

NETA ETT CERTIFIED ASSISTANT LEVEL 3 CERTIFICATION PRACTICE TEST (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. When a 20 MVA oil-filled transformer is tripped by the differential relay, which test is NOT typically used to determine the cause of the trip?
 - A. Total combustible gas (TCG)
 - B. Transformer turns ratio
 - C. Frequency response analysis
 - D. Winding-resistance
2. What common specification is likely inscribed on the outer jacket of fiber optic cable?
 - A. 50/125
 - B. 62.5/125
 - C. 100/200
 - D. 75/150
3. Which protective measure is critical according to NFPA 70E when conducting a shock risk assessment?
 - A. Distance from live parts
 - B. Personal protective equipment
 - C. Training and certification of personnel
 - D. Voltage testing equipment
4. In a three-phase motor, the speed of rotation of the magnetic field is referred to as the _____ speed.
 - A. Synchronous
 - B. Asynchronous
 - C. Rotational
 - D. Cyclical
5. Which characteristic is true for testing large medium-voltage motors?
 - A. They exhibit high resistance and high inductance
 - B. They exhibit very low resistance and low inductance
 - C. They require frequent calibration
 - D. They are tested at high temperatures

- 6. If the current flowing in an operating circuit must be approximately measured without interrupting the current, which type of current transformer would you recommend?**
- A. Split core
 - B. Ring core
 - C. Rogowski coil
 - D. Current shunt
- 7. For what purpose are low oil pressure, overtemperature, and overspeed tests performed on emergency generators?**
- A. Regular maintenance checks
 - B. Manufacturer startup verification
 - C. Routine operational testing
 - D. Compliance audits
- 8. According to NETA standards, what is the maximum allowed time for instruments to be in the field before requiring re-calibration?**
- A. 6 months
 - B. 12 months
 - C. 18 months
 - D. 24 months
- 9. What type of protection must an overcurrent device provide in each ungrounded service conductor?**
- A. Short-circuit protection
 - B. Ground fault protection
 - C. Overload protection
 - D. Voltage surge protection
- 10. What factor can have the greatest effect on an insulation-resistance reading?**
- A. The age of the device
 - B. The temperature of the device being tested
 - C. The type of insulation material
 - D. The humidity of the environment

Answers

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

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Explanations

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1. When a 20 MVA oil-filled transformer is tripped by the differential relay, which test is NOT typically used to determine the cause of the trip?

- A. Total combustible gas (TCG)
- B. Transformer turns ratio
- C. Frequency response analysis**
- D. Winding-resistance

The correct choice highlights that frequency response analysis is not typically used to determine the cause of a trip event in the context of a differential relay activation for an oil-filled transformer. In practice, when an oil-filled transformer trips due to differential protection, the focus is usually on understanding the immediate electrical and mechanical conditions that led to the trip. Total combustible gas analysis is crucial in diagnosing insulation failures, as gases are generated from thermal breakdowns, which are characteristic of problems in transformers. Transformer turns ratio testing helps ensure the transformer is functioning properly and can reveal problems with the windings, while winding resistance tests assess the integrity and connection of the windings. Frequency response analysis, however, is generally used to identify issues such as core problems, mechanical displacement, or other structural physical changes rather than addressing immediate operational tripping events. Therefore, while it can provide valuable information regarding the overall health of a transformer, it is not the primary method used for troubleshooting trips caused by differential relays, making it the least relevant of the four tests listed for this specific situation.

2. What common specification is likely inscribed on the outer jacket of fiber optic cable?

- A. 50/125
- B. 62.5/125**
- C. 100/200
- D. 75/150

The specification inscribed on the outer jacket of fiber optic cable often refers to the core and cladding diameters of the fiber. In this context, 62.5/125 indicates a multimode fiber optic cable with a core diameter of 62.5 micrometers and a cladding diameter of 125 micrometers. This is one of the most common specifications found in multimode fiber cables, particularly for applications that require high bandwidth over shorter distances, such as within buildings and data centers. The significance of this specification lies in its usage in legacy systems, where 62.5/125 multimode fiber was widely deployed for connecting local area networks (LANs). It supports a variety of transmission standards and is crucial for maintaining effective signal quality during data transmission. This characteristic plays a critical role in ensuring the cable's performance and compatibility with various networking equipment. In contrast, the other options represent specifications that either are not commonly used for multimode fiber optics or would suggest different applications and capabilities that are not typical for standard multimode installations.

3. Which protective measure is critical according to NFPA 70E when conducting a shock risk assessment?

- A. Distance from live parts
- B. Personal protective equipment**
- C. Training and certification of personnel
- D. Voltage testing equipment

The critical protective measure according to NFPA 70E when conducting a shock risk assessment is personal protective equipment (PPE). PPE serves as a vital layer of safety that protects workers from electric shock during activities involving exposed live parts. This equipment includes items such as insulated gloves, face shields, and arc-rated clothing designed to withstand specific electrical hazards. When assessing shock risks, it is essential to ensure that workers are adequately protected with the right level of PPE corresponding to the potential exposure. This aligns with NFPA 70E's emphasis on safety protocols to mitigate electrical hazards. Proper PPE can greatly reduce the likelihood of serious injuries in the event of accidental contact with live conductors or components. While distance from live parts, training and certification of personnel, and voltage testing equipment are all important aspects of electrical safety, they do not substitute for the immediate protection that PPE provides during operational tasks. Each component plays a role in creating a safe working environment, but the effective use of personal protective equipment is paramount to manage electrical risks directly associated with shock hazards.

4. In a three-phase motor, the speed of rotation of the magnetic field is referred to as the _____ speed.

- A. Synchronous**
- B. Asynchronous
- C. Rotational
- D. Cyclical

The speed of rotation of the magnetic field in a three-phase motor is referred to as the synchronous speed. This term is used to define the speed at which the stator's magnetic field rotates, which is directly linked to the frequency of the electrical supply and the number of poles in the motor. Synchronous speed is calculated using the formula: $N_s = \frac{120 \times f}{P}$ where N_s is the synchronous speed in RPM, f is the frequency in hertz, and P is the number of poles. This concept is fundamental in understanding the operational characteristics of three-phase motors, as it sets the theoretical maximum speed at which the motor can operate. The motor's actual speed may differ due to various factors, such as load and slip, which means that while synchronous speed provides a crucial benchmark, most motors will operate at a speed slightly less than this value when under load. The other options do not accurately describe this concept in the context of three-phase motors. Asynchronous speed refers more generally to the speed of the motor when operating under load and not the speed of the magnetic field itself. Rotational and cyclical do not specifically relate to the

5. Which characteristic is true for testing large medium-voltage motors?

- A. They exhibit high resistance and high inductance
- B. They exhibit very low resistance and low inductance**
- C. They require frequent calibration
- D. They are tested at high temperatures

Medium-voltage motors are designed to operate efficiently within specific electrical characteristics. These motors typically exhibit very low resistance due to their construction, which allows them to minimize energy loss and enhance performance. Low resistance is essential for ensuring that the motors can handle the high currents typically associated with medium-voltage applications without excessive heat generation. In addition to low resistance, these motors generally have low inductance as well, which is vital for maintaining efficient operation at the frequencies at which they run. Lower inductance helps to reduce reactance in the motor's winding, thereby contributing to better performance in terms of power factor and responsiveness. Understanding the electrical characteristics of medium-voltage motors is crucial for effective testing and maintenance. For example, testing procedures often involve measuring insulation resistance and operational parameters to ensure that the motor is functioning correctly and that there are no underlying issues affecting performance. While the other characteristics mentioned in the options, such as high resistance and inductance or a need for frequent calibration, do exist in different contexts, they are not typically associated with medium-voltage motors during testing. Therefore, the statement that medium-voltage motors exhibit very low resistance and low inductance accurately reflects the nature of these devices.

6. If the current flowing in an operating circuit must be approximately measured without interrupting the current, which type of current transformer would you recommend?

- A. Split core**
- B. Ring core
- C. Rogowski coil
- D. Current shunt

In a scenario where it is essential to measure the current flowing in a circuit without interrupting the current itself, a split core current transformer is an excellent choice. Split core transformers are designed with a hinged design allowing the core to be opened and closed around a conductor. This feature enables technicians to easily install the transformer around an existing conductor without needing to disconnect it, which is crucial for maintenance or monitoring situations in live circuits. Using a split core current transformer facilitates safe, non-intrusive measurements. This device can accurately measure alternating current (AC) levels, providing a practical solution for ongoing monitoring in energized circuits. The openness and flexibility of a split core design confer both ease of use and safety, making it ideal for scenarios where electrical isolation and convenience are priorities. Other options, such as current shunts, also provide measurement capabilities but typically require a direct connection to the circuit, which would necessitate interrupting the current flow. Ring core and Rogowski coils provide different methodologies for current sensing; however, the ring core may not offer the ease of installation seen with split cores, and Rogowski coils, while effective for varying frequency runs, may not be as straightforward in permanent installations in all scenarios. Thus, the split core current transformer stands out as the

7. For what purpose are low oil pressure, overtemperature, and overspeed tests performed on emergency generators?

- A. Regular maintenance checks
- B. Manufacturer startup verification**
- C. Routine operational testing
- D. Compliance audits

Low oil pressure, overtemperature, and overspeed tests on emergency generators serve a crucial role during the startup verification process conducted by the manufacturer. These tests are integral in ensuring that the generator operates safely and effectively under real-world conditions. When a generator is being verified post-manufacture, manufacturers check these specific conditions to confirm that the systems respond appropriately to various operational stresses. Low oil pressure tests ensure that lubrication is effectively protecting the engine from wear, overtemperature tests confirm that the generator does not overheat under load, and overspeed tests verify that the generator maintains safe RPM levels to prevent damage. Passing these tests indicates that the generator meets required performance standards before it is put into service. This verification process helps to ensure reliability and safety in emergency situations where the generator will be called upon to perform. While regular maintenance checks, routine operational testing, and compliance audits are essential for ongoing safety and functional assurance, they are generally performed after the initial manufacturer verification and do not specifically address the initial testing of system safeguards like those performed at startup.

8. According to NETA standards, what is the maximum allowed time for instruments to be in the field before requiring re-calibration?

- A. 6 months
- B. 12 months**
- C. 18 months
- D. 24 months

The standard recommending a maximum of 12 months for instruments to remain in the field before needing re-calibration is based on best practices in ensuring accuracy and reliability in measurements. Regular re-calibration is essential to maintain the integrity of the data collected by instruments, as environmental factors, wear and tear, and drift can affect their performance over time. By adhering to this 12-month guideline, organizations can ensure that their instruments provide consistent and precise results, aligning with the quality standards set by NETA. This time frame strikes a balance between operational efficiency and maintaining the accuracy of the instruments, fostering reliability in testing and inspection processes within the electrical testing and maintenance sector.

9. What type of protection must an overcurrent device provide in each ungrounded service conductor?

- A. Short-circuit protection
- B. Ground fault protection
- C. Overload protection**
- D. Voltage surge protection

Overcurrent devices are essential in electrical systems as they play a crucial role in protecting circuits from overloads, short circuits, and ground faults. The correct answer focuses on overload protection, which is specifically designed to protect conductors from conditions where the current exceeds the rated capacity for an extended period of time. When overload occurs, the circuit experiences excess current that can cause wires to heat up, potentially leading to insulation failure, fire hazards, or equipment damage. Overload protection devices, such as circuit breakers or fuses, are calibrated to detect this excessive current and interrupt the flow, effectively safeguarding the integrity of the electrical system. Other types of protection mentioned have their specific applications but do not cover the required protection for ungrounded service conductors in the same way that overload protection does. Short-circuit protection is focused on immediate high-current events that occur in fault conditions, while ground fault protection addresses issues where current leaks to the ground. Voltage surge protection involves protecting against transient voltage spikes, which is unrelated to the continuous current overload scenario in this context. Therefore, overload protection is the requisite type of protection provided by an overcurrent device for each ungrounded service conductor.

10. What factor can have the greatest effect on an insulation-resistance reading?

- A. The age of the device
- B. The temperature of the device being tested**
- C. The type of insulation material
- D. The humidity of the environment

The temperature of the device being tested significantly influences insulation resistance readings. As temperature increases, the resistance of insulating materials typically decreases, which can lead to lower insulation resistance readings. This is because higher temperatures can accelerate the thermal agitation of molecules within the insulation material, potentially making it less effective at resisting electrical current. Conversely, at lower temperatures, the insulation may exhibit higher resistance due to reduced molecular activity, which can positively impact the readings. This relationship between temperature and insulation resistance is crucial for accurately assessing the condition and reliability of electrical devices and systems. While factors like age, type of insulation material, and environmental humidity can also affect readings, temperature generally has a more pronounced and immediate impact on insulation resistance in practical testing scenarios.

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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