

CON EDISON BASIC ELECTRIC PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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. How does the intensity of an electrical current relate to the number of electrons passing a point in a circuit?**
 - A. More electrons passing a point increases the current.
 - B. More electrons passing a point decreases the current.
 - C. Current is independent of electron flow.
 - D. Only voltage affects current.
- 2. After donning PPE, what is the next setup action?**
 - A. Break for lunch.
 - B. Position vehicles upstream.
 - C. Check weather again.
 - D. Place cones on the road.
- 3. What is the unit of electrical current?**
 - A. Amperes (A)
 - B. Volts (V)
 - C. Ohms (Ω)
 - D. Watts (W)
- 4. In setting up traffic control devices, which sequence is recommended?**
 - A. Start with advance warning signs and work down to the work site.
 - B. Place all devices without regard to order.
 - C. Begin with cones at the work site and move outward.
 - D. Only post temporary stop signs at each end of the zone.
- 5. What are some ways a 'de-energized' system can become energized?**
 - A. Backfeeds from potential transformers only
 - B. Undocumented alternate power sources only
 - C. All of the above, including backfeeds, undocumented sources, missed lockouts, test equipment failure, lightning, energized lines contacting de-energized lines, and insulation failure
 - D. None of the above

- 6. What is the role of management regarding the Rules We Live By?**
- A. To enforce the Rules through every minor detail of work.
 - B. To abolish the rules when workload is high.
 - C. To replace frontline supervision with central audits.
 - D. To lead by example and reinforce the importance of the Rules.
- 7. During a job briefing, who benefits from discussion time?**
- A. All participants.
 - B. Management and safety staff only.
 - C. External auditors only.
 - D. The client.
- 8. In a series circuit, how is the total resistance calculated?**
- A. RT equals the product of individual resistances.
 - B. RT equals the sum of individual resistances.
 - C. RT equals the reciprocal of the sum of reciprocals.
 - D. RT equals the average of the individual resistances.
- 9. When is the best time to discuss STKY to maximize effectiveness?**
- A. At the start of shift and during the day
 - B. Only after an incident
 - C. Only during annual reviews
 - D. Only during lunch
- 10. What type of communication should occur during the briefing?**
- A. Two-way communication with time for questions.
 - B. Written only.
 - C. One-way instructions.
 - D. Electronic messages after the briefing.

Answers

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

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Explanations

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1. How does the intensity of an electrical current relate to the number of electrons passing a point in a circuit?

- A. More electrons passing a point increases the current.**
- B. More electrons passing a point decreases the current.
- C. Current is independent of electron flow.
- D. Only voltage affects current.

Electric current is the rate at which electric charges pass a point in a circuit. In a conductor, electrons are the charge carriers, so when more electrons cross that point each second, more charge is moving per unit time, and the current increases. Think of current as coulombs per second; each electron carries a tiny amount of charge, so increasing the number of electrons crossing per second directly raises the current. It's not that voltage doesn't matter—voltage drives how much current can flow through a given resistance ($I = V/R$)—but the fundamental idea is that more electron flow per second means more current.

2. After donning PPE, what is the next setup action?

- A. Break for lunch.
- B. Position vehicles upstream.**
- C. Check weather again.
- D. Place cones on the road.

After your PPE is on, the priority is to secure the work zone and control traffic. Positioning a vehicle upstream creates a protective barrier between the crew and oncoming traffic and establishes a buffer area where you can work safely. The vehicle also serves as a visual warning to approaching drivers, helping to slow and steer them away from the site. Cones are useful for outlining the exact work area, but they're most effective once the vehicle barrier is in place. Breaks or rechecking weather don't address the immediate safety needs of the scene. So the next setup action is to place a vehicle upstream to shield the crew and set up safe working conditions.

3. What is the unit of electrical current?

- A. Amperes (A)**
- B. Volts (V)
- C. Ohms (Ω)
- D. Watts (W)

Current is the rate at which electric charges flow through a conductor, so its unit is the ampere. One ampere means one coulomb of charge passing a point each second. That direct relationship—coulombs per second—defines the current unit, written as amperes (A). Volts measure electric potential difference (the pressure that pushes charges), ohms measure resistance (how much a material resists the flow), and watts measure power (the rate energy is used or transferred). Since the question asks about the unit for current, amperes is the correct choice.

4. In setting up traffic control devices, which sequence is recommended?

- A. Start with advance warning signs and work down to the work site.
- B. Place all devices without regard to order.
- C. Begin with cones at the work site and move outward.
- D. Only post temporary stop signs at each end of the zone.

Starting with advance warning signs and then moving down toward the work site creates a clear, proactive path for drivers. This setup gives motorists plenty of notice before they reach the work zone, allowing them to slow down, change lanes if needed, and follow the designated path through the area. It establishes a predictable flow from far upstream to the work zone, so drivers aren't surprised by abrupt changes and can adjust gradually as they approach the site. The sequence also supports effective tapering of lanes and proper channelization, which keeps workers safer by reducing sudden lane shifts and rear-end collisions. If you skip the early warning step or start near the work site, drivers won't have time to react, and the traffic flow can become chaotic. Placing all devices without regard to order would remove the essential progression that guides motorists safely from the approach to the end of the zone. Merely posting stop signs at the ends doesn't provide the continuous guidance and speed management needed to navigate through the entire work area safely.

5. What are some ways a 'de-energized' system can become energized?

- A. Backfeeds from potential transformers only
- B. Undocumented alternate power sources only
- C. All of the above, including backfeeds, undocumented sources, missed lockouts, test equipment failure, lightning, energized lines contacting de-energized lines, and insulation failure
- D. None of the above

A de-energized system can become energized through several real-world paths, not just by someone flipping a switch. Energy can re-enter via backfeed from measurement and protection devices, like potential transformers that energize a circuit they're monitoring when there's a source elsewhere feeding the system. Unknown or undocumented power sources, such as unreported generators or customer equipment, can also energize a circuit if they're connected to it. If lockout and tagging were missed, equipment can be re-energized while someone is working, because there's no approved isolation preventing it. Test equipment itself can fail or introduce unintended connections, momentarily energizing parts of the system. A lightning strike can drive surge energy into lines, creating energized paths where none were expected. When an energized line contacts a de-energized line, current can flow into the latter and energize it. Insulation failure can create a conductive path that allows voltage to appear on conductors or equipment that were supposed to be de-energized. Because each of these are plausible energizing paths, the best answer is that all of the above cover the ways a de-energized system can become energized. In practice, this is why thorough switching procedures, proper lockout/tagout, and verification of absence of voltage with tested equipment are essential before any work.

6. What is the role of management regarding the Rules We Live By?

- A. To enforce the Rules through every minor detail of work.
- B. To abolish the rules when workload is high.
- C. To replace frontline supervision with central audits.
- D. To lead by example and reinforce the importance of the Rules.**

Leading by example is how management reinforces the Rules We Live By. When leaders consistently follow the rules themselves and visibly demonstrate their importance in everyday work, it shows that safety and standards aren't just formalities—they're part of how the job is done. This modeling builds trust, clarifies expectations, and motivates frontline workers to apply the rules even in tough or busy situations. Effective leadership also includes coaching, recognizing compliant behavior, and gently correcting unsafe practices, all of which keep the rules alive in daily action. Aiming to enforce every minor detail, abolishing rules during peak workload, or replacing frontline supervision with central audits removes the practical, real-time accountability that keeps people safe. Those approaches can erode credibility, diminish ownership, and weaken the safety culture.

7. During a job briefing, who benefits from discussion time?

- A. All participants.**
- B. Management and safety staff only.
- C. External auditors only.
- D. The client.

During a job briefing, discussion time matters because it creates a shared understanding of the plan, hazards, and controls before work begins. It invites input from everyone involved—the workers who will perform the tasks, the supervisors and safety staff who oversee the work, and even clients or stakeholders who are affected by the activity. This open dialogue helps confirm roles and responsibilities, clarifies the scope, and ensures everyone knows how to raise concerns or stop work if something doesn't feel safe. When all participants can contribute and hear the same information, miscommunications fade, safety measures are better understood and followed, and the job proceeds more smoothly. So, discussion time benefits everyone involved, not just a single group.

8. In a series circuit, how is the total resistance calculated?

- A. R_T equals the product of individual resistances.
- B. R_T equals the sum of individual resistances.**
- C. R_T equals the reciprocal of the sum of reciprocals.
- D. R_T equals the average of the individual resistances.

In a series circuit, the same current flows through every component, so the total resistance is the sum of all the individual resistances. This comes from Ohm's law: $V_{total} = I \times R_T$, and each component drops a voltage $V_i = I \times R_i$. The total voltage is the sum of those drops: $V_{total} = V_1 + V_2 + \dots = I \times (R_1 + R_2 + \dots)$. Since V_{total} also equals $I \times R_T$, it follows that $R_T = R_1 + R_2 + \dots$. For example, if you have resistors of $4\ \Omega$ and $7\ \Omega$ in series, the total resistance is $11\ \Omega$. If the supply is 22 V , the current is $I = 22\text{ V} / 11\ \Omega = 2\text{ A}$, and the voltage drops are $V_1 = 8\text{ V}$ and $V_2 = 14\text{ V}$, adding up to the total 22 V . The other formulas apply to different configurations (for example, parallel circuits use the reciprocal sum of reciprocals), but in a series circuit you simply add the resistances.

9. When is the best time to discuss STKY to maximize effectiveness?

- A. At the start of shift and during the day**
- B. Only after an incident
- C. Only during annual reviews
- D. Only during lunch

Ongoing safety conversations integrated into daily work keep awareness high and actions consistent. Discussing STKY at the start of the shift sets the tone, clarifies the day's plan, identifies known hazards, and reviews the controls before anyone begins work. Then, bringing up safety throughout the day reinforces training, adapts to changing conditions, and allows quick coaching if new risks appear or if a process isn't going as planned. This continuous, proactive approach is what makes such discussions effective and helps prevent incidents. Discussing safety only after an incident is reactive and misses prevention opportunities. Waiting for annual reviews is too infrequent to keep safety top of mind in real time. Holding conversations only during lunch is impractical and disrupts the workflow.

10. What type of communication should occur during the briefing?

- A. Two-way communication with time for questions.**
- B. Written only.
- C. One-way instructions.
- D. Electronic messages after the briefing.

Two-way communication with time for questions is the best choice because it ensures everyone understands the plan, hazards, and controls, and it provides an opportunity to ask for clarification or raise concerns. This instant feedback loop helps verify comprehension and resolve misunderstandings before work starts, which is essential for safety. Written-only or one-way instructions don't allow participants to seek clarification, and waiting to use electronic messages after the briefing can leave important questions unresolved and risks unmanaged. The goal of a briefing is to align the team, confirm roles and safety measures, and make sure everyone leaves with a clear, shared understanding.

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://conedisonbasicelectric.examzify.com>

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

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