

SOUTHEAST LINEMAN TRAINING CENTER (SLTC) PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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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. Which quantity is defined as work per unit time and is measured in watts?**
 - A. Power
 - B. Voltage
 - C. Current
 - D. Resistance
- 2. Basic electrical circuits require key elements to function properly. What are they?**
 - A. Battery, switch, resistor
 - B. Source, wire, device
 - C. Voltage source, conductor, load
 - D. Generator, capacitor, load
- 3. Do knots and splices bind on the rope with the same intensity?**
 - A. Yes
 - B. No
 - C. Sometimes
 - D. Not sure
- 4. In electrical terms, what does R represent?**
 - A. Capacitance
 - B. Inductance
 - C. Resistance
 - D. Conductance
- 5. When a single block, such as a handline, is used the force to lift the load will be ____.**
 - A. Greater
 - B. Less
 - C. Equal
 - D. Unknown

- 6. Which insulators are considerably lighter and more durable?**
- A. Ceramic
 - B. Polymer
 - C. Glass
 - D. Porcelain
- 7. The proper conductor selection is a compromise between?**
- A. Cost only
 - B. Mechanical strength only
 - C. Economics associated with the cost, conductor material, mechanical strength, current carrying capacity, and environmental concerns
 - D. Current carrying capacity only
- 8. Hook Strain is calculated to verify that the SWL of the ____ is not exceeded.**
- A. rope
 - B. block
 - C. fiber
 - D. spool
- 9. Which safety practice is described as directing electricity away from the lineworker?**
- A. Electrical isolation
 - B. Personal protective grounding
 - C. Insulation of conductors
 - D. Equipment grounding
- 10. Which quantity represents the peak voltage of an AC waveform?**
- A. E_{rms}
 - B. $E_{average}$
 - C. E_{max}
 - D. E_{inst}

Answers

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

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Explanations

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1. Which quantity is defined as work per unit time and is measured in watts?

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

Power is the rate at which work is done or energy is transferred. It tells you how quickly energy is used or delivered, and in electrical contexts it is measured in watts. One watt equals one joule of energy transferred every second, so the quantity defined as work per unit time and measured in watts is power. Voltage is electric potential difference, current is the flow of electric charges, and resistance is opposition to current; their units are volts, amperes, and ohms, respectively. When voltage and current are known, power can be found with $P = V \times I$, linking the concept directly to how fast energy moves through a circuit.

2. Basic electrical circuits require key elements to function properly. What are they?

- A. Battery, switch, resistor
- B. Source, wire, device
- C. Voltage source, conductor, load**
- D. Generator, capacitor, load

Basic electrical circuits need three things: a source of electrical energy, a conducting path, and a load that uses that energy. The voltage source provides the potential difference that drives current through the circuit. The conductor, typically wires, gives the path for that current to flow. The load is the element that consumes the energy and converts it into useful form (light, heat, motion, etc.). This trio is universal: without a source there's no push of charges, without a complete path the current can't flow, and without a load there's no place for the energy to do work. The described combination—voltage source, conductor, and load—captures this fundamental setup. Other options introduce elements like switches or capacitors that aren't required for all circuits, or use vague terms like device instead of load, which don't specify the essential roles as clearly.

3. Do knots and splices bind on the rope with the same intensity?

- A. Yes
- B. No**
- C. Sometimes
- D. Not sure

Knots and splices handle load differently, which is why they don't bind the rope with the same intensity. A knot tightens into a small, localized region, relying on friction and bending of fibers, which concentrates stress and tends to weaken the rope. A splice weaves the strands together to create a continuous length, distributing the load along a longer portion of fibers and preserving more of the rope's strength. Because of this distribution, a splice binds the rope less aggressively than a knot. Use splices when you need a strong, long-lasting join; use knots for temporary or adjustable connections.

4. In electrical terms, what does R represent?

- A. Capacitance
- B. Inductance
- C. Resistance**
- D. Conductance

R represents resistance—the opposition to current flow in a circuit. This property determines how much current will pass for a given voltage, described by Ohm's law: $V = IR$, where I is current, V is voltage, and R is the resistance. The unit is the ohm (Ω). Capacitance, the ability to store charge in a capacitor, is represented by C and measured in farads. Inductance, which stores energy in a magnetic field when current changes, is represented by L and measured in henries. Conductance, the ease with which current flows, is the reciprocal of resistance and is measured in siemens; it's denoted by G . So, the symbol R is specific to resistance, the factor that opposes current in circuits.

5. When a single block, such as a handline, is used the force to lift the load will be ____.

- A. Greater**
- B. Less
- C. Equal
- D. Unknown

When lifting with a pulley, how much effort you need depends on how many rope segments share the load and how much friction there is. A single block provides little to no mechanical advantage—the load is effectively carried by one rope segment, and you must pull with nearly the same force as the load, plus the losses from friction in the pulley and rope. That means the force you apply will be greater than the weight you're lifting. If there were more rope segments sharing the load (a bigger block-and-tackle), the required force would drop, but with just a single block it ends up being more because of friction.

6. Which insulators are considerably lighter and more durable?

- A. Ceramic
- B. Polymer**
- C. Glass
- D. Porcelain

Insulator performance in the field often comes down to weight and how well the material ages outdoors. Polymer insulators use a fiberglass core with a silicone (or epoxy) housing, making them light yet strong. The silicone outer layer is hydrophobic, so water tends to bead and shed rather than form a continuous conductive film, which helps prevent leakage paths and improves reliability in wet or polluted conditions. Because of this mix of light weight, good mechanical toughness, and weathering performance, polymer insulators are considerably lighter and more durable than traditional porcelain, ceramic, or glass insulators.

7. The proper conductor selection is a compromise between?

- A. Cost only
- B. Mechanical strength only
- C. Economics associated with the cost, conductor material, mechanical strength, current carrying capacity, and environmental concerns**
- D. Current carrying capacity only

Choosing a conductor isn't about maximizing one attribute; it's about balancing several important factors at once. In practice, the best conductor is determined by economics (initial and lifecycle cost) together with the material properties (like conductivity and corrosion resistance), mechanical strength (to withstand installation tension, wind, ice, and other stresses), current carrying capacity (to carry the required load without overheating), and environmental concerns (impacts on surroundings, code and regulatory considerations, and long-term sustainability). None of the single-factor options alone covers the real-world tradeoffs you must manage, so the comprehensive view that includes all these aspects is the correct approach.

8. Hook Strain is calculated to verify that the SWL of the ____ is not exceeded.

- A. rope
- B. block**
- C. fiber
- D. spool

Hook strain measures the tension in the hook, which is the connection point to the load and part of the block assembly. The Safe Working Load (SWL) of the system is determined by the block's rating, since the hook and the block must carry the load safely. By calculating hook strain, you're checking that the load transmitted through the lifting setup does not exceed the block's rated capacity. Rope, fiber, or other components have their own ratings, but hook strain specifically targets the block's SWL.

9. Which safety practice is described as directing electricity away from the lineworker?

- A. Electrical isolation
- B. Personal protective grounding**
- C. Insulation of conductors
- D. Equipment grounding

Directing electricity away from the lineworker is accomplished through protective grounding that creates a low-impedance path to earth for fault current. By attaching a grounding conductor to the worker or using protective grounding equipment, any stray voltage or fault current is diverted to ground, keeping the worker at or near earth potential and reducing the chance that current will pass through the body. Electrical isolation removes the energy source but doesn't guarantee a safe path for any unintended current. Insulation helps prevent current from leaving conductors, yet damaged or stressed insulation can fail; it doesn't provide a dedicated path for fault current away from the worker. Equipment grounding ties metal parts of equipment to earth to limit shock hazards, but it protects against shock to anyone touching the equipment rather than directly directing current away from the worker's body.

10. Which quantity represents the peak voltage of an AC waveform?

- A. $E(\text{rms})$
- B. $E(\text{average})$
- C. $E(\text{max})$**
- D. $E(\text{inst})$

Peak voltage is the amplitude—the maximum value the waveform reaches during a cycle. For a sinusoidal voltage, $v(t) = V_p \sin(\omega t)$, the largest magnitude is V_p , which is the peak voltage. RMS, or $E(\text{rms})$, is the effective value that gives the same heating effect in a resistor and for a sine wave equals $V_p/\sqrt{2}$, not the peak. The average value over a full cycle, $E(\text{average})$, is zero for a symmetric AC signal because positive and negative halves cancel out; it doesn't represent the waveform's maximum. The instantaneous value, $E(\text{inst})$, is the voltage at a specific moment in time and varies from moment to moment—only at the moment when $\sin(\omega t)$ is ± 1 do you hit the peak. So the quantity that represents the peak voltage is the maximum value, $E(\text{max})$.

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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://sltc.examzify.com>

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

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