

New Mexico Journeyman Low Voltage Special Systems (ES-3J) 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

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- 1. What is the maximum voltage that coax cable can carry?**
 - A. 30 Volts**
 - B. 45 Volts**
 - C. 60 Volts**
 - D. 90 Volts**
- 2. Which wiring method is suitable for underfloor wiring in a computer room?**
 - A. Flexible conduit**
 - B. Electrical metallic tubing**
 - C. All of the above**
 - D. Open wiring**
- 3. At what minimum height can utility-owned low-voltage communication cables pass directly over a pool?**
 - A. 5 feet**
 - B. 8 feet**
 - C. 10 feet**
 - D. 12 feet**
- 4. In surface metal raceways without removable covers, where are splices allowed in conductors?**
 - A. In any accessible location**
 - B. Only in junction boxes**
 - C. In boxes or junction boxes**
 - D. Nowhere, splices are not allowed**
- 5. What is the minimum voltage rating for Type FPL cable used in a fire panel?**
 - A. 150 Volts**
 - B. 300 Volts**
 - C. 450 Volts**
 - D. 600 Volts**

6. Which practice helps ensure safety in working spaces above service equipment?

- A. Providing sufficient lighting**
- B. Minimizing obstructions**
- C. Using non-conductive materials**
- D. Installing warning signs**

7. Where is Type CMUC communications wire allowed to be installed?

- A. Outside walls**
- B. Under carpet**
- C. In ceilings**
- D. In basements**

8. What color must insulated conductors of number 6 or smaller be if intended for use as ground conductors?

- A. Green, Yellow, or Orange**
- B. White, Gray, or three white stripes on other than green**
- C. Red, Blue, or Black**
- D. Brown, Purple, or Tan**

9. According to the NEC, a Continuous Load is defined as equipment operating at a maximum load for how many hours?

- A. 1 hour**
- B. 2 hours**
- C. 3 hours**
- D. 4 hours**

10. Where should a smoke detector be installed to automatically close a double doorway in response to smoke?

- A. On the wall adjacent to the doorway**
- B. On the centerline of a doorway**
- C. On the ceiling above the doorway**
- D. Near the exit sign of the doorway**

Answers

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

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Explanations

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1. What is the maximum voltage that coax cable can carry?

- A. 30 Volts
- B. 45 Volts
- C. 60 Volts**
- D. 90 Volts

Coaxial cables are designed to transmit radio frequency signals and can also carry a certain amount of voltage depending on the cable construction and application. The maximum voltage that a typical coaxial cable can safely carry is often around 60 volts. This specification ensures that the insulation materials and cable design can handle the electrical stress without degradation or breakdown. In practice, coaxial cables are used in various low-voltage applications, such as video, data, and audio transmission. Going beyond this voltage rating can result in potential hazards, including insulation failure or signal distortion, which is why it's crucial to adhere to the rated voltage for safety and performance reasons. This is why the choice indicating that 60 volts is the maximum voltage a coax cable can carry is correct, as it's aligned with standard industry specifications for coaxial cable usage.

2. Which wiring method is suitable for underfloor wiring in a computer room?

- A. Flexible conduit
- B. Electrical metallic tubing
- C. All of the above**
- D. Open wiring

The selection of the suitable wiring method for underfloor wiring in a computer room is crucial for ensuring safety and performance. Flexible conduit and electrical metallic tubing both offer unique benefits that make them appropriate choices for this specific environment. Flexible conduit provides the ability to easily route wires around obstacles typically found in underfloor spaces. Its flexibility allows for quick adjustments, accommodating changes in layout without extensive rewiring. This is particularly useful in a computer room, where equipment and configurations may frequently change. Electrical metallic tubing, on the other hand, offers robust protection against physical damage and provides a grounding path for safety. Its use in this environment helps mitigate electromagnetic interference, which is a common concern with sensitive electronic equipment. The inclusion of both methods indicates that various conditions may necessitate different approaches within the same space. By recognizing that both flexible conduit and electrical metallic tubing are suitable, the option that encompasses all potential methods acknowledges the versatility and requirements of underfloor wiring for computer rooms, making it the correct answer.

3. At what minimum height can utility-owned low-voltage communication cables pass directly over a pool?

- A. 5 feet**
- B. 8 feet**
- C. 10 feet**
- D. 12 feet**

Utility-owned low-voltage communication cables must be installed at specific heights to ensure safety, particularly in areas where they may come into contact with water, such as pools. The requirement for these cables to be at least 10 feet above the water surface reflects safety standards designed to prevent accidental electrocution and ensure that any maintenance or inspections can be conducted safely. This minimum height takes into consideration factors such as the potential for splashing, swimming activities, and the likelihood of people being in or near the water. In addition, having a sufficient clearance helps to mitigate risks associated with falling tree branches or other environmental elements that might otherwise endanger the integrity of the cable and the safety of individuals using the pool area. By adhering to this requirement, both public safety and reliability of communication services are upheld.

4. In surface metal raceways without removable covers, where are splices allowed in conductors?

- A. In any accessible location**
- B. Only in junction boxes**
- C. In boxes or junction boxes**
- D. Nowhere, splices are not allowed**

In surface metal raceways without removable covers, splices in conductors are permitted in boxes or junction boxes. This is essential because junction boxes provide a safe and accessible place for making splices, ensuring that connections are secure and protected. They also allow for maintenance and modifications without needing to disturb the entire raceway system. The use of junction boxes is in line with electrical codes which prioritize safety and accessibility. These boxes serve as enclosures that safeguard electrical connections from physical damage, dust, and moisture while providing adequate space for technicians to work with the connections. By limiting splices to these boxes, the installation adheres to best practices for low-voltage special systems, promoting both functionality and safety. In contrast, making splices in any random accessible location or in areas without protective enclosures would pose significant safety risks and lack compliance with electrical standards. Additionally, conducting splices outside of designated boxes can lead to complications in troubleshooting and future modifications, as well as increased risk of faults or failures in the wiring system.

5. What is the minimum voltage rating for Type FPL cable used in a fire panel?

- A. 150 Volts**
- B. 300 Volts**
- C. 450 Volts**
- D. 600 Volts**

Type FPL (Fire Power Limited) cable is specifically designed for use in fire alarm systems and other applications where its performance is critical in the event of a fire. The minimum voltage rating for Type FPL cable is established to ensure that the cable can safely operate under expected conditions, including climate, usage, and emergency situations. The correct voltage rating of 300 Volts indicates that this type of cable is suitable for low-voltage applications associated with fire alarm systems. This includes ensuring that the cable can handle the normal voltage levels used in these systems without the risk of insulation failure or short-circuiting in operating conditions. Type FPL cables are required to meet stringent safety standards, and the 300 Volt rating is the minimum threshold to ensure reliability and safety when transmitting signals for alarms and notifications in a fire emergency. In the context of fire safety and compliance with electrical codes, using cable rated below this minimum could compromise the integrity of the fire alarm system, leading to potential failures during critical times when the system needs to operate effectively.

6. Which practice helps ensure safety in working spaces above service equipment?

- A. Providing sufficient lighting**
- B. Minimizing obstructions**
- C. Using non-conductive materials**
- D. Installing warning signs**

Providing sufficient lighting in working spaces above service equipment is crucial for ensuring safety. Adequate lighting allows workers to see clearly, reducing the risk of accidents and injuries that can occur due to poor visibility. When workers can see what they are doing, they are more likely to avoid hazards such as live wires, mechanical components, and other potential dangers present in these areas. Proper lighting also aids in identifying and resolving issues quickly, which is essential for maintaining a safe and efficient work environment. While minimizing obstructions, using non-conductive materials, and installing warning signs also contribute to safety, they do not directly address the visibility aspect that sufficient lighting provides. Each of these measures plays a role in creating a safer workspace, but clear visibility remains a fundamental requirement, making adequate lighting a critical practice in ensuring safety in these environments.

7. Where is Type CMUC communications wire allowed to be installed?

- A. Outside walls**
- B. Under carpet**
- C. In ceilings**
- D. In basements**

Type CMUC communications wire is specifically designed for use in locations where there may be some exposure to moisture, such as under carpets. This type of wire is suitable for indoor use and is intended to provide safe communication connections without the risk of damage that might occur with other wire types. Its installation under carpet is permissible because the insulation and materials used are rated for such applications, ensuring both compliance with safety regulations and effectiveness for the intended use. The other options may not align with the specific ratings and requirements for Type CMUC wire. For example, outside walls may require a different insulation type to withstand environmental conditions. Ceilings can present other risks such as increased exposure to heat or electrical disturbances. Basements, while they might seem suitable, typically expose wiring to higher moisture levels or flooding risks, which are not ideal for communications wires that are not rated for those conditions. Thus, the under-carpet installation of Type CMUC communications wire is supported by its design for moisture resistance in indoor environments.

8. What color must insulated conductors of number 6 or smaller be if intended for use as ground conductors?

- A. Green, Yellow, or Orange**
- B. White, Gray, or three white stripes on other than green**
- C. Red, Blue, or Black**
- D. Brown, Purple, or Tan**

Insulated conductors intended for use as ground conductors must be identifiable to ensure safety and compliance with electrical codes. The standard color codes specify that ground conductors should be green, or if insulated, they can also be green with one or more yellow stripes. White or gray conductors, or those with three white stripes, are also permitted provided they are used in a manner that does not create confusion with other functions, particularly the neutral conductor. The choice of white or gray for certain low-voltage applications as an additional identifier helps to differentiate them from other conductors, ensuring that technicians and electricians can easily distinguish ground conductors from live conductors. This identification plays a crucial role in maintaining safety protocols and preventing electrical hazards. Understanding this guideline is essential for anyone involved in the installation and maintenance of low-voltage special systems, as incorrectly identifying ground conductors could lead to hazardous situations and non-compliance with regulations.

9. According to the NEC, a Continuous Load is defined as equipment operating at a maximum load for how many hours?

- A. 1 hour**
- B. 2 hours**
- C. 3 hours**
- D. 4 hours**

A Continuous Load, as defined by the National Electrical Code (NEC), refers to a load that is expected to operate at a maximum level for three hours or more. This definition is important in electrical planning and design because it informs how circuits, conductors, and other equipment should be sized and rated to ensure they can handle such loads without overheating or becoming unsafe. Understanding this definition helps electricians and engineers determine the appropriate capacity of the circuit breakers and other protective devices, as well as prevent issues related to undersized wiring, which could lead to overheating and potential fire hazards. The three-hour threshold also plays a crucial role in load calculations for service demand and overall system reliability. The other options are incorrect as they state durations shorter than the required three hours, which would not meet the criteria set by the NEC for classifying a load as continuous. Thus, the correct answer aligns perfectly with the NEC's requirement for defining continuous loads, ensuring safe and effective electrical system design.

10. Where should a smoke detector be installed to automatically close a double doorway in response to smoke?

- A. On the wall adjacent to the doorway**
- B. On the centerline of a doorway**
- C. On the ceiling above the doorway**
- D. Near the exit sign of the doorway**

Installing a smoke detector on the centerline of a doorway is the most effective placement for ensuring optimal detection of smoke and triggering a response, such as automatically closing a double doorway. This position allows the smoke detector to monitor the airspace directly above and within the threshold of the doorway, where smoke from a fire is likely to accumulate first. Smoke detectors are designed to sense the smoke particles in the air, and positioning it at the centerline height means it will be able to detect smoke rising from a fire that may start nearby. This prompt detection is critical for implementing life safety measures such as closing doors to contain smoke and fire spread, thereby protecting occupants and enhancing evacuation routes. In contrast, other placements, like next to the doorway or on the ceiling above but not focused directly on the doorway, may not offer the same level of monitoring efficiency. For instance, smoke rising may not trigger a detector mounted too low to the wall or poorly oriented relative to the smoke's path, potentially delaying critical response mechanisms that rely on timely smoke detection.

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://nmlowvoltagespecialsys.examzify.com>

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

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