

# National Electrical Code (NEC) Codes and Standards Practice Exam (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. When IMC enters a box, fitting, or enclosure, what is required to protect the wire from abrasion?**
  - A. a bushing**
  - B. a cable gland**
  - C. a conduit seal**
  - D. a thread protector**
  
- 2. A circuit breaker with a \_\_\_\_ voltage rating, such as 240V or 480V, can be used where the nominal voltage between any two conductors does not exceed the circuit breaker voltage rating.**
  - A. Straight**
  - B. Rounded**
  - C. Adjusted**
  - D. Matched**
  
- 3. An equipment bonding jumper can be installed on the outside of a raceway, providing the length of the equipment bonding jumper is not more than \_\_\_\_ in. and the equipment bonding jumper is routed with the raceway.**
  - A. 72**
  - B. 36**
  - C. 60**
  - D. 84**
  
- 4. Show-window lighting minimum feeder load is 200 VA per linear foot.**
  - A. 100**
  - B. 150**
  - C. 200**
  - D. 250**

- 5. The following statement is true: Grounding electrode conductors that are 6 AWG or larger and not exposed to physical damage may be run along the surface of the building without metal covering.**
- A. True**
  - B. False**
  - C. Only if painted**
  - D. Only in non-residential buildings**
- 6. The statement that exposed structural metal in the area served by a separately derived system must be bonded to the grounded conductor of each system is true.**
- A. True**
  - B. False**
  - C. Not specified**
  - D. Depends**
- 7. Receptacles installed in a dwelling unit kitchen to serve countertop surfaces shall be supplied by not fewer than \_\_\_\_ small-appliance branch circuits.**
- A. One**
  - B. Two**
  - C. Three**
  - D. Four**
- 8. It shall be permissible to ground meter enclosures immediately adjacent to the service disconnecting means to the \_\_\_\_ circuit conductor on the load side of the service disconnect, if service ground-fault protection is not provided.**
- A. Grounded**
  - B. Ungrounded**
  - C. Neutral**
  - D. Equipment grounding conductor**

- 9. Sectioned equipment grounding conductors smaller than which AWG size shall be permitted in multiconductor cables if the combined circular mil area of the sectioned equipment grounding conductors in each cable complies with 250.122?**
- A. 1/0 AWG**
  - B. 2/0 AWG**
  - C. 3/0 AWG**
  - D. 4 AWG**
- 10. Sectioned equipment grounding conductors smaller than 1/0 AWG are permitted in multiconductor cables if the combined circular mil area complies with a specified requirement. What is the size threshold?**
- A. 1/0 AWG**
  - B. 2/0 AWG**
  - C. 3/0 AWG**
  - D. 4 AWG**

## Answers

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

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## **Explanations**

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**1. When IMC enters a box, fitting, or enclosure, what is required to protect the wire from abrasion?**

- A. a bushing**
- B. a cable gland**
- C. a conduit seal**
- D. a thread protector**

When metal conduit like IMC enters a box or enclosure, the sharp edge of the knockout can nick or abrade the conductor insulation as the wires pass through. A bushing is used at the entry to provide a smooth, rounded surface and to support the conductors, preventing abrasion and reducing the chance of insulation damage or future faults. The other items don't fit this protection role: a cable gland is for sealing and strain relief at certain cable types, not specifically to shield wires from edge abrasion; a conduit seal is meant to seal against moisture or air and doesn't protect the conductor insulation; a thread protector guards the conduit threads rather than safeguarding the wire inside. So the bushing is the proper protective device for this situation.

**2. A circuit breaker with a \_\_\_\_ voltage rating, such as 240V or 480V, can be used where the nominal voltage between any two conductors does not exceed the circuit breaker voltage rating.**

- A. Straight**
- B. Rounded**
- C. Adjusted**
- D. Matched**

The key idea is that a circuit breaker's voltage rating is the maximum voltage across conductors that it is designed to interrupt safely. You may install a breaker on a circuit as long as the nominal voltage between any two conductors does not exceed that rating. A fixed, specified rating like 240 V or 480 V is described as a straight voltage rating, meaning the rating is a clear, unadjustable value that defines where the breaker can be used. Using a breaker with a rating at or above the system voltage ensures the insulation and interruption capability are appropriate. The other descriptors don't correspond to how breaker voltage ratings are defined or applied.

**3. An equipment bonding jumper can be installed on the outside of a raceway, providing the length of the equipment bonding jumper is not more than \_\_\_\_ in. and the equipment bonding jumper is routed with the raceway.**

**A. 72**

**B. 36**

**C. 60**

**D. 84**

An equipment bonding jumper provides a low-impedance path for fault current, helping ensure the metal parts stay at the same potential and that the overcurrent device trips quickly. When this jumper is installed on the outside of a raceway but runs along with the raceway, the external portion must be limited in length to keep the fault-path impedance low and to reduce exposure to physical damage. The maximum allowed length for that external jumper is 72 inches; shorter lengths are also compliant, but 72 inches is the limit the code sets. If the jumper isn't routed with the raceway or is placed inside a raceway, different rules apply.

**4. Show-window lighting minimum feeder load is 200 VA per linear foot.**

**A. 100**

**B. 150**

**C. 200**

**D. 250**

Show-window lighting uses a fixed minimum demand based on the length of the display opening. The NEC sets this minimum at 200 VA for each linear foot of window. This ensures the feeder is sized to handle the typical lighting demands of a display, even if the exact fixture count or wattage isn't known or if additional lamps are added later. The calculation is straightforward: multiply 200 VA by the length of the window in feet to get the minimum feeder load. For instance, an 8-foot-long show window would require at least 1,600 VA. This is why the per-foot value is 200 VA—the standard used for sizing show-window lighting feeders.

**5. The following statement is true: Grounding electrode conductors that are 6 AWG or larger and not exposed to physical damage may be run along the surface of the building without metal covering.**

**A. True**

**B. False**

**C. Only if painted**

**D. Only in non-residential buildings**

The main idea is that the NEC allows a grounding electrode conductor to be run along the exterior surface of a building without a metal raceway as an exception, but only if the conductor is 6 AWG or larger and not exposed to physical damage. This reflects that large, low-impedance conductors used for grounding are robust and carry fault current only briefly, so they don't require the same level of enclosure as smaller, current-carrying conductors. When conditions are met, you can secure the conductor to the building surface with appropriate fastenings and ensure it remains continuous and protected from damage. If the conductor were smaller than 6 AWG or if there were any risk of physical damage, it would need to be installed in a raceway or otherwise protected.

**6. The statement that exposed structural metal in the area served by a separately derived system must be bonded to the grounded conductor of each system is true.**

**A. True**

**B. False**

**C. Not specified**

**D. Depends**

The key idea is that exposed structural metal should be bonded to the equipment grounding conductor of the electrical system, not to the neutral (the grounded conductor). The equipment grounding conductor provides a dedicated, low-impedance path for fault current to return to the source so protective devices clear the fault quickly. The neutral, while it is bonded to earth at the service or at a separately derived source, carries current during normal operation and is not the intended bonding path for structural metal. In a separately derived system, you still connect exposed metal to that system's equipment grounding conductor. Bonding the metal to the grounded conductor (neutral) of the system would create a potentially energizing path on the metalwork during normal operation and faults, which is not how bonding is intended to work. So the statement is not correct because the required bond is to the equipment grounding conductor, not to the grounded conductor of each system.

**7. Receptacles installed in a dwelling unit kitchen to serve countertop surfaces shall be supplied by not fewer than \_\_\_\_\_ small-appliance branch circuits.**

- A. One**
- B. Two**
- C. Three**
- D. Four**

Two small-appliance branch circuits are required to serve countertop receptacles in a dwelling kitchen. This setup gives enough simultaneous capacity for common countertop appliances (toaster, coffee maker, blender, microwave, etc.) and helps prevent overloading a single circuit when several appliances are used at once. The code requires these receptacles to be supplied by at least two 20-amp small-appliance branch circuits, and these circuits are dedicated to countertop outlets to keep high-load kitchen appliances from being tied to lighting or other non-kitchen outlets. In practice, having two circuits reduces nuisance tripping and provides a practical margin for typical kitchen use, which is why two is the minimum.

**8. It shall be permissible to ground meter enclosures immediately adjacent to the service disconnecting means to the \_\_\_\_\_ circuit conductor on the load side of the service disconnect, if service ground-fault protection is not provided.**

- A. Grounded**
- B. Ungrounded**
- C. Neutral**
- D. Equipment grounding conductor**

Bond the meter enclosure to the system's grounded conductor on the load side of the service disconnect. In a typical 120/240 V service, this grounded conductor is the neutral, which is bonded to earth at the service equipment. Providing this bond keeps the meter enclosure at a defined potential (near earth) and gives a clear fault-current path back to the source so the main disconnect will operate if a fault occurs, even when no service ground-fault protection is installed. Grounding to the neutral, rather than to the equipment grounding conductor or leaving it unbonded, matches the required arrangement for this scenario and ensures a proper fault-path reference.

**9. Sectioned equipment grounding conductors smaller than which AWG size shall be permitted in multiconductor cables if the combined circular mil area of the sectioned equipment grounding conductors in each cable complies with 250.122?**

- A. 1/0 AWG**
- B. 2/0 AWG**
- C. 3/0 AWG**
- D. 4 AWG**

When a multiconductor cable carries more than one current-carrying conductor, the code allows using several smaller equipment grounding conductors in place of one larger one, as long as the combined circular mil area of those sectioned EGCs meets the minimum required by 250.122 for the circuit's overcurrent device rating. This keeps a reliable grounding path while using smaller conductors to fit in the jacket. There is a size limit to this allowance: the sectioned EGCs must be smaller than 1/0 AWG. In other words, you can group and count multiple conductors smaller than 1/0 AWG toward satisfying 250.122, but you cannot section an EGC that is 1/0 AWG or larger. This cutoff ensures the grounding path remains adequately substantial while still permitting space and cost savings inside the cable. So the correct understanding is that sectioned EGCs may be used when they are smaller than 1/0 AWG, provided their combined circular mil area meets the 250.122 requirement.

**10. Sectioned equipment grounding conductors smaller than 1/0 AWG are permitted in multiconductor cables if the combined circular mil area complies with a specified requirement. What is the size threshold?**

- A. 1/0 AWG**
- B. 2/0 AWG**
- C. 3/0 AWG**
- D. 4 AWG**

The rule hinges on the total cross-sectional area of the grounding path. When multiple smaller equipment grounding conductors are used inside a multiconductor cable, their combined cross-sectional area, measured in circular mils, must be at least the area of a 1/0 AWG conductor. In practical terms, the threshold is the circular mil area of 1/0 AWG (about 105,000 cmil). This ensures the grounding path can carry fault current effectively, even though the individual conductors are smaller. If the sum of the circular mils meets or exceeds that value, the sectioned EGC arrangement is allowed; if not, a larger or single conductor would be required.

## 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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://neccodesandstandards.examzify.com>**

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

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