

NATIONAL ELECTRICAL CODE (NEC) ARTICLE 110 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. What does equipment in hazardous locations primarily ensure?**
 - A. Enhanced performance efficiency
 - B. Increased safety and compliance
 - C. Lower operational costs
 - D. Improved aesthetic value
- 2. According to NEC requirements, which surface condition should NOT be present in a working space?**
 - A. Flat surface
 - B. Level surface
 - C. Inclined surface
 - D. Uneven surface
- 3. Which of the following tasks must be performed by qualified persons when dealing with electrical equipment?**
 - A. Repairing electrical circuit boards
 - B. Testing electrical insulation
 - C. Servicing or maintenance
 - D. None of the above
- 4. What is required when servicing or maintaining electrical equipment that operates at less than 1,000V?**
 - A. Immediate shutdown of power
 - B. Use of lockout/tag-out procedures
 - C. Specialized training
 - D. Personal protective equipment
- 5. Rainproof enclosures are specifically designed to protect against which environmental condition?**
 - A. Extreme heat
 - B. Moisture and rain
 - C. Heavy wind
 - D. Radiation exposure

- 6. What is prohibited in the working space required by Section 110.26?**
- A. Temporary equipment
 - B. Storage
 - C. Tools
 - D. Personal belongings
- 7. What is a key focus of Article 110.21 regarding modifications?**
- A. Modifications must not violate safety or performance requirements
 - B. Modifications must improve the aesthetic appeal of installations
 - C. Modifications should reduce installation time
 - D. Modifications are only allowed on older equipment
- 8. Pressure terminal or pressure splicing connectors must be ____ for the material of the conductor.**
- A. Identified
 - B. Universal
 - C. Adaptable
 - D. Interchangeable
- 9. Which proactive measure is suggested for future planning of installations?**
- A. Standardization of equipment
 - B. Integration of flexible design options
 - C. Utilizing single-use installations
 - D. Maximization of installed power
- 10. What does Article 110.23 convey about the use of noncurrent-carrying parts?**
- A. They must be visually inspected for safety
 - B. They should be permanently installed
 - C. They need to be securely connected and protected
 - D. They can be flexible in their installation

Answers

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

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Explanations

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1. What does equipment in hazardous locations primarily ensure?

- A. Enhanced performance efficiency
- B. Increased safety and compliance**
- C. Lower operational costs
- D. Improved aesthetic value

Equipment in hazardous locations is primarily designed to ensure increased safety and compliance with established safety standards. This focus is critical because hazardous locations, such as those containing flammable gases, vapors, or combustible dust, pose significant risks to both personnel and property. The equipment used in these environments must adhere to strict guidelines and regulations, often outlined in the National Electrical Code (NEC) and other relevant standards. This compliance ensures that the equipment can operate safely under potentially explosive conditions, minimizing the risk of ignition sources that could lead to fires or explosions. While considerations such as performance efficiency, operational costs, and aesthetic value are important in various contexts, in hazardous locations, they take a back seat to the paramount concerns of safety and compliance. The primary goal is to protect people, property, and the environment by ensuring that all equipment functions securely and within the parameters set by regulatory agencies.

2. According to NEC requirements, which surface condition should NOT be present in a working space?

- A. Flat surface
- B. Level surface
- C. Inclined surface**
- D. Uneven surface

A working space, as defined by the National Electrical Code, is intended to provide a safe environment for electrical personnel to perform maintenance and work on electrical equipment. For this space, it is crucial that the surfaces are stable and do not present hazards that could compromise safety or work efficiency. An inclined surface could lead to instability and potential accidents, as tools and equipment may slide or roll, increasing the risk of users losing their footing or having items fall. This condition could create a workplace hazard that is not acceptable in a professional setting. In contrast, flat, level, and even surfaces provide a secure foundation for working with tools and accessing electrical systems. They reduce the likelihood of accidents and allow for proper movement and placement of equipment. Ensuring that working spaces comply with these surface conditions is part of maintaining a safe and effective work environment according to NEC requirements.

3. Which of the following tasks must be performed by qualified persons when dealing with electrical equipment?

- A. Repairing electrical circuit boards
- B. Testing electrical insulation
- C. Servicing or maintenance**
- D. None of the above

Servicing or maintenance of electrical equipment must be performed by qualified persons to ensure safety and compliance with the National Electrical Code (NEC) standards. Qualified persons possess the necessary training, expertise, and familiarity with the specific equipment and associated hazards. This ensures that they can safely identify potential risks and implement proper procedures to mitigate them while performing tasks. These individuals understand the operational principles of electrical systems and how to handle them safely, including recognizing electrical hazards and understanding the proper use of protective equipment. Therefore, when it comes to servicing or maintaining electrical equipment, having a knowledgeable and skilled individual to carry out these tasks is crucial for safeguarding both personnel and property. While tasks such as repairing electrical circuit boards and testing electrical insulation may also require a skilled hand, they are not as universally mandated to be performed only by qualified persons unless specified for particular circumstances or equipment. Thus, the focus on servicing and maintenance underscores critical safety requirements in the NEC.

4. What is required when servicing or maintaining electrical equipment that operates at less than 1,000V?

- A. Immediate shutdown of power
- B. Use of lockout/tag-out procedures
- C. Specialized training**
- D. Personal protective equipment

When servicing or maintaining electrical equipment that operates at less than 1,000V, the requirements laid out in the National Electrical Code emphasize the importance of safety and proper procedures. While various measures like immediate shutdown of power, use of lockout/tag-out procedures, and appropriate personal protective equipment are crucial in ensuring the safety of workers, specialized training is the foundation that enables personnel to understand these practices and apply them correctly. Specialized training equips individuals with the necessary skills to identify potential hazards, understand the operating principles of the electrical equipment, and engage in safe work practices. It addresses various aspects, such as understanding voltage levels, recognizing live parts, and the implications of working on energized systems, even at lower voltages. Without this foundational knowledge, individuals may not adequately follow safety procedures or accurately assess the risks involved. While the other options relate to safety practices that are certainly important for protecting workers, they are contingent upon the personnel having received proper training first. This highlights why specialized training is a critical requirement in any maintenance or service-related task involving electrical equipment.

5. Rainproof enclosures are specifically designed to protect against which environmental condition?

- A. Extreme heat
- B. Moisture and rain**
- C. Heavy wind
- D. Radiation exposure

Rainproof enclosures are specifically engineered to safeguard electrical components from moisture and rain. These enclosures provide a barrier that prevents water from entering, thereby protecting sensitive electrical equipment from corrosion, short circuits, and other damage that moisture can cause. They are typically rated for their ability to withstand certain levels of moisture ingress, following standards set by testing organizations. While extreme heat, heavy wind, and radiation exposure may necessitate additional protection measures, such elements are not the primary focus of rainproof enclosures. Instead, the design of these enclosures emphasizes creating a watertight seal that effectively guards against rain and other forms of moisture, ensuring that electrical installations remain safe and operational in wet conditions. This makes them essential for outdoor installations or locations where exposure to water is likely.

6. What is prohibited in the working space required by Section 110.26?

- A. Temporary equipment
- B. Storage**
- C. Tools
- D. Personal belongings

In the context of Section 110.26 of the National Electrical Code (NEC), the regulations surrounding the working space around electrical equipment are designed to ensure safety and accessibility. The prohibition on storage within this working space is significant because it allows for unimpeded access to electrical equipment for maintenance, operation, and emergency response. An unobstructed working space minimizes the risk of accidents and injuries that could arise if tools, personal belongings, or other items were to interfere with the operation or servicing of electrical equipment. The primary focus of this requirement is to enhance safety by preventing potential hazards related to clutter or obstructions. It ensures that there is enough room for safe operation, which can be critical in preventing electrocution or equipment failure during maintenance activities. Therefore, the emphasis on keeping the working space free of storage aligns with the NEC's overarching goal of preserving electrical safety and providing a reliable working environment for electrical professionals.

7. What is a key focus of Article 110.21 regarding modifications?

- A. Modifications must not violate safety or performance requirements**
- B. Modifications must improve the aesthetic appeal of installations
- C. Modifications should reduce installation time
- D. Modifications are only allowed on older equipment

A key focus of Article 110.21 is indeed that modifications must not violate safety or performance requirements. This article emphasizes that any changes made to electrical installations should uphold safety standards, ensuring that the system remains compliant with the National Electrical Code and reliable in its operations. Maintaining safety and performance is paramount, as any modifications that compromise these aspects could lead to hazardous situations, such as electrical fires or equipment failures. In contrast, while improving aesthetic appeal, reducing installation time, or limiting modifications to older equipment may have practical benefits or considerations in some contexts, they do not align with the primary intent of Article 110.21. The article explicitly prioritizes safety and performance over these other factors, reinforcing the fundamental principle that the integrity and safety of electrical installations must always come first.

8. Pressure terminal or pressure splicing connectors must be ____ for the material of the conductor.

A. Identified

B. Universal

C. Adaptable

D. Interchangeable

The requirement for pressure terminal or pressure splicing connectors to be identified for the material of the conductor ensures that the connectors are suitable for the specific type of conductor material being used, such as copper or aluminum. This is crucial because different materials have varying electrical and thermal properties that affect the performance and safety of the connection. Correct identification guarantees the integrity of the electrical connection, minimizes the risk of overheating, and prevents potential failures that could arise from using an incompatible connector. For instance, a connector designed for copper may not provide a proper connection when used with aluminum conductors due to differing expansion rates and conductivity levels. By requiring that connectors be appropriately identified per the conductor material, the NEC aims to promote safe and reliable electrical installations, reducing the likelihood of accidents or electrical failures.

9. Which proactive measure is suggested for future planning of installations?

A. Standardization of equipment

B. Integration of flexible design options

C. Utilizing single-use installations

D. Maximization of installed power

The integration of flexible design options is a proactive measure recommended for future planning of installations because it allows electrical systems to adapt to changing needs and technologies over time. Flexible design ensures that installations can easily accommodate upgrades or modifications, thus providing greater longevity and resource efficiency. This approach helps in anticipating future demands and reduces the need for extensive redesign or replacement of existing systems as technology evolves or as users' requirements change. Choosing flexible design options fosters a proactive mindset, enabling installers to plan for the unforeseen challenges and shifts in use cases that are common in the fast-evolving world of electrical systems. It supports maximization of the infrastructure investment by allowing adjustments and expansions without needing to dismantle existing frameworks, thereby promoting sustainability and efficiency in design and implementation.

10. What does Article 110.23 convey about the use of noncurrent-carrying parts?

- A. They must be visually inspected for safety
- B. They should be permanently installed
- C. They need to be securely connected and protected**
- D. They can be flexible in their installation

Article 110.23 of the National Electrical Code (NEC) emphasizes the necessity for noncurrent-carrying parts to be securely connected and protected. This is important because noncurrent-carrying components, such as equipment enclosures, covers, and frames, play a critical role in ensuring the safety and reliability of electrical installations. When these parts are not securely connected, they can become a source of electrical hazards, such as unintended contact with live parts or mechanical failure, leading to potential shocks or short circuits. By ensuring that noncurrent-carrying parts are securely connected, it limits movement that might expose conductive components and protects against environmental factors that could lead to deterioration or damage. Proper protection—whether through grounding or appropriate barriers—further safeguards individuals from electrical hazards, maintaining the integrity of the installation. While visual inspections are a good safety practice, they alone do not fulfill the specific regulatory requirements set forth by the NEC for secure connections and protection mechanisms. Permanently installing these parts is beneficial but does not inherently address the need for secure connections and protection. Flexibility in installation could lead to unsafe practices if these noncurrent-carrying parts are not systematically secured, ultimately increasing the risk of unsafe conditions. Hence, the focus on secure connections and

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://necarticle110.examzify.com>

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

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