

COMPTIA A+ (220-901) PRACTICE EXAM (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

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- 1. Which type of storage technology is non-volatile and can be electrically erased and reprogrammed?**
 - A. Hard disk drive
 - B. Solid state drive
 - C. Flash memory
 - D. Optical disc

- 2. How many pins are contained in the SATA data cable?**
 - A. 5
 - B. 6
 - C. 7
 - D. 8

- 3. What is the function of a firewall in a network?**
 - A. To improve network speed
 - B. To prevent unauthorized access
 - C. To manage bandwidth
 - D. To store data

- 4. What access control method enforces that users can only access files and resources necessary for their job functions?**
 - A. Role-based access control
 - B. Mandatory access control
 - C. Least privilege
 - D. Time-based access control

- 5. What is the function of the power-on self-test (POST)?**
 - A. To check hardware components during startup
 - B. To load the operating system
 - C. To initialize network connections
 - D. To configure user settings

- 6. What does the term "ping" measure in networking?**
- A. The signal strength of a wireless network
 - B. The round-trip time to send a packet to a destination and receive a response
 - C. The amount of data transferred over a network
 - D. The speed of the internet connection
- 7. What is the primary purpose of DHCP in a network?**
- A. To assign static IP addresses
 - B. To dynamically assign IP addresses
 - C. To manage network traffic
 - D. To encrypt communications
- 8. What is the function of a router in a network?**
- A. To connect different networks and route data between them
 - B. To manage user authentication
 - C. To amplify network signals
 - D. To provide Wi-Fi access
- 9. Which chip on the motherboard is responsible for high-speed communications between the CPU, video, and RAM?**
- A. Southbridge
 - B. Chipset
 - C. Northbridge
 - D. Memory Controller
- 10. What is the main function of an operating system?**
- A. To manage hardware and software resources
 - B. To perform calculations
 - C. To host web applications
 - D. To secure data

Answers

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

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Explanations

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1. Which type of storage technology is non-volatile and can be electrically erased and reprogrammed?

- A. Hard disk drive
- B. Solid state drive
- C. Flash memory**
- D. Optical disc

Flash memory is the correct answer because it is a type of non-volatile storage technology that retains data even when power is turned off. This characteristic is critical for applications where data integrity is essential without the constant need for a power source. Flash memory can be electrically erased and reprogrammed, allowing users to write new data over existing data without having to physically remove or replace the storage medium. This feature provides flexibility and efficiency, making it widely used in various devices, including USB drives, memory cards, and SSDs. While a hard disk drive is non-volatile, it relies on magnetic storage and mechanical moving parts, which makes it not electrically erasable. Solid-state drives, although they use flash memory, are not a type of storage technology that can be solely identified by their electrical erasure and reprogramming capacity. Optical discs, like CDs and DVDs, use laser technology for data reading and writing, making them distinct from electrically formatted storage, and they typically do not support the same kind of erasure and reprogramming as flash memory.

2. How many pins are contained in the SATA data cable?

- A. 5
- B. 6
- C. 7**
- D. 8

The SATA data cable is designed with 7 pins. This pin configuration is specifically used for data transfer between storage devices, such as hard drives and solid-state drives, and the motherboard or controller. Each pin has a specific function, including data transmission, grounding, and power signaling, which allows for a reliable high-speed connection. The design accommodates the need for a compact and efficient way to transmit data while maintaining a robust connection that reduces the chances of interference and signal loss. The 7-pin configuration is standardized across SATA cables, ensuring compatibility and functionality across a wide range of devices and motherboards. In contrast, other options misrepresent the number of pins in a standard SATA data cable, reflecting a misunderstanding of its technical specifications. The correct answer, with 7 pins, is aligned with industry standards for SATA connections.

3. What is the function of a firewall in a network?

- A. To improve network speed
- B. To prevent unauthorized access**
- C. To manage bandwidth
- D. To store data

The function of a firewall in a network is primarily to prevent unauthorized access. Firewalls are critical security devices that monitor and control incoming and outgoing network traffic based on predetermined security rules. By establishing a barrier between a trusted internal network and untrusted external networks (such as the internet), firewalls help protect sensitive data and resources from external threats and unauthorized users. They can filter traffic based on various parameters, such as IP addresses, ports, and protocols, ensuring that only legitimate requests are allowed while blocking potential attacks or breaches. This capability plays a crucial role in maintaining a secure environment, especially when it comes to protecting sensitive organizational data from malicious actors. The other options provided, like improving network speed, managing bandwidth, and storing data, do not accurately describe the primary purpose of a firewall. While a firewall might indirectly affect network performance by filtering traffic, its main role is focused on securing the network rather than optimizing speed or managing data storage.

4. What access control method enforces that users can only access files and resources necessary for their job functions?

- A. Role-based access control
- B. Mandatory access control
- C. Least privilege**
- D. Time-based access control

The access control method that ensures users can only access files and resources necessary for their job functions is the concept of least privilege. This principle operates on the foundation that users should have the minimum level of access required to perform their roles effectively. By restricting access rights to only what is needed, organizations can significantly reduce the risk of data breaches or misuse of sensitive information, as users cannot access files or resources that are irrelevant to their responsibilities. Implementing least privilege helps in safeguarding critical data and resources, minimizing the potential attack surface and limiting the damage that can be done if an account is compromised. It is a critical component in security best practices and plays an important role in compliance with various regulatory standards. In contrast, role-based access control structures access based on the roles assigned to users within an organization but does not inherently enforce the least privilege principle; it allows for broader access based on roles, which might exceed what's necessary for a specific job function. Mandatory access control, on the other hand, is a stricter policy model that uses controlled labels to govern access but is not necessarily tailored to individual job duties. Lastly, time-based access control restricts access to resources based on time parameters but does not address the relevance of the access in relation to job functions.

5. What is the function of the power-on self-test (POST)?

A. To check hardware components during startup

B. To load the operating system

C. To initialize network connections

D. To configure user settings

The power-on self-test (POST) plays a crucial role in the startup process of a computer. Its primary function is to perform a series of diagnostic tests on the hardware components to ensure that they are functioning correctly before the system fully boots up. During the POST, the computer checks essential components such as the RAM, CPU, keyboard, and other critical hardware devices. If any issues are detected, the POST can provide error codes or beeps that signal the nature of the problem, allowing for appropriate troubleshooting and repairs. This process is vital because if the hardware is not functioning properly, it would lead to failures during operation or system crashes once the operating system is loaded. Therefore, the POST serves as an essential first step in the boot process, ensuring that the computer's hardware is ready for use and can support the operating system and additional software applications effectively.

6. What does the term "ping" measure in networking?

A. The signal strength of a wireless network

B. The round-trip time to send a packet to a destination and receive a response

C. The amount of data transferred over a network

D. The speed of the internet connection

The term "ping" refers to the process of measuring the round-trip time it takes for a packet of data to be sent from a source to a destination and for a response to be received back at the source. This measurement is crucial in networking as it helps determine the latency or delay in the network. By sending an Internet Control Message Protocol (ICMP) echo request to a specified host and waiting for an echo reply, the system can assess the speed of the connection and the performance of the network. This concept is essential for troubleshooting connectivity issues, ensuring that devices can communicate, and checking the responsiveness of remote servers. A lower ping time typically indicates a more responsive and faster network connection, making this measurement a vital aspect of network performance analysis.

7. What is the primary purpose of DHCP in a network?

A. To assign static IP addresses

B. To dynamically assign IP addresses

C. To manage network traffic

D. To encrypt communications

The primary purpose of DHCP, or Dynamic Host Configuration Protocol, is to dynamically assign IP addresses to devices within a network. This automated process simplifies network management by eliminating the need for manually configuring IP addresses for each device. When a device connects to the network, it sends a request to the DHCP server, which then assigns an available IP address from a predefined range (also known as a scope), along with other necessary configuration details like subnet mask, default gateway, and DNS servers. This dynamic assignment is crucial for networks with a large number of devices, as it enables administrators to efficiently manage IP resources and reduces the chances of conflicts caused by multiple devices being assigned the same static IP address. By automating the IP address assignment process, DHCP ensures that devices can connect to the network quickly and effectively without significant administrative effort.

8. What is the function of a router in a network?

A. To connect different networks and route data between them

B. To manage user authentication

C. To amplify network signals

D. To provide Wi-Fi access

A router plays a crucial role in networking by connecting different networks and facilitating the routing of data between them. Its primary function is to direct traffic across these interconnected networks, including the Internet and local area networks (LANs). Routers use routing tables and protocols to determine the best path for data packets to reach their destination, ensuring efficient communication between devices that may not be part of the same local network. In addition to enabling connectivity, routers also perform several other functions, such as network address translation (NAT) and providing basic security by implementing firewall features. However, the defining characteristic of a router is its capability to interconnect various networks and manage the flow of information between them, rather than focusing on any single device or user authentication. Other options present alternative network functions that do not encapsulate the primary role of a router. While user authentication typically involves devices such as servers or specialized access points, amplifying network signals is a function performed by network extenders or repeaters. Providing Wi-Fi access usually falls within the responsibilities of access points or wireless routers, but again, this is a specific feature rather than the fundamental purpose of routers in a networking context.

9. Which chip on the motherboard is responsible for high-speed communications between the CPU, video, and RAM?

A. Southbridge

B. Chipset

C. Northbridge

D. Memory Controller

The chip responsible for high-speed communications between the CPU, video, and RAM is the Northbridge. The Northbridge serves as a critical component in the motherboard's chipset architecture, facilitating rapid data transfer between the CPU and the high-speed components of the system, including the RAM and graphics card. The primary role of the Northbridge is to manage communication between the CPU and the memory controller, which helps in handling data requests to and from RAM. Since the CPU, graphics card, and RAM are essential for overall system performance, the Northbridge is designed for high-speed operations. Thus, it is a crucial factor that contributes to the performance and efficiency of a computer system, especially in tasks that demand significant data bandwidth. Understanding the function of the Northbridge helps clarify the roles of other components on the motherboard. The Southbridge, for instance, handles communication with the lower-speed peripherals and I/O interfaces, while the overall chipset refers to the combination of both Northbridge and Southbridge. The Memory Controller operates within the context of the Northbridge, managing data between the CPU and RAM, but it is the Northbridge that is chiefly responsible for coordinating the high-speed interactions among these critical elements.

10. What is the main function of an operating system?

A. To manage hardware and software resources

B. To perform calculations

C. To host web applications

D. To secure data

The main function of an operating system is to manage hardware and software resources. An operating system acts as an intermediary between users and the computer hardware. It allocates resources such as CPU time, memory space, and input/output devices, ensuring that system resources are used efficiently and effectively. This management enables the operating system to run multiple applications simultaneously and allows users to interact with both the hardware and software seamlessly. By coordinating these resources, the operating system also facilitates communication between different software applications, enabling them to operate cohesively. While performing calculations, hosting web applications, and securing data are important functions in a computing environment, they do not define the primary role of an operating system. The operating system provides the essential foundation that allows hardware and software to communicate and function together, which is crucial for any computational tasks or applications to run.

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:

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

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