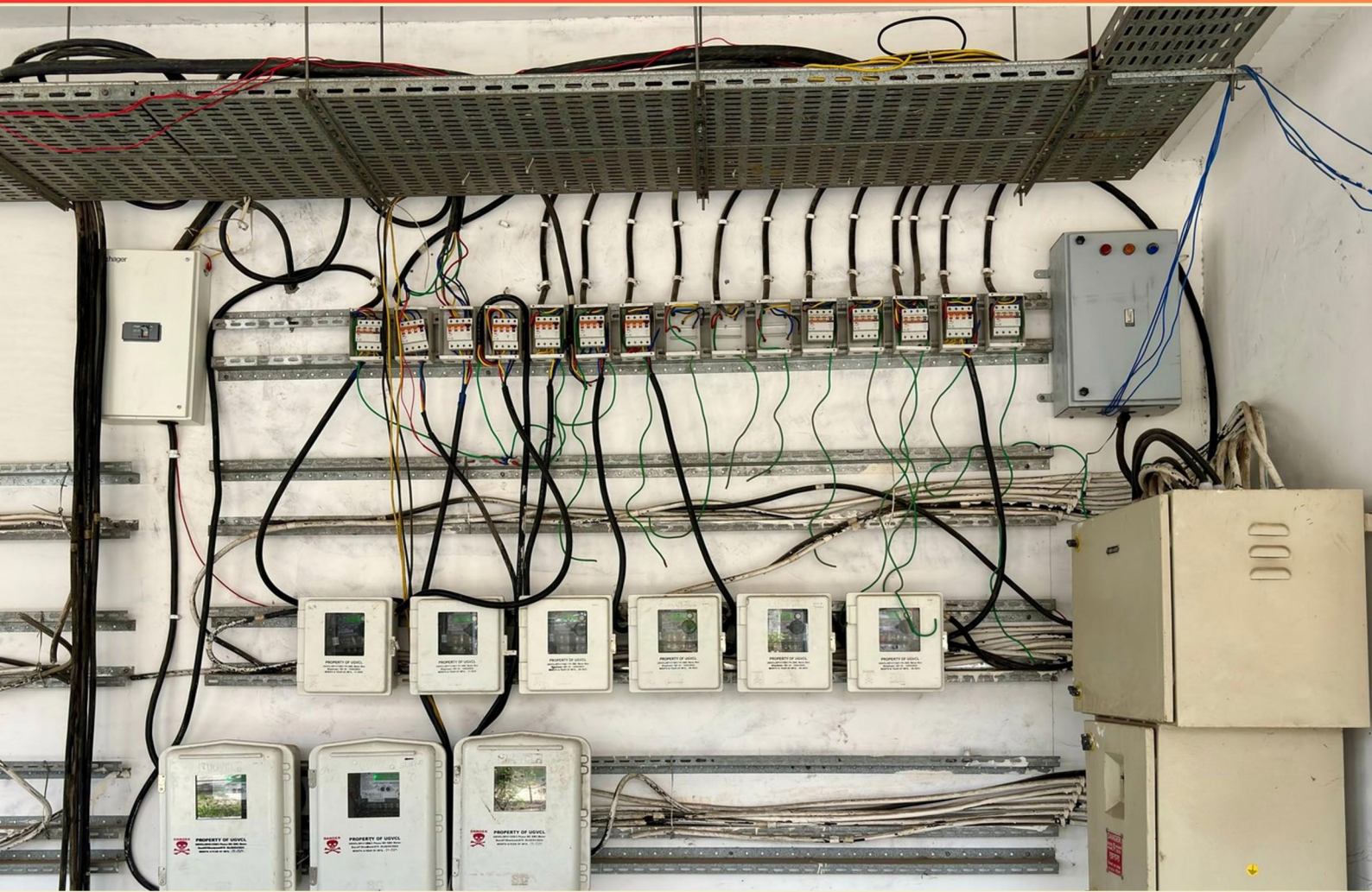


JOURNEYMAN ELECTRICIAN PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
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 type of receptacles must be listed for wet locations?**
 - A. Heavy-duty
 - B. Weather-resistant
 - C. Standard duty
 - D. Industrial grade
- 2. What measurement is key to assessing the safe use of conductors in high-temperature areas such as attics?**
 - A. Voltage rating
 - B. Ampacity
 - C. Insulation type
 - D. Conductor size
- 3. What is the maximum number of size 1 AWG XHHW compact conductors allowed in a 3-inch Schedule 40 rigid PVC conduit?**
 - A. 15
 - B. 18
 - C. 21
 - D. 24
- 4. What must happen when an overcurrent protective device is used for a surge-protective device?**
 - A. It must be upgraded annually
 - B. It must be removed from service completely
 - C. It is not considered a service disconnect
 - D. It requires additional fuses
- 5. What is the maximum allowable rung spacing for 1/0 AWG through 4/0 AWG cables in a ladder-type cable tray?**
 - A. 6 inches
 - B. 7 inches
 - C. 8 inches
 - D. 9 inches

- 6. A 125-volt receptacle outlet for a central vacuum assembly in an attached garage must have which of the following?**
- A. No protection
 - B. Standard fuse protection
 - C. GFCI protection
 - D. Surge protection
- 7. In a junction box with a volume of 27 cubic inches and six size 12 AWG wires, what is the maximum number of size 10 AWG conductors that can be added?**
- A. 3
 - B. 4
 - C. 5
 - D. 6
- 8. What condition must be met for motor control circuits to be disconnected from all sources of supply?**
- A. When the circuit is damaged
 - B. When the disconnecting means is in the open position
 - C. When the maintenance personnel are present
 - D. When the motor is locked out
- 9. According to the NEC®, what is the minimum computed load for a branch circuit supplying an exterior electric sign?**
- A. 800 volt amperes
 - B. 1,000 volt amperes
 - C. 1,200 volt amperes
 - D. 1,500 volt amperes
- 10. For wiring in wet locations, which conductor insulation type is preferred?**
- A. THW
 - B. THHN
 - C. NM
 - D. UF

Answers

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

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Explanations

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1. What type of receptacles must be listed for wet locations?

- A. Heavy-duty
- B. Weather-resistant**
- C. Standard duty
- D. Industrial grade

Weather-resistant receptacles are specifically designed and tested to withstand the conditions found in wet locations. These receptacles feature enhanced sealing and materials that make them suitable for outdoor use or in areas where moisture exposure is a concern. They provide a critical layer of safety and durability, preventing electrical failure and reducing the risk of shock or fire hazards in environments subject to rain, splashes, or other moisture. Heavy-duty and industrial-grade receptacles, while robust and intended for rigorous applications, are not specifically defined for wet locations; they focus more on the capacity to handle higher currents or mechanical stress rather than moisture resistance. Standard duty receptacles also do not have the necessary protections against wet conditions and may fail or pose hazards when used improperly in such environments. Therefore, only weather-resistant receptacles meet the stringent requirements necessary for maintaining safety and functionality in wet locations.

2. What measurement is key to assessing the safe use of conductors in high-temperature areas such as attics?

- A. Voltage rating
- B. Ampacity**
- C. Insulation type
- D. Conductor size

Ampacity is a crucial measurement when assessing the safe use of conductors in high-temperature areas like attics. It refers to the maximum amount of electric current a conductor or device can carry before its temperature rises to an unacceptable level. In environments with elevated temperatures, such as attics, the ampacity of conductors may be significantly affected. Conductors in these areas can experience added heat from ambient conditions, which can reduce their capacity to safely carry current without overheating. Understanding and adhering to ampacity ratings specific to temperature conditions ensures that the wiring systems remain reliable and safe. Therefore, when conducting installations in climates or spaces where high temperatures are expected, it is essential to consider the ampacity to prevent potential overheating, which can lead to conductor damage or even fire hazards. In contrast, while voltage rating, insulation type, and conductor size are important factors in electrical system design and safety, they do not directly address how much current the conductor can safely handle in high-temperature environments.

3. What is the maximum number of size 1 AWG XHHW compact conductors allowed in a 3-inch Schedule 40 rigid PVC conduit?

- A. 15
- B. 18
- C. 21**
- D. 24

The correct answer is based on the National Electrical Code (NEC) guidelines for conduit fill, which specify the maximum number of conductors that can safely fit within a given conduit size. For nonmetallic conduits such as Schedule 40 PVC, the allowable fill for size 1 AWG XHHW compact conductors must be calculated based on the conduit's internal diameter and the cross-sectional area of the conductors. Specifically, for a 3-inch Schedule 40 PVC conduit, the NEC references indicate a specific maximum fill percentage that ensures safety and performance, preventing overheating and allowing for heat dissipation. The limit of 40% for conductors that are not considered to be larger than a certain percentage of the conduit diameter is typically applied. When applying the NEC's calculations for conduit fill, it has been established that you can fit up to 24 conductors of size 1 AWG XHHW into the 3-inch Schedule 40 PVC conduit without risking overcrowding, which can lead to heat buildup and potentially hazardous conditions. Thus, given these considerations, the maximum number of size 1 AWG XHHW compact conductors allowed in a 3-inch Schedule 40 rigid PVC conduit is correctly identified as

4. What must happen when an overcurrent protective device is used for a surge-protective device?

- A. It must be upgraded annually
- B. It must be removed from service completely
- C. It is not considered a service disconnect**
- D. It requires additional fuses

When utilizing an overcurrent protective device in conjunction with a surge protective device, it is important to note that the surge protective device does not function as a service disconnect. The primary role of an overcurrent protective device, such as a circuit breaker, is to disconnect the electrical circuit in the event of excessive current, which protects the wiring and equipment from damage. However, the surge protective device is designed to divert or clamp excess voltage from surges, such as those caused by lightning strikes or other sudden electrical spikes, without necessarily disconnecting the supply. This distinction highlights that while both devices serve critical safety roles, the surge protective device is primarily there to manage transient voltage events and does not disconnect power under normal operating conditions. Thus, it remains connected even when the overcurrent protective device is in operation, reinforcing that it is not considered a service disconnect. This understanding is essential for electricians to ensure proper applications and compliance with safety standards.

5. What is the maximum allowable rung spacing for 1/0 AWG through 4/0 AWG cables in a ladder-type cable tray?

- A. 6 inches
- B. 7 inches
- C. 8 inches
- D. 9 inches**

The maximum allowable rung spacing for 1/0 AWG through 4/0 AWG cables in a ladder-type cable tray is 9 inches. This spacing is established to ensure proper support and protection for the cables, preventing sagging and providing a stable arrangement that minimizes the risk of damage to the insulation and overall integrity of the cables. Maintaining this spacing helps with ventilation and heat dissipation as well, which is crucial for the safe operation of electrical systems. By adhering to the 9-inch requirement, installers can ensure compliance with safety standards and best practices in cable management.

6. A 125-volt receptacle outlet for a central vacuum assembly in an attached garage must have which of the following?

- A. No protection
- B. Standard fuse protection
- C. GFCI protection**
- D. Surge protection

A 125-volt receptacle outlet for a central vacuum assembly in an attached garage must have GFCI protection to ensure safety. This requirement is in line with the National Electrical Code (NEC), which mandates that any receptacle outlet located in areas where water may be present, such as garages, must be protected by a Ground Fault Circuit Interrupter (GFCI). GFCIs are designed to detect ground faults, which occur when there is a leakage of current to the earth, potentially causing electric shock. In a garage setting, where the risk of exposure to water is higher, GFCI protection is crucial to minimize the chance of electrical hazards. While standard fuse protection, surge protection, and no protection may offer certain levels of safety in other contexts, they do not specifically address the unique dangers associated with an environment like a garage, where the availability of moisture significantly raises the risk of electrical shock. Hence, GFCI protection is the essential safety measure for this type of installation.

7. In a junction box with a volume of 27 cubic inches and six size 12 AWG wires, what is the maximum number of size 10 AWG conductors that can be added?

- A. 3
- B. 4
- C. 5**
- D. 6

To determine the maximum number of size 10 AWG conductors that can be added to a junction box with a volume of 27 cubic inches, we first need to consider the box fill calculations based on the National Electrical Code (NEC) guidelines. In electrical installations, each conductor occupies a certain volume in the box. For size 12 AWG conductors, each one counts as 2 cubic inches. Since there are six size 12 AWG wires in the junction box, they will occupy a total of 12 cubic inches (6 conductors x 2 cubic inches each). Next, we need to evaluate how much volume is still available in the junction box after accounting for the existing wires. The junction box has a total volume of 27 cubic inches, and with 12 cubic inches already occupied by the size 12 AWG conductors, there are 15 cubic inches remaining for additional wires (27 cubic inches - 12 cubic inches). Size 10 AWG conductors occupy a larger volume; each one counts as 2.25 cubic inches according to the NEC. To determine how many size 10 conductors can fit in the remaining space, we divide the available volume by the volume occupied by each size 10

8. What condition must be met for motor control circuits to be disconnected from all sources of supply?

- A. When the circuit is damaged
- B. When the disconnecting means is in the open position**
- C. When the maintenance personnel are present
- D. When the motor is locked out

The requirement for motor control circuits to be disconnected from all sources of supply is met when the disconnecting means is in the open position. This action ensures that there is no electrical energy delivered to the motor or its control circuits, effectively making it safe for maintenance or inspection. When the disconnecting means is open, it signifies that the supply circuit is completely interrupted, preventing any possibility of accidental energization. This is a fundamental safety measure in electrical work, as it protects technicians and maintenance personnel from electric shock while performing their tasks on the motor or associated controls. Other conditions, such as the circuit being damaged or personnel presence, do not inherently guarantee that the entire circuit is de-energized. Locking out a motor is an important safety protocol, but it specifically applies to ensuring that the motor cannot be turned on without removing the lockout, which is often accompanied by properly opening the disconnect switch. Thus, the open position of the disconnecting means is the definitive condition that isolates the motor control circuit from the electrical supply.

9. According to the NEC®, what is the minimum computed load for a branch circuit supplying an exterior electric sign?

- A. 800 volt amperes
- B. 1,000 volt amperes
- C. 1,200 volt amperes**
- D. 1,500 volt amperes

The minimum computed load for a branch circuit supplying an exterior electric sign is set at 1,200 volt-amperes as per the National Electrical Code (NEC®). This specification is crucial because it establishes a baseline for the electrical capacity that must be provided to ensure safe and effective operation of exterior electric signs, which may have varying power requirements based on size and visibility needs. The NEC aims to promote safety and reliability in electrical installations, and by setting this minimum load, it ensures that branch circuits can handle the demands of electric signs without overloading or risking failure. This is especially important in outdoor settings where environmental factors can impact performance. Understanding this requirement is vital for electricians when designing and installing circuits for exterior signage, as it aids in preventing potential electrical hazards and ensures compliance with national safety standards.

10. For wiring in wet locations, which conductor insulation type is preferred?

- A. THW**
- B. THHN
- C. NM
- D. UF

The preferred conductor insulation type for wiring in wet locations is THW. This is because THW insulation is specifically designed to withstand moisture and is rated for use in wet and damp environments. It has good water resistance and can maintain its protective qualities even in conditions where it is subject to direct exposure to water. In contrast, THHN is not suitable for wet locations, as it is designed primarily for dry environments and has a thermoplastic outer coating that may not hold up well under moisture. NM (Non-Metallic) cable is also not appropriate for wet locations because it is intended for dry, indoor use only and can suffer damage when exposed to moisture. UF (Underground Feeder) cable, while it can be used outdoors, is generally designed for direct burial and may not have the same level of moisture resistance as THW in certain applications. Thus, for wiring specifically in wet areas, THW is the optimal choice.

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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