NETWORK ESSENTIAL VERSION A (LE) 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.

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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!

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Questions

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1. What is OSPF?

A. A distance-vector protocol that converges slowly.

B. A protocol that exchanges routing information between routers using link-state advertisements.

C. An static routing protocol that requires manual configuration.

D. A link-state dynamic routing protocol that computes shortest-path trees for IPv4/IPv6.

2. IPv6 packets are converted into IPv4 packets, and vice versa. This describes which co-existence method?

A. Dual-stack

B. Tunneling

C. Translation

D. NAT64

3. Which statement best describes collision domains and the effect of switches?

A. A collision domain is the entire network; switches increase the number of collision domains across all devices.

B. A collision domain is the segment where frames collide on wireless links.

C. A collision domain is the per-port range of a switch's MAC learning.

D. A collision domain is a network segment where collisions can occur; switches segment collision domains per port, reducing collisions.

4. Which type of wireless communication is based on 802.11 standards?

A. Wi-Fi

B. Bluetooth

C. NFC

D. Ethernet

5. Which DHCP message is sent by the server in response to a client's initial DISCOVER?

A. DHCPOFFER

B. DHCPACK

C. DHCPREQUEST

D. DHCPDECLINE

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6. What is a public/private key pair used for?

A. Symmetric key encryption

B. Asymmetric cryptography for encryption and authentication (e.g., TLS/SSL)

C. A method for dynamic DNS

D. A protocol for email delivery

7. Convert the IPv6 address 0090:FEA0:00DA:F4A8:008A:0000:0000:0000 to its most compressed form.

A. 90:FEA0:DAF4A8:8A::

B. 90:FEA0:00DA:F4A8:008A:0000:0000:0000

C. 90:fea0:da:f4a8:8a::

D. 090:FEA0:DAF4A8:8A::

8. Which statement about 802.1Q trunking is true?

A. It uses MACsec encryption by default.

B. It carries multiple VLANs over a single physical link by tagging frames.

C. It disables VLAN tagging on trunk ports.

D. It is used to assign IP addresses automatically.

9. DHCPREQUEST: what does it describe?

A. The client accepting the IP address provided by the DHCP server

B. The server confirming the lease

C. A client initiating a message to find a DHCP server

D. A client requesting a specific IP outside the server range

10. What type of attack is known as the ping of death?

A. Denial of service

B. Man-in-the-middle

C. IP spoofing

D. Phishing

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Answers

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

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Explanations

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1. What is OSPF?

A. A distance-vector protocol that converges slowly.

B. A protocol that exchanges routing information between routers using link-state advertisements.

C. An static routing protocol that requires manual configuration.

D. A link-state dynamic routing protocol that computes shortest-path trees for IPv4/IPv6.

OSPF is a link-state dynamic routing protocol that builds a complete map of the network by exchanging link-state advertisements, and then uses the shortest-path first algorithm to compute the best routes. It supports both IPv4 (OSPFv2) and IPv6 (OSPFv3), and is designed to scale with hierarchical areas to improve efficiency. The description that fits best emphasizes both the link-state nature and the use of shortest-path trees to determine routes for IPv4 and IPv6. The other options are less accurate because one describes a distance-vector approach with slow convergence, which OSPF is not. Another describes static routing, which requires manual configuration and is not dynamic. The remaining option mentions exchanging information via link-state advertisements, which is true but incomplete without noting the dynamic computation of shortest-path trees and IPv4/IPv6 support.

2. IPv6 packets are converted into IPv4 packets, and vice versa. This describes which co-existence method?

A. Dual-stack

B. Tunneling

C. Translation

D. NAT64

Translating between IPv6 and IPv4 is the translation method. When a packet must move between these two versions, a translator changes the header and related fields so the other side can understand and process it, then does the reverse for the reply. This lets devices using different IP versions communicate without both ends supporting both protocols. It's different from running dual-stack on a device, where both protocols are present but packets aren't converted, and from tunneling, which wraps one protocol inside another without converting it to the other protocol's format. A common real-world example of translation is NAT64, but the scenario described refers to translation in general.

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3. Which statement best describes collision domains and the effect of switches?

A. A collision domain is the entire network; switches increase the number of collision domains across all devices.

B. A collision domain is the segment where frames collide on wireless links.

C. A collision domain is the per-port range of a switch's MAC learning.

D. A collision domain is a network segment where collisions can occur; switches segment collision domains per port, reducing collisions.

Collision domains are the parts of a network where data packets can collide if two devices transmit at the same time on the same shared medium. In a traditional shared Ethernet segment, all devices on that segment share one collision domain, so simultaneous transmissions cause collisions and require retransmission, reducing efficiency. Switches change that by isolating devices onto separate ports; each switch port becomes its own collision domain. This means devices on different ports don't contend for the same medium, so collisions are greatly reduced and overall performance improves. In modern networks, full-duplex links and per-port isolation basically eliminate collisions on switched connections, though the idea of collision domains remains the framework for understanding this behavior.

4. Which type of wireless communication is based on 802.11 standards?

A. Wi-Fi

B. Bluetooth

C. NFC

D. Ethernet

IEEE 802.11 defines the standards for wireless local area networks, and when devices implement these rules, the wireless network they create is commonly known as Wi Fi. This family of standards covers how data is formatted and transmitted, how devices share the wireless medium (using CSMA/CA), and how speed, bands (like 2.4 GHz and 5 GHz, and newer 6 GHz), and security (WPA/WPA3) are handled. Other options use different technologies: Bluetooth has its own short range standard for personal area networks, NFC is for very close, near field communication, and Ethernet is a wired networking standard (IEEE 802.3). So the wireless communication based on 802.11 standards is Wi Fi.

5. Which DHCP message is sent by the server in response to a client's initial DISCOVER?

A. DHCPOFFER

B. DHCPACK

C. DHCPREQUEST

D. DHCPDECLINE

The key idea is how DHCP establishes a lease. When a client boots and has no IP yet, it broadcasts a DHCPDISCOVER to find a server. The server's response to that initial broadcast is a DHCPOFFER, offering an IP address and other network details (subnet mask, gateway, lease time). This offer may come from one or multiple servers, since the client can receive several offers. The client then picks one, sends a DHCPREQUEST to confirm, and the chosen server replies with DHCPACK to finalize the lease. The DHCPACK comes after the client requests the offered address, not as the first response to discovery. A DHCPDECLINE would be used if the offered address has a conflict or is unusable.

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6. What is a public/private key pair used for?

A. Symmetric key encryption

B. Asymmetric cryptography for encryption and authentication (e.g., TLS/SSL)

C. A method for dynamic DNS

D. A protocol for email delivery

Public/private key pairs are used in asymmetric cryptography. The public key can be shared openly to encrypt data or verify a digital signature, while the private key remains secret and is used to decrypt data or create a signature. This separation lets you establish trust and secure communication without sharing secrets in advance. In TLS/SSL, this mechanism provides both authentication and secure key exchange: the server proves its identity with a certificate that includes its public key, and the private key helps establish a symmetric session key that then encrypts the ongoing communication. The other options describe symmetric encryption, dynamic DNS, or email delivery protocols, which do not revolve around a paired public and private key for encryption and authentication.

7. Convert the IPv6 address 0090:FEA0:00DA:F4A8:008A:0000:0000:0000 to its most compressed form.

A. 90:FEA0:DAF4A8:8A::

B. 90:FEA0:00DA:F4A8:008A:0000:0000:0000

C. 90:fea0:da:f4a8:8a::

D. 090:FEA0:DAF4A8:8A::

IPv6 compression relies on removing leading zeros in each 16 bit block and replacing the longest run of all-zero blocks with a double colon (::) exactly once. Starting with 0090:FEA0:00DA:F4A8:008A:0000:0000:0000, drop leading zeros in each block to get 90:fea0:da:f4a8:8a:0:0:0. The three trailing zero blocks form the longest consecutive zero sequence, so replace them with ::, yielding 90:fea0:da:f4a8:8a::. Using lowercase hex is fine, so 90:fea0:da:f4a8:8a:: is also correct. The other forms don't fully apply the compression rules: they either keep leading zeros, or merge separate blocks into a single hex segment, which isn't allowed.

8. Which statement about 802.1Q trunking is true?

A. It uses MACsec encryption by default.

B. It carries multiple VLANs over a single physical link by tagging frames.

C. It disables VLAN tagging on trunk ports.

D. It is used to assign IP addresses automatically.

802.1Q trunking works by tagging Ethernet frames with a VLAN identifier so multiple VLANs can share one physical link. On trunk connections between switches, each frame carries a small tag that indicates which VLAN it belongs to, allowing the network to route and isolate traffic for many VLANs over the same cable. The tag is inserted into the frame and includes the VLAN ID, while the receiving switch uses that tag to forward the frame to the correct VLAN. Access ports send untagged frames for a single VLAN, whereas trunk ports carry frames from many VLANs together, distinguished by their tags. This is what enables efficient use of a single physical link to carry diverse networks. MACsec encryption is a separate security mechanism and isn't inherent or default to 802.1Q trunking. VLAN tagging on trunk ports is not disabled by trunking. And automatically assigning IP addresses is handled by DHCP, not by how VLANs are carried over a trunk.

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9. DHCPREQUEST: what does it describe?

A. The client accepting the IP address provided by the DHCP server

B. The server confirming the lease

C. A client initiating a message to find a DHCP server

D. A client requesting a specific IP outside the server range

DHCPREQUEST is the client's request to use a specific IP address that the DHCP server has offered (or to renew an existing lease). After the client receives an offer, it sends this message to indicate it accepts that IP and wants the server to finalize the lease. The server responds with DHCPACK to confirm the lease or DHCPNAK if the address can't be assigned. This isn't used to locate a server (that would be DHCPDISCOVER), and it's not a server-initiated confirmation; it's specifically the client's acceptance of an IP within the server's scope.

10. What type of attack is known as the ping of death?

A. Denial of service

B. Man-in-the-middle

C. IP spoofing

D. Phishing

The ping of death is a denial of service attack. It takes advantage of how ICMP echo requests (pings) are processed by a target system. By sending a ping that is larger than what the network or the host can safely reassemble, the packet can overflow buffers and crash, hang, or reboot the victim, preventing legitimate services from responding. The important point is the impact on availability—making the target unable to communicate or provide service to others. It's not about listening in on data (that would be a man in the middle), forging identities (IP spoofing), or tricking users into revealing credentials (phishing). Modern systems have protections that mitigate this vector, but the concept remains a classic example of a DoS technique.

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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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