Contact the facilities department

C. Contact the manufacturer of the keyboard

D. Call OSHA and complain

To appropriately address a situation where a keyboard is leaving residue and irritating a user's hands, involving the facilities department is the most effective action. The facilities department is generally responsible for maintaining the physical workspace, including managing the cleanliness and upkeep of equipment like keyboards. They can assess the condition of the keyboard, clean it, or replace it if necessary. In contrast, calling the department may not address the specific issue directly, as the department may not have the resources or authority to resolve hygiene problems. Contacting the manufacturer could lead to unproductive results, as this issue pertains more to immediate cleaning or replacement rather than a defect in the product itself. Lastly, contacting OSHA about a non-compliance issue relating to a keyboard's hygiene may be an overreach for a situation that can be resolved at a workplace level without regulatory intervention.

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://comptiaapluscore22201002.examzify.com

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