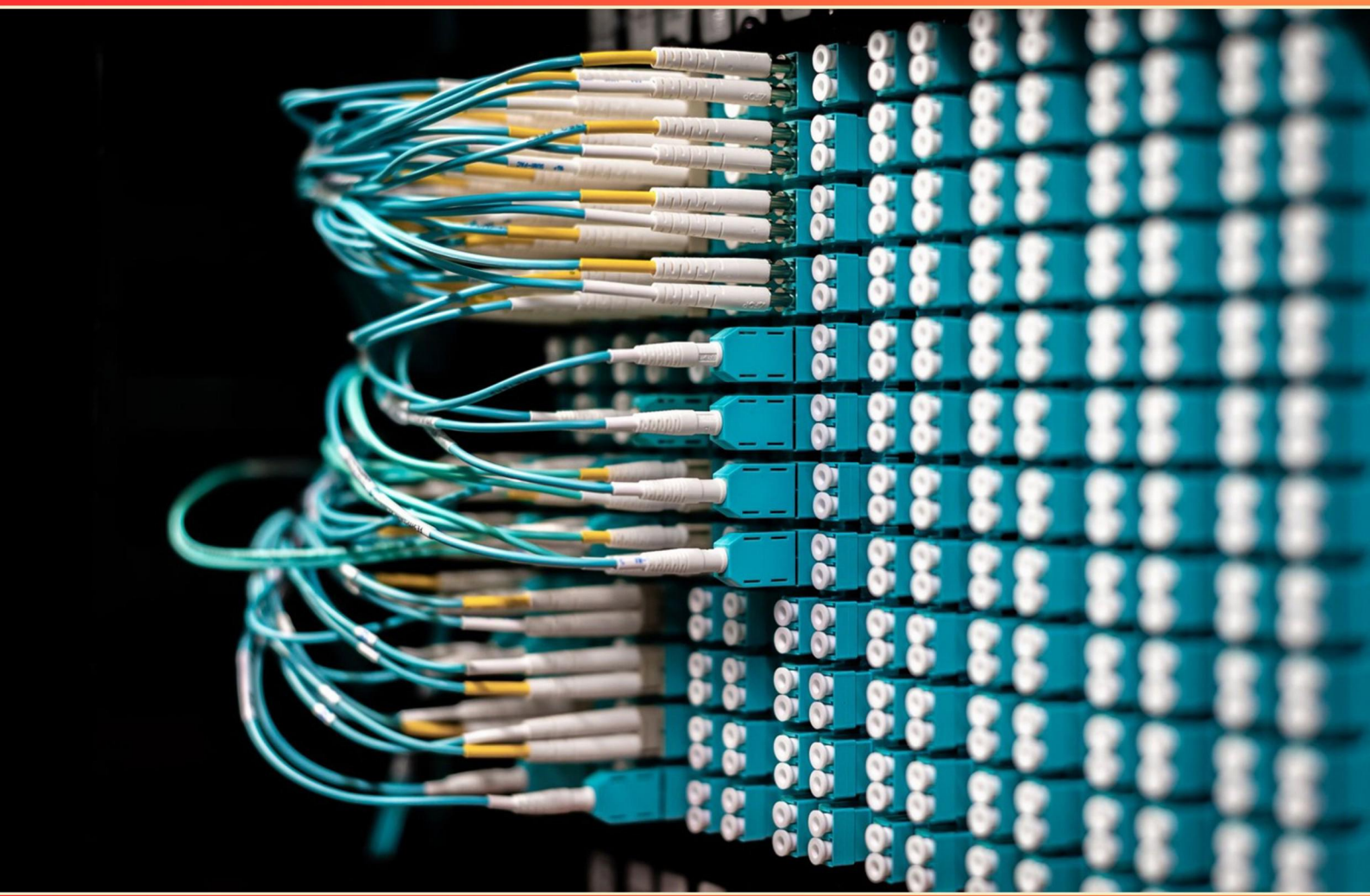
NOKIA CERTIFIED NETWORK ROUTING SPECIALIST I (NRS I) PRACTICE TEST (SAMPLE)

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. Which statement about OSPF is TRUE?

A. It is a distance vector protocol.

B. It uses an SPF algorithm for route selection.

C. It uses hop count to determine metric value.

D. It is used for routing between different autonomous systems.

2. What is the purpose of a VLAN (Virtual Local Area Network)?

A. To connect several physical networks as one logical network

B. To allow devices to communicate over long distances

C. To separate network traffic for security and performance benefits

D. To manage physical network topologies

3. How does network segmentation improve performance?

A. By allowing all network devices to connect directly

B. By reducing security risks in data transmission

C. By reducing congestion by breaking up large networks into smaller, manageable pieces

D. By increasing the number of IP addresses available

4. Which of the following provides physical separation between service provider and customer responsibilities?

A. A provider edge router

B. An Internet exchange point

C. A demarcation point

D. A point of presence

5. How does a link-state protocol differ from a distance-vector protocol?

A. Link-state protocols use less bandwidth

B. Link-state protocols share only distances

C. Link-state protocols maintain a complete topology

D. Link-state protocols are slower to converge

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6. What is TRUE about a CE router that is involved in a VPN service?

A. It is aware of the VPN services provided by the service provider.

B. It resides on the service provider premises.

C. It connects to at least one PE router.

D. It connects to at least one CE router.

7. Which command is used for configuring OSPF on a router?

A. enable ospf [process-id]

B. router ospf [process-id]

C. set ospf [process-id]

D. config ospf [process-id]

8. What does the term 'metric' refer to in networking protocols?

A. A method of reducing latency

B. A measurement for route selection

C. A type of routing table

D. A protocol for network security

9. What is the purpose of a routing protocol's hop limit?

A. To increase the number of allowable hops

B. To prevent packets from endlessly circulating

C. To optimize routing paths

D. To manage bandwidth utilization

10. What kind of routing information does BGP primarily use?

A. Link metrics

B. Hop count

C. Path attributes and policy

D. Bandwidth availability

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Answers

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

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Explanations

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1. Which statement about OSPF is TRUE?

A. It is a distance vector protocol.

B. It uses an SPF algorithm for route selection.

C. It uses hop count to determine metric value.

D. It is used for routing between different autonomous systems.

Open Shortest Path First (OSPF) is a widely used link-state routing protocol characterized by its ability to efficiently manage and optimize routes within a network. The statement about OSPF using an SPF algorithm for route selection is true because OSPF relies on Dijkstra's algorithm, also known as the Shortest Path First (SPF) algorithm, to compute the shortest path to each destination within the network. This allows OSPF to build a topology map based on the Link State Advertisements (LSAs) it receives from other routers, leading to optimal path selection and more efficient routing. The SPF algorithm enables OSPF to quickly converge and adjust to network changes by recalculating the best paths when network topology changes occur. This aspect of OSPF distinguishes it from distance vector protocols, which do not utilize this method for route calculation. In contrast, OSPF does not use hop count as a metric value, as it considers factors such as bandwidth and link reliability when determining the best route. Additionally, OSPF is primarily an interior gateway protocol and is typically not used for routing between different autonomous systems; instead, it operates within a single autonomous system, making its functionality distinct from exterior gateway protocols.

2. What is the purpose of a VLAN (Virtual Local Area Network)?

A. To connect several physical networks as one logical network

B. To allow devices to communicate over long distances

C. To separate network traffic for security and performance benefits

D. To manage physical network topologies

A VLAN, or Virtual Local Area Network, serves primarily to separate network traffic, which enhances both security and performance. By segmenting a network into different VLANs, devices in one VLAN can communicate with each other while being isolated from devices in other VLANs. This isolation is beneficial for security, as it reduces the risk of unauthorized access from other segments of the network. Additionally, separating traffic can optimize performance by limiting broadcast traffic and reducing congestion, which is particularly valuable in larger networks. While there is a logical element to why a VLAN might seem related to connecting physical networks, that aspect is more accurately covered by other networking solutions like bridging or routing. VLANs operate within the same physical network infrastructure but create independent logical networks. This purity of logical separation is crucial for maintaining clear traffic management and security protocols. Thus, the main function of a VLAN revolves around traffic separation, making the chosen answer the most accurate descriptor of its purpose.

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3. How does network segmentation improve performance?

A. By allowing all network devices to connect directly

B. By reducing security risks in data transmission

C. By reducing congestion by breaking up large networks into smaller, manageable pieces

D. By increasing the number of IP addresses available

Network segmentation improves performance primarily by reducing congestion through the division of large networks into smaller, more manageable pieces. When a network is segmented, traffic is contained within individual segments, which helps to limit the amount of data traveling across the entire network at any given time. This localized traffic flow minimizes collisions and ensures that the available bandwidth is used more efficiently. In larger, unsegmented networks, all devices share the same bandwidth, leading to potential bottlenecks as traffic increases. By segmenting the network, administrators can control traffic more effectively and reduce the load on any single segment. As a result, devices within each segment communicate more quickly, leading to improved overall performance for users. This principle underpins many common networking practices, such as the use of VLANs and subnetting, which help to isolate different types of traffic or separate various departments within an organization, thus enhancing both performance and management of the network.

4. Which of the following provides physical separation between service provider and customer responsibilities?

A. A provider edge router

B. An Internet exchange point

C. A demarcation point

D. A point of presence

The correct answer is the demarcation point, which is a critical concept in networking. This point serves as the physical boundary between the responsibilities of the service provider and the customer. At the demarcation point, various aspects of the network become clearly defined, allowing for delineated responsibilities regarding maintenance, troubleshooting, and management of services. For example, within a telecommunications context, the service provider is typically responsible for maintaining the network up to the demarcation point, while the customer is responsible for the network and equipment beyond that point. This ensures clarity in operations, especially in troubleshooting and service delivery, as it specifies where the provider's obligations end and the customer's begin. Understanding the demarcation point is essential as it helps to prevent any confusion regarding service responsibility, which can lead to more efficient management and support of network services. This classification ensures that every party involved knows what part of the network they are accountable for, thereby fostering effective communication and resolution processes. In contrast, a provider edge router, an Internet exchange point, and a point of presence do not inherently define responsibility boundaries in the same way as the demarcation point. They serve different purposes in network architecture and operation but do not create a clear line of separation regarding service

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5. How does a link-state protocol differ from a distance-vector protocol?

A. Link-state protocols use less bandwidth

B. Link-state protocols share only distances

C. Link-state protocols maintain a complete topology

D. Link-state protocols are slower to converge

Link-state protocols are distinct from distance-vector protocols primarily because they maintain a complete topology of the network. This means that each router using a link-state protocol has a full representation of the entire network layout, including each link and the state of each link. When a link-state router discovers changes in the network, it shares information about the state of its connected links with all other routers in the network, allowing them to build a consistent and up-to-date view of the network topology. In contrast, distance-vector protocols only share information about the distance to other routers, as opposed to the overall state of the links within the network. This results in each router relying on its neighbors to inform it of the network layout, which can lead to issues such as routing loops and inconsistencies in the network view. While the bandwidth usage of link-state protocols can often be lower in environments with numerous changes, this is not always the case, as the initial exchange of link-state information can be substantial. Furthermore, the claim about convergence speed varies; in many cases, link-state protocols converge faster than distance-vector protocols due to their sharing of complete topology information. Therefore, the key differentiator is indeed that link-state protocols maintain a comprehensive view of the network topology.

6. What is TRUE about a CE router that is involved in a VPN service?

A. It is aware of the VPN services provided by the service provider.

B. It resides on the service provider premises.

C. It connects to at least one PE router.

D. It connects to at least one CE router.

A CE (Customer Edge) router is integral to a VPN service as it acts as the entry point for customer traffic into the service provider's network. It is typically positioned at the customer's site and is responsible for forwarding packets to the connected PE (Provider Edge) routers. The statement regarding the connection between the CE router and the PE router emphasizes the functionality and operational role of the CE router within a VPN setup. CE routers do not directly engage with multiple CE routers for their functioning; instead, they are configured to interact primarily with PE routers to manage the flow of data packets between the customer's internal network and the VPN service provided by the service provider. This relationship is fundamental to how VPNs operate, allowing CE routers to leverage the service provider's infrastructure to ensure that traffic is appropriately routed, encapsulated, and managed securely across potentially shared networks. In contrast, the other options do not accurately reflect the characteristics and roles of a CE router. It is not aware of the VPN services because that level of awareness falls within the PE routers. A CE router does not reside on the service provider's premises; rather, it is located at the customer's site. The connection specifics regarding other CE routers are misaligned with the primary function of the CE

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7. Which command is used for configuring OSPF on a router?

A. enable ospf [process-id]

B. router ospf [process-id]

C. set ospf [process-id]

D. config ospf [process-id]

The configuration of OSPF (Open Shortest Path First) on a router is accomplished using the command "router ospf [process-id]." This command is essential because it enters OSPF configuration mode, allowing the network administrator to specify parameters related to OSPF, such as router ID, network statements, and other OSPF settings. When issuing this command, the [process-id] is a numerical identifier that helps distinguish between multiple OSPF processes running on the same router. Each OSPF instance operates independently, so it is crucial to specify the correct process ID when configuring the protocol to ensure that the desired OSPF instance is modified. In contrast, the other options do not accurately represent the command structure used in OSPF configuration. For instance, "enable ospf" and "set ospf" are not valid commands in the context of OSPF configuration, and "config ospf" does not follow the correct syntax and structure that a network administrator needs to utilize when setting up OSPF effectively on a router. Therefore, the command "router ospf [process-id]" is the only correct option for entering the OSPF configuration mode on a router.

8. What does the term 'metric' refer to in networking protocols?

A. A method of reducing latency

B. A measurement for route selection

C. A type of routing table

D. A protocol for network security

The term 'metric' in networking protocols refers to a measurement used to determine the cost associated with a route, which plays a crucial role in route selection. Different routing protocols calculate metrics based on various criteria, such as hop count, bandwidth, delay, and reliability. The route with the lowest metric is typically preferred, which directly influences how data packets are forwarded across the network. Metrics are essential for enabling routers to make informed decisions about the best path to take for data transmission, ensuring that the most efficient and reliable routes are utilized. This concept is foundational in routing protocols like OSPF (Open Shortest Path First) or RIP (Routing Information Protocol), where metrics help to establish the optimal paths in dynamic routing environments. The other options do not align with the definition of 'metric' in this context. Reducing latency pertains to network performance optimization rather than route selection, routing tables are structured data used to store routing information without directly referring to metrics, and network security protocols focus on safeguarding data and do not involve metrics for routing.

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9. What is the purpose of a routing protocol's hop limit?

A. To increase the number of allowable hops

B. To prevent packets from endlessly circulating

C. To optimize routing paths

D. To manage bandwidth utilization

The purpose of a routing protocol's hop limit is primarily to prevent packets from endlessly circulating through a network. When a packet is transmitted, it is assigned a hop limit, which limits the number of intermediate devices (or hops) the packet can traverse before it is discarded. This mechanism is crucial for ensuring that packets do not get stuck in routing loops, where they keep circulating between routers without reaching their intended destination. By implementing a hop limit, networks can maintain efficiency and avoid potential congestion caused by overabundant traffic from such loops, which can degrade overall network performance. The other options do not accurately represent the function of the hop limit. While routing may sometimes involve optimizing paths or managing bandwidth, these are separate considerations that do not directly relate to the purpose of the hop limit itself. The hop limit is specifically focused on packet lifecycle management—ensuring that packets have a clear end point and that the network operates smoothly without the risk of endless circulation.

10. What kind of routing information does BGP primarily use?

A. Link metrics

B. Hop count

C. Path attributes and policy

D. Bandwidth availability

BGP, or Border Gateway Protocol, primarily relies on path attributes and policy to make routing decisions. This method allows BGP to consider the entire path that data will take, rather than just focusing on a single metric such as distance or speed. Path attributes contain various information about the route, including things like the origin of the route, the AS path (the list of autonomous systems through which the route has passed), and other properties that influence policy decisions. The flexibility of BGP is evident as it can incorporate numerous policies to determine the preference of routes based on organizational needs or network designs. This enables network administrators to craft complex routing decisions that cater to business goals and help manage traffic effectively across the Internet. In contrast to metrics like link metrics, hop count, or bandwidth availability—which typically represent simpler routing protocols—BGP's focus on path attributes provides a sophisticated means of managing diverse routes and ensuring optimal routing paths based on policy configurations.

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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:

https://nokianrs1.examzify.com

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

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