

CompTIA A+ Core 1 (220-1101) Certification Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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!

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Questions

- 1. What does SCADA stand for?**
 - A. System-controlled automatic data acquisition**
 - B. Supervisory control and data acquisition**
 - C. Smart control and data automation**
 - D. Segmented control and data analysis**
- 2. Which of the following connectors can connect to both USB and Thunderbolt devices?**
 - A. RJ-11**
 - B. USB-C**
 - C. miniUSB**
 - D. SC**
- 3. What is a defining feature of ITX motherboards?**
 - A. High power consumption**
 - B. Developed exclusively by Intel**
 - C. Low power design**
 - D. Standard size for gaming PCs**
- 4. Which type of fiber optic cable is generally used for long-range communication?**
 - A. Multimode fiber**
 - B. Single mode fiber**
 - C. Coaxial fiber**
 - D. Copper fiber**
- 5. Which Ethernet standard was introduced in 1999 and supports 5 GHz and 54 Mbit/s?**
 - A. 802.11a**
 - B. 802.11b**
 - C. 802.11g**
 - D. 802.11n**

- 6. The IP range typically used by a DHCP server is?**
- A. 192.168.1.1 to 192.168.1.254**
 - B. 10.0.0.1 to 10.0.0.255**
 - C. 10.1.10.10 to 10.1.10.199**
 - D. 172.16.0.1 to 172.16.0.255**
- 7. What is the primary use of an RJ-45 connector?**
- A. Telephone connections**
 - B. Ethernet connections**
 - C. USB connections**
 - D. Coaxial connections**
- 8. What allows for varying numbers of lanes in PCIe?**
- A. Type of the connector**
 - B. Motherboard compatibility**
 - C. Expansion card architecture**
 - D. Number of pins**
- 9. Which statement is true regarding the F-Type connector?**
- A. It is used in fiber-optic cables.**
 - B. It features a screw-on attaching mechanism.**
 - C. It has a larger form factor than RJ-11.**
 - D. It is primarily for USB connections.**
- 10. Which of the following describes a proxy server?**
- A. A device that enhances network security by managing equipment**
 - B. A dedicated network device that distributes load**
 - C. A server that acts as an intermediary for user requests**
 - D. An IP address automatically assigned to a device**

Answers

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

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Explanations

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1. What does SCADA stand for?

- A. System-controlled automatic data acquisition
- B. Supervisory control and data acquisition**
- C. Smart control and data automation
- D. Segmented control and data analysis

SCADA stands for Supervisory Control and Data Acquisition. It is a system used for controlling industrial processes locally or at remote locations, allowing for monitoring and control of equipment in a wide range of industries, including manufacturing, power, water treatment, and telecommunications. The term emphasizes two main functions: supervisory control, which refers to the ability to manage and direct automated processes from a central location; and data acquisition, which involves collecting and analyzing data from sensors and instruments to ensure optimal operation and facilitate decision-making. Understanding these components is crucial as SCADA systems help in improving efficiency, safety, and reliability in various operational systems, enabling real-time monitoring and response to changes in system conditions.

2. Which of the following connectors can connect to both USB and Thunderbolt devices?

- A. RJ-11
- B. USB-C**
- C. miniUSB
- D. SC

The choice of USB-C as the correct answer is based on its versatility and capability to support both USB and Thunderbolt devices through the same connector type. USB-C is a 24-pin connector that has become a standardized interface for many types of devices, allowing for data transfer, power delivery, and video output. With respect to Thunderbolt, USB-C is the connector utilized in Thunderbolt 3 and Thunderbolt 4 implementations, which enables high-speed data transfer rates and the ability to daisy-chain multiple devices. This dual compatibility means that devices equipped with USB-C ports can communicate with both traditional USB peripherals and devices that advance Thunderbolt technology, as both interfaces are fundamentally compatible at the hardware level. In contrast, the other options do not have this capability. RJ-11 is a connector primarily used for telephone lines and has no relevance to USB or Thunderbolt technologies. miniUSB is an older type of USB connector that does not support Thunderbolt connections, and SC refers to a type of fiber optic connector that is entirely different and irrelevant to both USB and Thunderbolt.

3. What is a defining feature of ITX motherboards?

- A. High power consumption
- B. Developed exclusively by Intel
- C. Low power design**
- D. Standard size for gaming PCs

ITX motherboards are specifically designed with a focus on low power consumption and compact form factors, making them ideal for small form factor PCs, home theater PCs (HTPCs), and other types of systems where space is at a premium and energy efficiency is desired. This low power design is often paired with the need for efficient cooling solutions and can lead to quieter operation, which is particularly advantageous for users who prioritize a silent computing environment. In contrast, traditional ATX motherboards tend to support more features and larger components, generally consuming more power and generating more heat. The design objectives of ITX boards cater to mobile and embedded systems that benefit from reduced energy use, contributing to their appeal in specific applications that require less power.

4. Which type of fiber optic cable is generally used for long-range communication?

- A. Multimode fiber
- B. Single mode fiber**
- C. Coaxial fiber
- D. Copper fiber

Single mode fiber is used for long-range communication due to its design, which allows a single light mode to propagate through the core of the fiber. This type of fiber has a smaller core diameter, typically around 9 microns, which significantly reduces modal dispersion—an effect that occurs when different light modes travel at different speeds, potentially causing signal distortion over distances. Because single mode fiber minimizes this dispersion, it can support higher bandwidths and transmit data over greater distances without signal loss or degradation, often exceeding several kilometers. This characteristic makes it ideal for telecommunications and internet backbone applications, where long-distance data transmission is crucial. In contrast, multimode fiber, while useful for shorter distances and high data rates within local areas, suffers from modal dispersion when used for long-range applications due to its larger core—around 50 to 62.5 microns. This results in limitations on the distance data can travel without significant signal distortion. Coaxial fiber and copper fiber are not appropriate terms in this context. Coaxial cable is typically used for RF signals and cable television distribution, and copper cables are used for electrical signaling, neither of which are designed for fiber optic communication or used in long-range data transmission scenarios. Thus, single mode fiber is the

5. Which Ethernet standard was introduced in 1999 and supports 5 GHz and 54 Mbit/s?

A. 802.11a

B. 802.11b

C. 802.11g

D. 802.11n

The correct choice is 802.11a, which was introduced in 1999 and is noteworthy for operating at the 5 GHz frequency band and offering data rates of up to 54 Mbit/s. This standard was one of the early advancements in wireless networking technologies. When 802.11a was developed, it focused on providing higher data rates and less interference compared to the 2.4 GHz frequency band, which was already crowded due to other devices and standards like 802.11b. The 5 GHz band allows for a larger number of non-overlapping channels, which can provide better performance in terms of speed and reliability when used in environments with many networks. The other standards mentioned were introduced around the same time or later and have different characteristics. For example, 802.11b, which emerged shortly after, operates at the 2.4 GHz frequency and offers speeds of up to 11 Mbit/s. Meanwhile, 802.11g, released in 2003, operates on both 2.4 GHz and supports data rates up to 54 Mbit/s, but it wasn't introduced until several years after 802.11a. Lastly, 802.11n, which came out in

6. The IP range typically used by a DHCP server is?

A. 192.168.1.1 to 192.168.1.254

B. 10.0.0.1 to 10.0.0.255

C. 10.1.10.10 to 10.1.10.199

D. 172.16.0.1 to 172.16.0.255

The range of IP addresses that a DHCP server typically utilizes is selected from designated private IP address ranges. The correct answer highlights the use of a specific range that falls within the private IP address space dictated by RFC 1918. In this case, the range from 10.1.10.10 to 10.1.10.199 belongs to the broader 10.0.0.0/8 address space, which is one of the three main private IP address ranges established for internal networking purposes. This makes it suitable for use by a DHCP server as it enables the allocation of unique addresses to devices within a local network without conflicting with public internet addresses. The other options reference different IP ranges: 192.168.1.1 to 192.168.1.254 and 172.16.0.1 to 172.16.0.255 are also valid private IP address ranges and can be used by a DHCP server, but they indicate different subnet specifications. For instance, the range of 192.168.1.1 to 192.168.1.254 is a more common choice for smaller networks due to its simplicity, while 10.0.0.1 to 10.0

7. What is the primary use of an RJ-45 connector?

- A. Telephone connections
- B. Ethernet connections**
- C. USB connections
- D. Coaxial connections

An RJ-45 connector is primarily used for Ethernet connections. This type of connector is found in networking environments where devices such as computers, routers, and switches communicate with each other over a local area network (LAN). The RJ-45 connector supports data transmission over twisted-pair cabling, enabling high-speed Internet access and network communication. Ethernet networks use the RJ-45 connector due to its ability to handle the necessary bandwidth and provide a reliable physical connection among networked devices. Its standardized pin configuration allows it to comply with various Ethernet standards such as 10BASE-T, 100BASE-TX, and 1000BASE-T, which correspond to different speeds and network capabilities. The other options represent different types of connectivity not associated with RJ-45 connectors. Telephone connections typically utilize RJ-11 connectors, USB connections are made with USB connectors, and coaxial connections use coaxial cable connectors. Each of these is distinct from the purpose and functionality that RJ-45 connectors serve in networking.

8. What allows for varying numbers of lanes in PCIe?

- A. Type of the connector
- B. Motherboard compatibility
- C. Expansion card architecture**
- D. Number of pins

The varying numbers of lanes in PCIe (Peripheral Component Interconnect Express) are primarily determined by the architecture of the expansion card itself. Each PCIe slot can accommodate a different number of lanes (such as x1, x4, x8, or x16), and the specific expansion card architecture dictates how many lanes the card will utilize. Expansion cards are designed with a certain number of PCIe lanes that need to be matched with the corresponding slot on the motherboard. For example, a graphics card often uses an x16 slot for maximum bandwidth, whereas a network card might only require x1 or x4. The design of the card determines not just how many lanes it uses, but also how it interacts with the system's overall data throughput capabilities. Other factors like the type of connector, motherboard compatibility, or the number of pins may influence physical installation or compatibility, but they do not directly dictate the lane configuration of the PCIe architecture. The architecture of the expansion card is the fundamental basis for how many lanes can be used, enabling a range of bandwidths suited for different applications.

9. Which statement is true regarding the F-Type connector?

- A. It is used in fiber-optic cables.**
- B. It features a screw-on attaching mechanism.**
- C. It has a larger form factor than RJ-11.**
- D. It is primarily for USB connections.**

The statement regarding the F-Type connector that is true is that it features a screw-on attaching mechanism. This design is specifically aimed at providing a secure connection in coaxial cable applications, most commonly used in cable television and satellite systems. The screw-on mechanism helps to maintain a stable connection, minimizing signal loss and interference, which are critical in high-frequency signal transmission. F-Type connectors are designed to attach to coaxial cables, which require a robust connection due to their use in broadcasting and data transmission. The other options refer to different types of connectors or characteristics that do not apply to the F-Type. For instance, fiber-optic cables utilize connectors such as SC, LC, or ST, not F-Type. Additionally, while RJ-11 connectors, which are used for telephone lines, are smaller and have a different purpose, the comparison in size to the F-Type is not applicable in terms of larger form factors but rather in terms of the types of signals they transmit. Finally, F-Type connectors are not used for USB connections; USB relies on a different set of connectors designed specifically for data transfer and power delivery.

10. Which of the following describes a proxy server?

- A. A device that enhances network security by managing equipment**
- B. A dedicated network device that distributes load**
- C. A server that acts as an intermediary for user requests**
- D. An IP address automatically assigned to a device**

A proxy server is accurately described as a server that acts as an intermediary for user requests. When a client device sends a request for resources, such as web pages or files, the request is first sent to the proxy server. The proxy then forwards this request to the appropriate server on the internet, retrieves the data, and sends it back to the client. This process serves multiple purposes: it can enhance security by hiding the client's IP address, improve loading times through caching, and even enable access control or monitoring of web traffic. The other descriptions do not capture the essence of what a proxy server does. One option mentions managing equipment, which is more aligned with network management devices rather than a proxy's primary function. Another option refers to distributing load, which is characteristic of load balancers rather than proxy servers. The last choice talks about an IP address assigned to a device, which pertains to IP configurations rather than the role of a proxy server in handling requests.

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!