

REC ELECTRICAL MODULE PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE

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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	15

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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. In a parallel circuit, removing a branch will typically affect the total current from the source how?**
 - A. No, it will stay the same.
 - B. It will have no effect.
 - C. It will increase.
 - D. Yes, it will generally decrease.
- 2. Electrical power is measured in which unit?**
 - A. Watt
 - B. Volt
 - C. Coulomb
 - D. Joule
- 3. What is the primary role of a three-phase motor starter using a contactor and overload relay?**
 - A. To safely start and stop a motor with protection against overload.
 - B. To convert AC to DC.
 - C. To regulate frequency and voltage.
 - D. To provide isolation.
- 4. The flowing of electrons through a circuit is known as which electrical quantity?**
 - A. Voltage
 - B. Resistance
 - C. Current
 - D. Charge
- 5. In a star (wye) connection, what is the neutral point?**
 - A. The point where only two windings connect
 - B. The common junction where all three phase windings meet, often connected to the system neutral
 - C. The point where the transformer is grounded at the chassis
 - D. The point of minimum voltage in the circuit

- 6. Which set lists essential steps in a lockout-tagout procedure?**
- A. Identify energy sources; isolate equipment; apply lock and tag; verify zero-energy state
 - B. Identify energy sources; remove guards
 - C. Impose lockout without tag
 - D. Turn off equipment and leave without verification
- 7. In an ideal transformer, how does the primary voltage relate to the secondary voltage in terms of turns ratio $N_p:N_s$?**
- A. $V_p/V_s = N_s/N_p$
 - B. $V_p/V_s = N_p/N_s$
 - C. $V_p/V_s = N_p+N_s$
 - D. $V_p/V_s = 1$
- 8. Which device is used to measure potential difference across components in a circuit?**
- A. Ammeter
 - B. Voltmeter
 - C. Multimeter
 - D. Ohmmeter
- 9. What is the symbol used for reactive power?**
- A. Q (VAR)
 - B. P (W)
 - C. S (VA)
 - D. V (Volts)
- 10. Which component stores chemical energy and provides electromotive force in a circuit?**
- A. Lamp
 - B. Switch
 - C. Cell (battery)
 - D. Wires

Answers

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

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Explanations

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1. In a parallel circuit, removing a branch will typically affect the total current from the source how?

- A. No, it will stay the same.
- B. It will have no effect.
- C. It will increase.
- D. Yes, it will generally decrease.**

In a parallel circuit, the total current drawn from the source is the sum of the currents through all the parallel branches. The voltage across each branch is the same as the source, so each branch draws a current based on its own resistance. When you remove one branch, you remove its current contribution, so the total current decreases by the amount that branch was carrying. With an ideal voltage source, the remaining branches keep drawing the same currents, so the total current simply drops.

2. Electrical power is measured in which unit?

- A. Watt**
- B. Volt
- C. Coulomb
- D. Joule

Power in an electrical circuit is the rate at which electrical energy is delivered or consumed. It's given by $P = V \times I$, the product of voltage and current. Since energy is measured in joules and time in seconds, power is joules per second, which defines the watt. So one watt equals one volt times one ampere ($1 \text{ W} = 1 \text{ V} \times 1 \text{ A}$). The other units correspond to different quantities: volt is electrical potential difference, coulomb is electric charge, and joule is energy.

3. What is the primary role of a three-phase motor starter using a contactor and overload relay?

- A. To safely start and stop a motor with protection against overload.**
- B. To convert AC to DC.
- C. To regulate frequency and voltage.
- D. To provide isolation.

Starting and stopping a motor safely while protecting it from overheating is what this setup is for. A contactor acts as a heavy-duty switch that is controlled by a low-current control circuit. When the control circuit energizes the contactor coil, the contacts close and energize all three power lines to the motor, allowing it to start under remote or automatic control. The overload relay sits in series with the motor circuit and watches the current; if the motor draws excess current (indicating overload or stall), it trips and opens the circuit, dropping the contactor so power to the motor is cut off. This pairing gives reliable control and essential protection for the motor windings. It's not about converting AC to DC, nor about regulating frequency or voltage; isolation can be a side effect of opening the contacts, but the primary role is controlled start/stop with overload protection.

4. The flowing of electrons through a circuit is known as which electrical quantity?

- A. Voltage
- B. Resistance
- C. Current**
- D. Charge

Current is the flowing of electric charge through a circuit. It measures how much charge passes a point each second, with the unit the ampere (1 ampere = 1 coulomb per second). Electrons are the charge carriers in a conductor, so their motion constitutes current. It's helpful to remember that conventional current is defined as the flow of positive charge, which is opposite to the actual direction of electron flow. Voltage is the push that drives current, resistance opposes it, and charge is a property of matter, not the flow rate.

5. In a star (wye) connection, what is the neutral point?

- A. The point where only two windings connect
- B. The common junction where all three phase windings meet, often connected to the system neutral**
- C. The point where the transformer is grounded at the chassis
- D. The point of minimum voltage in the circuit

In a star (wye) connection, the neutral point is the common junction where all three phase windings meet. This point serves as the zero-reference for the three-phase system and is often connected to the system neutral to provide grounding. Each winding runs from a phase conductor to this neutral point, so the neutral is the shared end of all three windings. Grounding the neutral establishes a stable reference and helps clear faults by giving fault currents a path back to the source. In a balanced system, the line-to-neutral voltages are equal in magnitude, and the line-to-line voltage is the square root of three times the phase (line-to-neutral) voltage. It's not about two windings or a chassis ground, and it isn't defined as a point of minimum voltage.

6. Which set lists essential steps in a lockout-tagout procedure?

- A. Identify energy sources; isolate equipment; apply lock and tag; verify zero-energy state**
- B. Identify energy sources; remove guards
- C. Impose lockout without tag
- D. Turn off equipment and leave without verification

Lockout-tagout procedures protect workers by ensuring energy sources are identified and kept isolated so the equipment cannot be energized during maintenance. The essential sequence starts with identifying all potential energy sources tied to the equipment, because any overlooked form of energy could cause a hazardous release. Next, isolating the equipment at its energy source physically disconnects it from power, fluids, or other means of energy transfer. Then, applying a lock and a tag provides a durable, visible barrier and a clear message that the equipment is under control and that only the person who applied the lock may remove it. Finally, verifying zero-energy state confirms there is no residual or stored energy inside the system and that the equipment cannot restart during testing or handling. This verification step is crucial due to stored energy in components like springs or capacitors that could release energy after isolation. The other options fall short because they omit critical safety steps or rely on unsafe practices. Removing guards does not constitute a proper energy control method and can create new hazards. Imposing a lockout without a tag removes important information about who is responsible and why the energy is isolated. Merely turning off equipment and leaving without verification does not guarantee zero energy, since stored or residual energy could still cause an unexpected re-energization.

7. In an ideal transformer, how does the primary voltage relate to the secondary voltage in terms of turns ratio $N_p:N_s$?

- A. $V_p/V_s = N_s/N_p$
- B. $V_p/V_s = N_p/N_s$**
- C. $V_p/V_s = N_p+N_s$
- D. $V_p/V_s = 1$

Voltage in an ideal transformer scales with the number of turns on each winding. Because the same changing magnetic flux links both windings, the induced EMF in a winding is proportional to its number of turns. Therefore the primary-to-secondary voltage ratio equals the turns ratio: $V_p/V_s = N_p/N_s$. If the primary has more turns, the primary voltage is higher; if the secondary has more turns, the secondary voltage is higher. In an ideal transformer, power conservation also holds: $V_p I_p = V_s I_s$, which aligns with this voltage relationship. The idea that the ratio would be a sum or the reciprocal doesn't describe how voltages relate to turns.

8. Which device is used to measure potential difference across components in a circuit?

- A. Ammeter
- B. Voltmeter**
- C. Multimeter
- D. Ohmmeter

Measuring potential difference, or voltage, across circuit components is done with a voltmeter. A voltmeter is designed to sense the difference in electric potential between two points and is connected in parallel across the component so it measures the voltage without drawing significant current from the circuit. Its very high internal resistance minimizes its impact on the circuit while still showing the voltage across the element. An ammeter, in contrast, measures current and is placed in series to determine how much current flows. An ohmmeter measures resistance by applying a small current and reading the resulting voltage, typically when the circuit is unpowered. A multimeter can measure voltage, current, and resistance, but when specifically talking about measuring potential difference across components, the voltmeter is the instrument designed for that purpose.

9. What is the symbol used for reactive power?

- A. Q (VAR)**
- B. P (W)
- C. S (VA)
- D. V (Volts)

Reactive power is represented by the symbol Q , and its unit is VAR (volt-ampere reactive). In AC circuits, real power is P (watts) and apparent power is S (volt-amperes). The relationship $S^2 = P^2 + Q^2$ shows how P and Q combine to form the total apparent power. Q specifically describes the portion of power that oscillates between the source and the reactive elements (inductors and capacitors) without doing net work. Its sign indicates the type of reactive behavior: positive for inductive and negative for capacitive.

10. Which component stores chemical energy and provides electromotive force in a circuit?

- A. Lamp
- B. Switch
- C. Cell (battery)
- D. Wires

The main concept here is that the source of energy and the electromotive force in a circuit comes from a cell or battery. A cell stores chemical energy and, through chemical reactions, converts it into electrical energy, creating the electromotive force that pushes current around the circuit. A lamp is a load that uses electrical energy to produce light and heat, not to generate energy. A switch merely opens or closes the circuit, and wires simply conduct, with no energy storage or generation. Therefore, the component that stores chemical energy and provides electromotive force is the cell (battery).

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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://recelectricalmodule.examzify.com>

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

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