ITS Certiport Networking 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

1. **The OSI seven-layer model includes Application, Presentation, and Session layers among its top three.**

   A. True

   B. False

   C. Only Application layer exists

   D. It has more than seven layers

2. **Which of the following statements about IPsec is true?**

   A. IPsec can be used to secure network communications between two machines

   B. IPsec can be used to secure network communications between two networks

   C. IPsec network traffic is always encrypted

   D. IPsec cannot provide authentication

3. **Which topology has each node connected to exactly two other nodes?**

   A. Ring

   B. Star

   C. Mesh

   D. Bus

4. **The tracert command displays router addresses that are traversed between a source and a destination.**

   A. True

   B. False

   C. It displays DNS servers along the path

   D. It lists all active connections

5. **Which IP range corresponds to the loopback address?**

   A. 127.0.0.0 - 127.255.255.255

   B. 192.168.0.0 - 192.168.255.255

   C. 224.0.0.0 - 239.255.255.255

   D. 10.0.0.0 - 10.255.255.255

6. Which OSI layer is responsible for end-to-end data transport and reliability?

A. Layer 1

B. Layer 2

C. Layer 3

D. Layer 4

7. An IPv4 octet value can be 256.

A. True

B. False

C. Not sure

D. Not applicable

8. In network management, QoS is used to do which of the following?

A. Control bandwidth.

B. Change DHCP scope.

C. Update routing tables.

D. Manage server OS patches.

9. In terms of traffic management, QoS primarily focuses on:

A. Controlling bandwidth.

B. Changing Ethernet frames' MAC addresses.

C. Modifying IP headers to new schemes.

D. Bypassing NAT.

10. Quality of Service (QoS) is used to prioritize network traffic.

A. True

B. False

C. Not sure

D. Not applicable

Answers

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

Explanations

1. The OSI seven-layer model includes Application, Presentation, and Session layers among its top three.

A. True

B. False

C. Only Application layer exists

D. It has more than seven layers

The OSI model defines seven layers, and the upper three are the Application, Presentation, and Session layers. These sit at the top of the stack and directly support how applications interact with the network: the Application layer provides interfaces for software to use network services, the Presentation layer handles data formatting, encryption, and compression, and the Session layer manages and maintains conversations between end systems. That arrangement is why the statement is true. The other options don't fit: there are exactly seven layers, not more; it's not just the Application layer alone; and there isn't any extra layer beyond seven.

2. Which of the following statements about IPsec is true?

A. IPsec can be used to secure network communications between two machines

B. IPsec can be used to secure network communications between two networks

C. IPsec network traffic is always encrypted

D. IPsec cannot provide authentication

IPsec protects IP traffic by providing authentication, integrity, and optional confidentiality. It can be used in host-to-host deployments, where two machines communicate securely and at minimum ensure the data is authenticated and protected from tampering. It can also secure traffic between networks (site-to-site) when running in tunnel mode, which is another common use case. The idea that traffic is always encrypted isn't accurate, because IPsec can be configured to provide only authentication and integrity (using AH) without encryption, depending on the setup. Likewise, IPsec does provide authentication, so the statement claiming it cannot is incorrect.

3. Which topology has each node connected to exactly two other nodes?

A. Ring

B. Star

C. Mesh

D. Bus

Think about how many direct links each device has in the network layout. In a ring topology, every device connects to exactly two other devices—one on each side—forming a closed loop. This gives every node a degree of two, which matches the requirement. In contrast, a star topology centers on a single hub, so leaf devices connect to the hub (one connection each) while the hub has many connections. A mesh topology involves multiple interconnections, typically giving nodes more than two connections. A bus topology uses a single shared cable that all devices attach to, so devices don't have two distinct neighbors. Therefore, the ring is the topology where every node has two neighbors.

4. The tracert command displays router addresses that are traversed between a source and a destination.

A. True

B. False

C. It displays DNS servers along the path

D. It lists all active connections

Tracert shows the path to a destination by revealing each router hop along the way. It sends probes with increasing TTL values, and every router that decrements the TTL to zero replies with an ICMP Time Exceeded message. By collecting these responses, tracert prints the address of each router encountered from source to destination, along with the round-trip time for each hop. This is why the tool displays the router addresses you traverse. If reverse DNS is available, those addresses may appear as hostnames, but the purpose remains to map the route, not identify DNS servers. It doesn't list all active connections, and if a router blocks ICMP, you may see timeouts, but the core idea is showing the sequence of routers along the path.

5. Which IP range corresponds to the loopback address?

A. 127.0.0.0 - 127.255.255.255

B. 192.168.0.0 - 192.168.255.255

C. 224.0.0.0 - 239.255.255.255

D. 10.0.0.0 - 10.255.255.255

Loopback addresses are used to reach the local machine itself, which is handy for testing software and the network stack without sending traffic onto any external network. For IPv4, the entire 127.0.0.0 to 127.255.255.255 range is reserved for loopback, commonly written as 127.0.0.0/8. The most familiar example is 127.0.0.1, which always refers to the local host. The other ranges shown serve different purposes: 192.168.0.0 to 192.168.255.255 is a private LAN range; 224.0.0.0 to 239.255.255.255 is used for multicast; and 10.0.0.0 to 10.255.255.255 is another private LAN range. So, the loopback addresses lie in the 127.x.x.x space.

6. Which OSI layer is responsible for end-to-end data transport and reliability?

A. Layer 1

B. Layer 2

C. Layer 3

D. Layer 4

End-to-end data transport and reliability are handled by the Transport layer. This layer takes data from higher layers, breaks it into pieces, and ensures those pieces reach the destination in order and without corruption. It uses port numbers to distinguish multiple conversations between the same hosts and, in reliable implementations like TCP, provides acknowledgments and retransmission of lost segments, along with flow control to prevent overwhelming the receiver. The data link layer focuses on delivery and error checking over a single link, while the network layer handles routing and addressing across multiple links. Higher layers manage sessions, presentation, and applications, but the guarantee of dependable end-to-end delivery comes from the Transport layer.

7. An IPv4 octet value can be 256.

A. True

B. False

C. Not sure

D. Not applicable

IPv4 addresses are made of four octets, and each octet is 8 bits. An 8-bit value can represent 2^8 distinct numbers, which are 0 through 255. Because of that, 256 would require a ninth bit and cannot be stored in a single octet. Therefore an IPv4 octet value cannot be 256; any address with an octet of 256 would be invalid.

8. In network management, QoS is used to do which of the following?

A. Control bandwidth.

B. Change DHCP scope.

C. Update routing tables.

D. Manage server OS patches.

Quality of Service focuses on managing how bandwidth is allocated and how traffic is prioritized to meet performance requirements for different applications. By shaping, policing, queuing, and marking packets, QoS ensures latency-sensitive traffic such as voice or video gets the necessary resources even when the network is congested. That's why the best answer is that QoS controls bandwidth, because allocating and limiting bandwidth directly affects how smoothly different traffic types perform. DHCP scope relates to IP address management, not traffic quality. Updating routing tables is about determining paths for packets, not prioritizing or reserving bandwidth. Managing server OS patches is about maintenance and security updates, not network traffic behavior.

9. In terms of traffic management, QoS primarily focuses on:

A. Controlling bandwidth.

B. Changing Ethernet frames' MAC addresses.

C. Modifying IP headers to new schemes.

D. Bypassing NAT.

Quality of Service (QoS) in traffic management is about allocating and controlling the network's available bandwidth among different kinds of traffic to meet performance requirements. By classifying traffic and applying rules, QoS ensures that latency-sensitive applications get the bandwidth they need, while less critical traffic is regulated to prevent congestion. This often involves shaping and policing traffic, prioritizing certain flows, and using scheduling mechanisms to manage how bandwidth is shared. It's not about changing MAC addresses, which would alter layer 2 addressing and could disrupt switching. It doesn't involve modifying IP headers to new schemes, which would affect routing and integrity of the packets. And it isn't about bypassing NAT, which defeats intended address translation and security. The primary aim of QoS in traffic management is to control and allocate bandwidth to meet performance goals.

10. Quality of Service (QoS) is used to prioritize network traffic.

A. True

B. False

C. Not sure

D. Not applicable

Quality of Service (QoS) prioritizes network traffic to ensure that time-sensitive or critical applications get the bandwidth and low latency they need. It works by identifying different types of traffic—such as voice, video, and regular data—and giving them different priorities or budgets. Network devices mark packets (for example with DSCP values or 802.1p tags), place them into appropriate queues, and schedule their transmission accordingly. This can include shaping and policing to control traffic flow and smooth bursts. The goal is to reduce latency and jitter for important traffic even when the network is congested. For instance, VoIP packets are prioritized over bulk file transfers, so calls stay clear and responsive during heavy activity. So, the statement is true: QoS is used to prioritize network traffic.

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://itscertiportnetworking.examzify.com

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