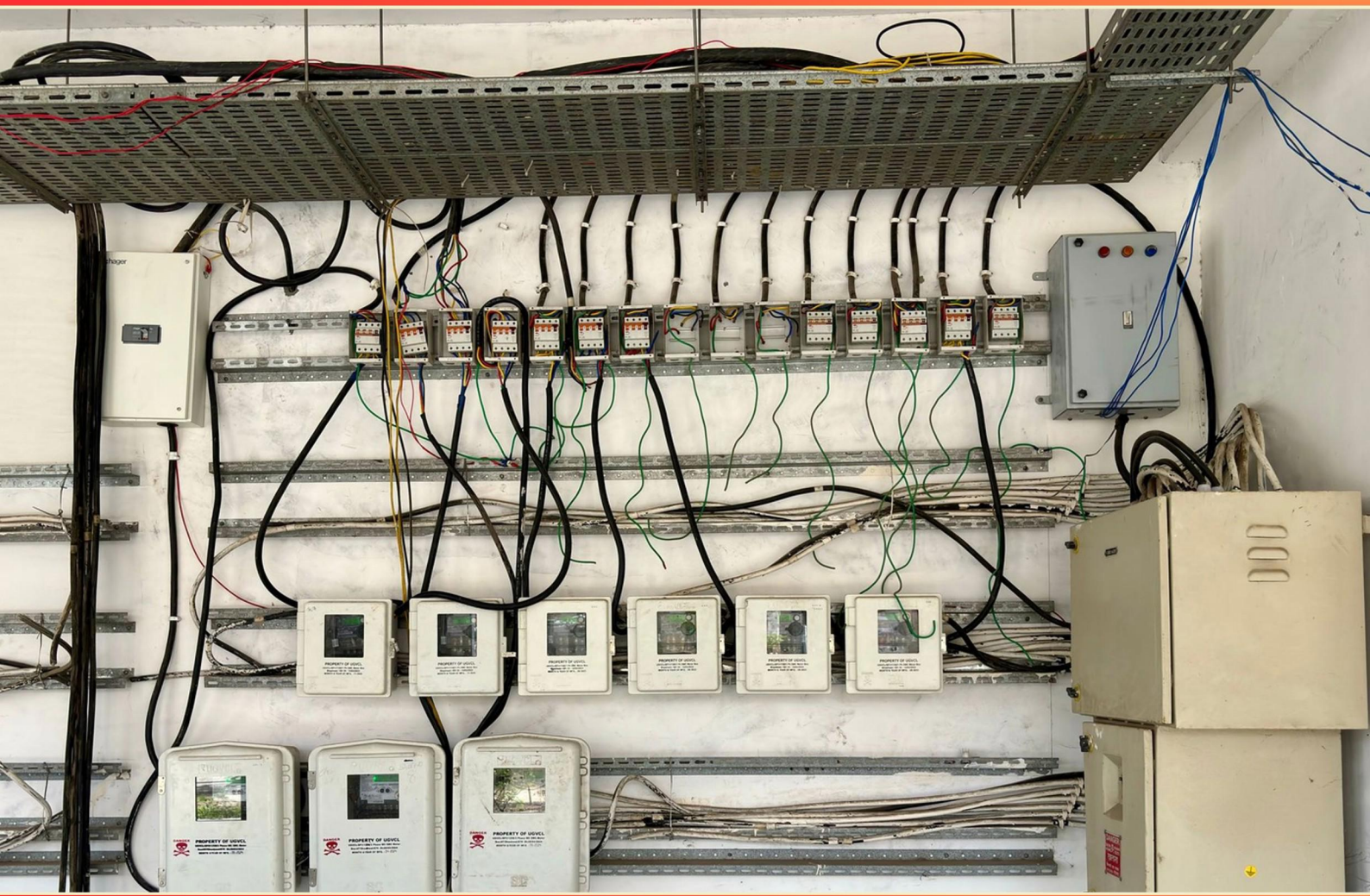
JOURNEYMAN ELECTRICIAN PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Table of Contents

Copyright 1

Table of Contents 2

Introduction 3

How to Use This Guide 4

Questions 5

Answers 8

Explanations 10

Next Steps 16

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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. **When a size 4 AWG or larger insulated conductor enters a panelboard, what must be provided?**

   A. An insulated bushing

   B. A grounded connection

   C. A conduit body

   D. A junction box

2. **For 3-phase, 277/480 volt, wye-connected electrical services, ground-fault protection is required when rated at which amperage or more?**

   A. 500 amperes

   B. 750 amperes

   C. 1000 amperes

   D. 1500 amperes

3. **Which type of cable has an overall covering that is resistant to fungus?**

   A. Type NM

   B. Type NMC

   C. Type UF

   D. Type MC

4. **What is the minimum standard size of fuses permitted for overcurrent protection on a service disconnecting means in a small office building with combined loads of 28,400 VA?**

   A. 100 amperes

   B. 125 amperes

   C. 150 amperes

   D. 200 amperes

5. **Where is nonmetallic sheathed cable permitted to be used?**

   A. In single-family homes only

   B. In commercial buildings

   C. In multi-family dwellings of Type III, IV, and V construction

   D. In all electrical installations

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6. What is the purpose of underground burial requirements for residential branch circuits?

A. Safety from physical damage

B. Protection from voltage fluctuations

C. Improving signal quality

D. Cost reduction

7. What is the minimum length a pull box must be when handling conductors of size 4 AWG and larger?

A. 4 times the trade diameter of the largest conduit

B. 6 times the trade diameter of the largest conduit

C. 8 times the trade diameter of the largest conduit

D. 10 times the trade diameter of the largest conduit

8. In personnel doors intended for exit from an equipment room housing electrical equipment, what is required for doors if the equipment is rated 800 amperes or more?

A. Doors must close automatically

B. They must open inward

C. They must open in the direction of egress

D. They can swing freely

9. Isolating devices for solar photovoltaic systems must be installed within how many feet of the equipment?

A. 5 feet

B. 10 feet

C. 15 feet

D. 20 feet

10. What is the maximum allowable ambient temperature for a copper conductor in this context?

A. 76°F

B. 86°F

C. 96°F

D. 106°F

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Answers

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

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Explanations

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1. When a size 4 AWG or larger insulated conductor enters a panelboard, what must be provided?

A. An insulated bushing

B. A grounded connection

C. A conduit body

D. A junction box

When a size 4 AWG or larger insulated conductor enters a panelboard, the requirement is for an insulated bushing. This is essential in order to protect the insulation of the conductor from damage as it passes through the panelboard's knockout. An insulated bushing provides a smooth surface for the conductor to make contact with, minimizing the risk of abrasion or wear on the insulation. This helps ensure the safety and longevity of the electrical installation. While the other options may relate to various aspects of electrical installations, they do not address the specific requirement regarding the protection of conductors entering a panelboard like an insulated bushing does. Grounded connections, conduit bodies, and junction boxes each serve specific purposes in electrical systems but are not mandated purely for the entry of large insulated conductors into a panelboard.

2. For 3-phase, 277/480 volt, wye-connected electrical services, ground-fault protection is required when rated at which amperage or more?

A. 500 amperes

B. 750 amperes

C. 1000 amperes

D. 1500 amperes

Ground-fault protection is a critical safety requirement for electrical systems, particularly for 3-phase, 277/480 volt, wye-connected services. According to the National Electrical Code (NEC), ground-fault protection is mandated for larger electrical services to help prevent possible hazards due to ground faults, which can lead to equipment damage or electrical fires. In the case of the 3-phase, 277/480 volt, wye-connected electrical services, ground-fault protection specifically becomes a requirement for services rated at 1000 amperes or more. This threshold is in place because the risk associated with electrical faults increases as the amperage rating of the service increases, so implementing ground-fault protection at this level helps ensure adequate safety measures are in place to detect and interrupt ground faults. Services rated below this amperage, while still in need of protective measures, do not require the same level of specific ground-fault protection protocols stipulated by the NEC. As such, 1000 amperes is the correct choice based on those regulatory requirements, ensuring that electrical systems operate safely and efficiently while minimizing the risk of accidents.

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3. Which type of cable has an overall covering that is resistant to fungus?

A. Type NM

B. Type NMC

C. Type UF

D. Type MC

Type NMC cable is specifically designed with characteristics that offer resistance to moisture and fungus, making it suitable for use in environments where exposure to dampness or potential fungal growth may occur. The overall covering of Type NMC includes a thick thermoplastic jacket that helps protect the internal conductors from environmental factors, including humidity and organic degeneration. In contrast, Type NM (Non-Metallic Sheathed Cable) is generally intended for dry locations and does not possess the same level of moisture resistance, making it less suitable for environments prone to fungal growth. Type UF (Underground Feeder) cable is also moisture-resistant and can be used in wet locations, but it does not have the same specific protective properties against fungus as NMC. Type MC (Metal-Clad) cable provides mechanical protection and is suitable for various applications but does not have the same insulation features aimed directly at combating fungus. Thus, Type NMC cable's unique construction and intended usage make it the ideal choice for environments where fungal resistance is a critical requirement. This specialization helps ensure longer-lasting performance and reliability in challenging conditions.

4. What is the minimum standard size of fuses permitted for overcurrent protection on a service disconnecting means in a small office building with combined loads of 28,400 VA?

A. 100 amperes

B. 125 amperes

C. 150 amperes

D. 200 amperes

To determine the minimum standard size of fuses for overcurrent protection on a service disconnecting means, it's essential to take into account the combined loads of the building, which in this case is 28,400 VA. First, we need to convert the volt-amperes (VA) to amperes, using the relationship that current (in amperes) is equal to the load (in VA) divided by the voltage (in volts). Assuming the building operates at a typical service voltage of 120/240 volts, the calculation would be as follows for a single-phase system: For 240V: Current (I) = Power (VA) / Voltage (V) I = 28,400 VA / 240 V I ≈ 118.33 A This result indicates that the minimum overcurrent protection must be greater than or equal to approximately 118.33 amperes to safely handle the load without tripping. In general, fuses come in standardized sizes, and the next standard size above 118.33 amperes would be 125 amperes. This signifies that choosing a fuse size of 125 amperes ensures reliable service disconnecting while allowing some margin above the calculated load. It is important to

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5. Where is nonmetallic sheathed cable permitted to be used?

A. In single-family homes only

B. In commercial buildings

C. In multi-family dwellings of Type III, IV, and V construction

D. In all electrical installations

Nonmetallic sheathed cable, commonly known as NM cable or Romex, is specifically designed for use in residential and certain types of multifamily structures. It is permitted in multi-family dwellings of Type III, IV, and V construction because these building types adhere to specific safety standards and building codes that accommodate nonmetallic cable systems. In Type III construction, for example, the structural framing consists of noncombustible materials like steel or masonry with interior elements made of wood or similar combustible materials. This allows for the use of NM cable while ensuring fire safety and compliance with electrical codes. Types IV and V, often seen in wood frame construction, further support the use of NM cable due to their similar fire-resistant properties. Using nonmetallic sheathed cable is advantageous because it is lightweight, easy to install, and offers excellent insulation properties. However, it does not meet the requirements for certain high-risk environments, such as commercial buildings or in areas with specific fire codes, where more robust wiring systems might be mandated. Hence, its use in multi-family dwellings of Types III, IV, and V construction strikes a balance between practicality and compliance with safety standards in applicable residential contexts.

6. What is the purpose of underground burial requirements for residential branch circuits?

A. Safety from physical damage

B. Protection from voltage fluctuations

C. Improving signal quality

D. Cost reduction

The purpose of underground burial requirements for residential branch circuits primarily focuses on safety from physical damage. When electrical conductors are buried underground, they are less susceptible to physical impacts that can occur from outdoor activities or environmental conditions, such as severe weather or construction activities. This requirement is established to minimize the risk of accidental damage to electrical wires, which could lead to shorts, fires, or electric shock hazards. By placing the circuits underground, electricians can ensure the integrity of the wiring system, thus enhancing the overall safety of the electrical installation in residential areas. This reflects a fundamental principle in electrical work: prioritizing safety while minimizing risks associated with exposed wiring. The other options do not directly address the primary concern of protecting electrical infrastructure from external threats.

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7. What is the minimum length a pull box must be when handling conductors of size 4 AWG and larger?

A. 4 times the trade diameter of the largest conduit

B. 6 times the trade diameter of the largest conduit

C. 8 times the trade diameter of the largest conduit

D. 10 times the trade diameter of the largest conduit

The correct choice is based on the National Electrical Code (NEC), which specifies requirements for pull boxes used in electrical installations to ensure safe and efficient wire pulling. When handling conductors of size 4 AWG and larger, the NEC mandates that the pull box must have a minimum length that is 8 times the trade diameter of the largest conduit entering the box. This requirement exists to provide adequate space for conductors to be pulled around bends without undue stress or damage. The extra length accommodates the bending radius of the conductors, ensuring that the installation remains compliant with industry standards and best practices. In situations involving larger conductors, failing to meet this minimum length can lead to difficult pulls, potential damage to the conductors, and a compromised electrical system. Therefore, adhering to this regulation is crucial for both safety and functionality in electrical installations.

8. In personnel doors intended for exit from an equipment room housing electrical equipment, what is required for doors if the equipment is rated 800 amperes or more?

A. Doors must close automatically

B. They must open inward

C. They must open in the direction of egress

D. They can swing freely

The requirement for doors in personnel exits from equipment rooms housing electrical equipment rated at 800 amperes or more is that they must open in the direction of egress. This is primarily for safety reasons. When there is a need to exit quickly, especially in the case of an emergency or when panic may occur, it is crucial that doors open in the direction of the exit route, allowing for a more efficient and unimpeded escape. This considerations addresses the potential hazards that might be present in such high-capacity environments, where the risk of electrical fires, equipment failure, or other hazards may necessitate a rapid departure from the space. By ensuring doors open outward, against the path of egress, it also prevents blockage in case of an emergency where multiple personnel may need to evacuate simultaneously. Overall, this requirement enhances safety measures within electrical equipment rooms and is aligned with building codes and safety standards focused on minimizing risks during emergencies.

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9. Isolating devices for solar photovoltaic systems must be installed within how many feet of the equipment?

A. 5 feet

B. 10 feet

C. 15 feet

D. 20 feet

The requirement for isolating devices for solar photovoltaic systems to be installed within 10 feet of the equipment is grounded in safety and accessibility standards. This distance ensures that the isolating device can be easily accessed in an emergency situation, allowing for quick disconnection of power. Additionally, situating the device within this range reduces the risk of electrical hazards by ensuring that maintenance personnel can safely work on the solar photovoltaic system without having to traverse long distances, which could place them in danger. This proximity not only aids in the effectiveness of operational procedures but also plays a critical role in compliance with regulations and electrical codes designed to enhance safety and reliability in solar energy systems. Being too far from the equipment could hinder rapid responses to issues, making the installation of isolating devices within 10 feet essential for optimal safety and operational efficiency.

10. What is the maximum allowable ambient temperature for a copper conductor in this context?

A. 76°F

B. 86°F

C. 96°F

D. 106°F

The maximum allowable ambient temperature for a copper conductor is critical to ensure safe and efficient operation in electrical systems. This temperature is defined based on the insulation type and the gauge of the wire being used, as it directly impacts the conductor's ability to carry current without overheating. In this context, 86°F is typically recognized as the standard ambient temperature limit for many copper conductor applications. This limit ensures that the conductors can operate safely without exceeding their thermal limits, which could lead to insulation degradation or even failure, posing risks of electrical hazards. Knowing this limit helps electricians to select appropriate conductor sizes, insulation types, and ensure proper installation methods that abide by local electrical codes and standards. Electricians must take into account not only the maximum ambient temperature but also factors such as the duration of exposure to that temperature and any additional heat generated by current flowing through the conductors. This understanding contributes significantly to maintaining system reliability and safety.

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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://journeymanelectrician.examzify.com

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

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