

NETA ETT Certified Assistant Level 3 Certification 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. According to NFPA 70-2017, how far can other associated equipment extend beyond the front of electrical equipment?**
 - A. 3 inches**
 - B. 6 inches**
 - C. 12 inches**
 - D. 18 inches**
- 2. Which method is used to find the angle of a vector given its components?**
 - A. Angle = $\cos^{-1}(y/x)$**
 - B. Angle = $\tan^{-1}(y/x)$**
 - C. Angle = $\sin^{-1}(y/x)$**
 - D. Angle = x/y**
- 3. Which component's safety is primarily monitored when evaluating a permit-required confined space?**
 - A. Temperature levels**
 - B. Humidity levels**
 - C. Oxygen levels**
 - D. Noise levels**
- 4. In case of power interruption, what is the standard for the maximum delay allowed in healthcare facilities before utilizing backup power?**
 - A. 5 seconds**
 - B. 10 seconds**
 - C. 15 seconds**
 - D. 20 seconds**
- 5. Which type of relay operation is based on a direct proportion of the distance to the location of the fault?**
 - A. Time relay**
 - B. Impedance relay**
 - C. Voltage relay**
 - D. Current relay**

- 6. For in-service AC induction motors made before 1970, what is the minimum insulation resistance value for PI and DAR according to NETA standards?**
- A. 0.5, 0.5**
 - B. 1.0, 0.5**
 - C. 1.0, 1.0**
 - D. 2.0, 1.0**
- 7. Which type of cable is specified for high-voltage applications according to industry standards?**
- A. Fiber optic cable**
 - B. Low-voltage power cable**
 - C. Shielded power cable**
 - D. Thermoplastic insulated cable**
- 8. What is the minimum output duration needed for a light source used to field test arc-flash detection relays?**
- A. 5 ms**
 - B. 50 ms**
 - C. 1 ms**
 - D. 10 ms**
- 9. What condition should exist for cables entering conduits to avoid damage?**
- A. Cables must be insulated**
 - B. Fittings must be used**
 - C. Cables should be properly secured**
 - D. Cables must be color-coded**
- 10. What is the typical range for locked rotor current of a large induction motor, expressed in terms of rated current?**
- A. 2 to 4 times rated current**
 - B. 4 to 6 times rated current**
 - C. 6 to 8 times rated current**
 - D. 8 to 10 times rated current**

Answers

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

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Explanations

1. According to NFPA 70-2017, how far can other associated equipment extend beyond the front of electrical equipment?

A. 3 inches

B. 6 inches

C. 12 inches

D. 18 inches

The correct answer is 6 inches. This specification is outlined in NFPA 70 (National Electrical Code), which governs safe electrical installations. NFPA 70-2017 establishes guidelines for the placement and extension of equipment associated with electrical installations, including how far additional equipment can extend in front of electrical equipment. Allowing associated equipment to extend no more than 6 inches helps ensure safety by minimizing the risk of obstruction, ensuring access to vital components, and maintaining adequate clearance for equipment operation and maintenance. Such regulations are put in place to consider the safety of personnel working around electrical installations and to prevent interference with other equipment or hazards.

2. Which method is used to find the angle of a vector given its components?

A. Angle = $\cos^{-1}(y/x)$

B. Angle = $\tan^{-1}(y/x)$

C. Angle = $\sin^{-1}(y/x)$

D. Angle = x/y

The method for finding the angle of a vector given its components is based on the relationship between the components and trigonometric functions. The correct choice, which involves using the tangent function, is particularly relevant because when you have a vector with components x (horizontal) and y (vertical), the angle θ that the vector makes with the x -axis can be found using the arctangent of the ratio of the opposite side to the adjacent side in a right triangle formed by these components. Using the formula $\theta = \tan^{-1}(y/x)$, where y is the vertical component and x is the horizontal component, effectively allows you to determine the angle based on how far the vector extends in each direction. This is appropriate because the tangent of an angle in a right triangle is defined as the ratio of the length of the side opposite the angle to the length of the side adjacent to it. The other options misapply trigonometric functions. For instance, using cosine or sine would require knowing the angle prior, and dividing x by y does not yield an angle but rather gives a different form of ratio without the necessary trigonometric context. Therefore, the correct application of the tangent function for finding angle θ ensures that the relationship between the components is properly utilized.

3. Which component's safety is primarily monitored when evaluating a permit-required confined space?

- A. Temperature levels**
- B. Humidity levels**
- C. Oxygen levels**
- D. Noise levels**

In the evaluation of a permit-required confined space, monitoring oxygen levels is crucial because a deficiency or excess of oxygen can create life-threatening conditions. Oxygen levels must be maintained within specific limits; typically, a safe range is between 19.5% and 23.5%. Levels below 19.5% can lead to asphyxiation, while levels above 23.5% can increase the risk of fire or explosion. Therefore, ensuring that oxygen levels are safe is a primary concern when entering or working in confined spaces, making it essential for the overall safety of individuals involved. While temperature, humidity, and noise levels do impact the working environment, they do not pose the same immediate danger as oxygen levels do, as they typically do not result in rapidly life-threatening situations.

4. In case of power interruption, what is the standard for the maximum delay allowed in healthcare facilities before utilizing backup power?

- A. 5 seconds**
- B. 10 seconds**
- C. 15 seconds**
- D. 20 seconds**

In healthcare facilities, the standard for the maximum delay allowed before utilizing backup power is generally understood to be 10 seconds. This timeframe is crucial because many life-saving equipment and systems, including essential lighting, medical devices, and life support systems, depend on consistent power supply to function effectively. The 10-second delay standard is significant because even brief interruptions can pose serious risks to patient safety and the overall operation of a healthcare facility. During this time, systems are typically designed to transfer to generator power without compromising patient care or safety. The swift transition helps ensure that critical operations continue without significant interruption, which is vital in emergency situations or for ongoing medical treatments. By adhering to this standard, healthcare facilities demonstrate their commitment to maintaining high levels of operational readiness and patient care even in the event of power disruptions.

5. Which type of relay operation is based on a direct proportion of the distance to the location of the fault?

A. Time relay

B. Impedance relay

C. Voltage relay

D. Current relay

Impedance relays operate based on a direct correlation between the distance to a fault and the measured impedance in a power system. When a fault occurs, such as a short circuit, the impedance decreases because the fault creates a path of lower resistance. The impedance relay measures this decrease in impedance to calculate how far the fault is from the point of measurement. As the distance to the fault decreases, the impedance value drops, which triggers the relay to activate. This principle of operation makes impedance relays particularly effective for protecting transmission lines, as they can quickly and accurately determine the location of faults and isolate affected sections of the system. Time relays are based on predetermined time intervals for operation rather than distance. Voltage relays respond to changes in voltage levels rather than distance to a fault. Current relays operate on the principle of current levels reacting to fault conditions but do not inherently measure distance in relation to the fault. Therefore, the unique functionality of impedance relays in measuring and responding to distance-related fault conditions makes them the correct answer in this context.

6. For in-service AC induction motors made before 1970, what is the minimum insulation resistance value for PI and DAR according to NETA standards?

A. 0.5, 0.5

B. 1.0, 0.5

C. 1.0, 1.0

D. 2.0, 1.0

For in-service AC induction motors made before 1970, the National Electrical Testing Association (NETA) standards specify a minimum insulation resistance value that is crucial for ensuring the safety and reliability of electrical equipment. According to NETA standards, the minimum insulation resistance value for both Polarization Index (PI) and Dielectric Absorption Ratio (DAR) is set at 1.0 megohms. This means that for motors manufactured prior to 1970, achieving these values is critical, as they indicate the motor's insulation condition. An insulation resistance measurement of 1.0 megohm suggests that the motor's insulation is adequate, providing a level of confidence regarding its safety and operational efficiency. The Polarization Index is a ratio derived from taking separate measurements of insulation resistance at different time intervals, while the Dielectric Absorption Ratio measures how well an insulation system can absorb and hold electrical energy. Both values being at least 1.0 reflect good insulation health and help inform maintenance decisions. By ensuring that the insulation resistance meets these standards, organizations can mitigate the risk of electrical failures, enhance equipment lifespan, and promote workplace safety.

7. Which type of cable is specified for high-voltage applications according to industry standards?

- A. Fiber optic cable**
- B. Low-voltage power cable**
- C. Shielded power cable**
- D. Thermoplastic insulated cable**

The selection of shielded power cable for high-voltage applications is based on its ability to handle significant electrical stress while minimizing interference and maintaining safety. Shielded power cables are specifically designed to prevent electromagnetic interference (EMI), which can be crucial in high-voltage environments where large amounts of electrical energy are transmitted. The shielding not only protects the integrity of the signal but also ensures the safety of personnel and equipment by reducing the risk of electric fields escaping the cable. This is particularly important in industrial settings or areas with sensitive electronic equipment. Additionally, these cables are robustly constructed to withstand harsh environmental conditions, making them suitable for high-voltage applications that may be exposed to various stresses. Other types of cables, such as fiber optic or low-voltage power cables, do not possess the necessary characteristics for high-voltage applications. While thermoplastic insulated cables might offer some insulation properties, they are typically not designed to effectively handle the demands or safety requirements of high-voltage environments, which is where shielded power cables excel.

8. What is the minimum output duration needed for a light source used to field test arc-flash detection relays?

- A. 5 ms**
- B. 50 ms**
- C. 1 ms**
- D. 10 ms**

The correct answer is 1 ms. In the context of field testing arc-flash detection relays, a very brief duration of light output is essential because the relays are designed to detect instantaneous changes in light intensity caused by an arc flash event. A minimum output duration of 1 ms is sufficient for the detection mechanisms within the relay to register the light signal accurately. This short duration is crucial because arc flashes occur very rapidly, and the ability of the relay to respond to such an event can significantly impact safety and protection measures in an electrical system. A longer duration may not be as effective because it could introduce delays or noise that might confuse the relay's detection capabilities. Therefore, the requirement of 1 ms ensures that the light signal used for testing reliably triggers the sensor without unnecessary complications.

9. What condition should exist for cables entering conduits to avoid damage?

- A. Cables must be insulated**
- B. Fittings must be used**
- C. Cables should be properly secured**
- D. Cables must be color-coded**

For cables entering conduits, utilizing fittings is essential to ensure that the cables are protected from potential damage. Fittings, such as connectors, bushings, or conduit bodies, help to provide a smooth transition for the cables into the conduit, which minimizes the risk of abrasion or snagging at the entry point. These fittings are designed to accommodate the size and type of cables being used, ensuring that they fit securely and without strain, which is critical for maintaining the integrity of the cable insulation and overall performance. While insulation, proper securing of cables, and color-coding are important considerations in other contexts of wiring and installation, they do not specifically address the physical protection and structural integrity of the cables as they enter the conduit. Proper fittings directly serve to safeguard the cables from environmental factors, mechanical stress, and accidental damage, which is why this condition must be met for the safe installation of cables into conduits.

10. What is the typical range for locked rotor current of a large induction motor, expressed in terms of rated current?

- A. 2 to 4 times rated current**
- B. 4 to 6 times rated current**
- C. 6 to 8 times rated current**
- D. 8 to 10 times rated current**

The typical range for locked rotor current in large induction motors is indeed expressed as a multiple of the rated current, with the correct range being 6 to 8 times the rated current. Locked rotor current refers to the current drawn by the motor when it is started and the rotor is not yet turning, indicating the conditions when the motor experiences its highest electrical demand. This high current is a critical factor for design and operations, particularly in determining the specifications for electrical components such as circuit protection and wiring. When motors are started, they can draw large amounts of current due to the lack of back electromotive force (back EMF) that normally opposes the supply voltage when running at operational speed. Understanding this range helps engineers ensure proper selection of motor starters and circuit protections that can handle these high initial currents without tripping. The standard industry practice recognizes that larger motors typically exhibit this higher locked rotor current as a function of their design characteristics and operational needs. Thus, the range of 6 to 8 times rated current appropriately reflects the current scenario for large induction motors during starting conditions.

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://netaettcertassistantlvl3.examzify.com>

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