

NETA LEVEL 1 CERTIFICATION PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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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. Is it true or false that unbroken bus way length shall not be extended through drywall?**
 - A. True
 - B. False
 - C. Depends on the local code
 - D. Only when approved by an inspector
- 2. Why is grounding wire considered a safety measure?**
 - A. It enhances circuit performance
 - B. It protects against overcurrent
 - C. It has been connected to earth
 - D. It reduces circuit resistance
- 3. Which of the following correctly describes logic analyzers?**
 - A. They are used for power measurements.
 - B. They enable timing comparisons.
 - C. They are focused on voltage readings.
 - D. They are used to measure current flow.
- 4. What is the smallest particle of a substance that still retains its properties?**
 - A. Endorphine
 - B. Molecule
 - C. Atom
 - D. Element
- 5. What type of electrical drawing is specifically used to illustrate the electrical distribution system of a multilevel building?**
 - A. One-line Diagram
 - B. Schematic Diagram
 - C. Riser Diagram
 - D. Block Diagram

- 6. Which test would be required for a 15kV switch?**
- A. Hipot
 - B. Power factor
 - C. TTR
 - D. Excitation
- 7. What is a solution to prevent oxidation in aluminum busbars?**
- A. Coating with copper strips
 - B. Tin plating at bar joints
 - C. Using high-strength aluminum alloys
 - D. Applying a protective layer of plastic
- 8. Which of the following describes the nature of piezoelectric materials?**
- A. Only work with heat
 - B. Can generate an electric charge under mechanical stress
 - C. Only used in high-pressure systems
 - D. Only work with light exposure
- 9. What is the expected size of cable for ASTM Grade 7 personal protective grounds?**
- A. 250 kcmil
 - B. 2
 - C. 350 kcmil
 - D. 4/0
- 10. How is surge arrest typically designed to function?**
- A. By defusing electrical surges through resistors
 - B. By discharging surge currents to ground
 - C. By absorbing and storing electrical energy
 - D. By rerouting electrical flows

Answers

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

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Explanations

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1. Is it true or false that unbroken bus way length shall not be extended through drywall?

- A. True
- B. False**
- C. Depends on the local code
- D. Only when approved by an inspector

The statement that unbroken busway length shall not be extended through drywall is false. In general, busway systems are designed for specific applications, and their installation must comply with applicable electrical codes and standards. While drywall is not typically a suitable medium for the extension of unbroken busway lengths, there may be conditions under which busways can be installed through drywall or similar non-conductive materials, so long as they comply with manufacturer specifications and relevant electrical codes. This can include situations where busways are run through ceilings or walls with appropriate protection and support to maintain safety and performance, as long as the installation does not compromise the system's integrity or safety. Thus, the answer is false because there are scenarios where unbroken busway lengths may be permitted to pass through drywall, provided that all other safety and compliance regulations are met.

2. Why is grounding wire considered a safety measure?

- A. It enhances circuit performance
- B. It protects against overcurrent
- C. It has been connected to earth**
- D. It reduces circuit resistance

The grounding wire is considered a safety measure primarily because it has been connected to earth. This connection to the earth provides a path for electrical current to safely dissipate in the event of a fault condition, such as a short circuit or equipment failure. Grounding helps prevent the build-up of voltages that could lead to electric shock, fire hazards, or damage to equipment by ensuring that any stray currents have a safe route to the ground. By connecting electrical systems to the earth, it creates a reference point of zero voltage. This protects users and equipment alike, as any excess voltage is directed away from sensitive components and individuals, significantly enhancing safety. In situations where insulation fails or equipment malfunctions, the grounding wire redirects the potentially dangerous currents into the ground, mitigating risks associated with electrical shocks and other dangerous situations.

3. Which of the following correctly describes logic analyzers?

- A. They are used for power measurements.
- B. They enable timing comparisons.**
- C. They are focused on voltage readings.
- D. They are used to measure current flow.

Logic analyzers are specialized instruments designed to capture and display digital signals from electronic systems. They help in analyzing the timing and logic states of these digital signals over time, making them particularly valuable for debugging and verifying the operation of digital circuitry. The choice that indicates they enable timing comparisons accurately reflects the primary function of logic analyzers. By capturing digital waveforms, these devices allow engineers to observe the timing relationships between various signals, ensuring that they operate correctly and within specified time constraints. This timing analysis is crucial in high-speed digital designs where timing issues can lead to functional defects. In contrast, while some choices may seem relevant, they do not accurately characterize the specific purpose of a logic analyzer. For example, using logic analyzers for power measurements or current flow is not their function, as these tasks are typically managed by other measurement instruments like oscilloscopes or multimeters designed for analog signals. Additionally, focusing solely on voltage readings does not encompass the full utility of timing comparisons that logic analyzers provide. Therefore, emphasizing their capability to enable timing comparisons is a clear and correct description of their role in digital signal analysis.

4. What is the smallest particle of a substance that still retains its properties?

- A. Endorphine
- B. Molecule
- C. Atom**
- D. Element

The smallest particle of a substance that still retains its properties is an atom. Atoms are the fundamental building blocks of matter and determine the characteristics of elements and the compounds they form. Each atom retains the unique properties of its corresponding element; for example, carbon atoms will always exhibit properties characteristic of carbon, regardless of how they are arranged or bonded with other atoms. Molecules, while they are made up of atoms and do represent a collection of atoms bonded together, can sometimes lose certain properties of the individual atoms that comprise them, especially when the molecular structure changes. Endorphins, on the other hand, are specific types of molecules that contain multiple atoms and exhibit properties distinct to their structure, but they do not represent the smallest unit of a substance. Elements consist of individual types of atoms but broader than an atom itself. Therefore, the correct choice indicates that an atom is the smallest particle that retains the unique properties of a substance.

5. What type of electrical drawing is specifically used to illustrate the electrical distribution system of a multilevel building?

- A. One-line Diagram
- B. Schematic Diagram
- C. Riser Diagram**
- D. Block Diagram

The riser diagram is specifically designed to illustrate the electrical distribution system of a multilevel building. This type of drawing provides a vertical representation of the electrical systems and components, showing how power is distributed from one level of the building to another. It typically includes the layout of feeders, panels, conduits, and other essential components, indicating how the electrical supply travels through vertical spaces in the structure. Riser diagrams are essential for understanding the connectivity and hierarchy of the electrical system, especially in multilevel buildings where multiple floors require a coordinated electrical service. By visually representing the relationship between different floors and the main distribution points, riser diagrams facilitate better planning and troubleshooting of electrical systems within high-rise structures. This clarity is crucial for both installation and maintenance personnel. In contrast, other types of diagrams have different purposes. For example, one-line diagrams provide a simplified view of the entire electrical system and generally focus on the connections between components rather than showing the vertical distribution. Schematic diagrams depict the functioning of electrical circuits and components but typically do not emphasize the physical layout in a multilevel context. Block diagrams are usually used for high-level overviews of systems, illustrating functional relationships rather than detailed electrical distribution. Therefore, for representing the vertical layout of electrical components across different

6. Which test would be required for a 15kV switch?

- A. Hipot**
- B. Power factor
- C. TTR
- D. Excitation

A hipot test, also known as a high potential voltage test, is specifically designed to evaluate the insulation integrity of electrical equipment such as switches, transformers, and cables. In the context of a 15kV switch, the hipot test applies a high voltage to the switch's insulation to ensure it can withstand normal operating voltages plus a safety margin without breaking down. This test is vital for identifying any weaknesses in the insulation that could lead to failures or electrical accidents. The hipot test is crucial because it helps ensure that the switch will operate reliably in its intended application, thus contributing to the overall safety and performance of the electrical system. In high-voltage equipment such as a 15kV switch, ensuring the insulation can handle the pressure of higher voltage is essential to prevent short circuits or insulation breakdowns. In contrast, other tests mentioned have different purposes. For instance, the power factor test assesses the efficiency of the insulation and how it varies with frequency, while the transformer turns ratio (TTR) test checks the ratio of the primary and secondary windings in transformers. The excitation test is specific to checking the performance of generators. Thus, they are not designed specifically to test the high-voltage insulation integrity as effectively as a hipot test does.

7. What is a solution to prevent oxidation in aluminum busbars?

- A. Coating with copper strips
- B. Tin plating at bar joints**
- C. Using high-strength aluminum alloys
- D. Applying a protective layer of plastic

The most effective solution to prevent oxidation in aluminum busbars is tin plating at bar joints. Aluminum readily forms a thin layer of aluminum oxide when exposed to air, which can inhibit electrical conductivity. By tin plating the joints, the surface is protected from the environmental conditions that lead to oxidation, and the tin provides a barrier that retains electrical conductivity over time. Tin has a strong affinity for aluminum, forming an intermetallic compound that helps to maintain a good connection at the joint while also protecting the aluminum underneath from further oxidation. This method is particularly beneficial in electrical applications where maintaining conductivity is critical for performance and reliability. Other methods mentioned, while they may have some benefits in specific contexts, do not specifically address the direct issue of oxidation in the immediate way that tin plating does. For example, coating with copper strips could introduce galvanic corrosion issues, using high-strength aluminum alloys does not inherently prevent oxidation, and applying a protective layer of plastic may not be suitable for high-current applications where heat generation can occur. Thus, tin plating at bar joints stands out as the best solution for mitigating oxidation in aluminum busbars.

8. Which of the following describes the nature of piezoelectric materials?

- A. Only work with heat
- B. Can generate an electric charge under mechanical stress**
- C. Only used in high-pressure systems
- D. Only work with light exposure

Piezoelectric materials possess the unique ability to generate an electric charge when subjected to mechanical stress. This phenomenon arises from the internal structure of the material, which changes the arrangement of atoms under pressure, creating a separation of charge. This characteristic makes piezoelectric materials particularly useful in a variety of applications, such as sensors, actuators, and energy harvesting devices. The fundamental principle driving this behavior is based on the direct piezoelectric effect, where mechanical deformation produces an electrical signal. This property is harnessed in devices like microphones, where sound waves cause diaphragm movement, or in piezoelectric sensors, converting physical pressure into an electrical output. Thus, the correct choice accurately reflects the core functionality of piezoelectric materials and highlights their significance in various technological applications.

9. What is the expected size of cable for ASTM Grade 7 personal protective grounds?

- A. 250 kcmil
- B. 2
- C. 350 kcmil**
- D. 4/0

The expected size of cable for ASTM Grade 7 personal protective grounds is 350 kcmil. This choice is based on the specific requirements for grounding systems to ensure that they can handle the fault currents that may occur during electrical disturbances. ASTM Grade 7 is defined to ensure safe and effective operation under high fault conditions. When selecting grounding cables, it's essential to consider their ability to conduct fault current without sustaining damage or overheating. The 350 kcmil size balances the need for conductivity while providing ample mechanical strength and flexibility suited for grounding applications. In contrast, other sizes such as 250 kcmil or 4/0 may not provide the same level of performance under the anticipated conditions that Grade 7 grounds are expected to withstand. Options like 2 are significantly undersized for this application, making them unsuitable for safe protection. Therefore, 350 kcmil is the ideal choice to meet the safety standards and performance requirements for personal protective grounds at this grade.

10. How is surge arrest typically designed to function?

- A. By defusing electrical surges through resistors
- B. By discharging surge currents to ground**
- C. By absorbing and storing electrical energy
- D. By rerouting electrical flows

Surge arresters are designed to protect electrical systems from voltage spikes, such as those caused by lightning strikes or other transient events. The primary function of a surge arrester is to discharge surge currents to ground, effectively providing a safe path for the excess energy. This helps to prevent damage to sensitive equipment and components connected to the electrical system. In operation, when a voltage surge occurs, the surge arrester will limit the voltage increase by creating a low-resistance path to ground. This rapid response to an electrical surge ensures that the excess voltage is redirected away from the equipment that needs protection, thereby preserving the integrity of the electrical system. The other approaches mentioned, such as defusing electrical surges through resistors, absorbing and storing electrical energy, or rerouting electrical flows, do not accurately reflect the primary mechanism of surge arresters, which is fundamentally about grounding surge currents to mitigate risk and preserve system functionality.

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://netalevel1.examzify.com>

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

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