

LMS Substation 1st Year, Level II Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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!

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Questions

1. If the selector is in the 25 DCmA position, what is the correct current value?
 - A. 25 mA
 - B. 20 mA
 - C. 30 mA
 - D. 15 mA
2. What mathematical equation is used to find the current in a circuit when power and resistance are known?
 - A. $I = P/R$
 - B. $I = P + R$
 - C. $I = P * R$
 - D. $I = P ^ R$
3. What is defined as a completed path for voltage to flow from a source through a load and back to the source?
 - A. Open circuit
 - B. Closed circuit
 - C. Short circuit
 - D. Load circuit
4. What instrument is used to measure potential difference in a circuit?
 - A. Ampermeter
 - B. Voltmeter
 - C. Ohmmeter
 - D. Multimeter
5. If the selector is in the 600 DCV position, what is the correct voltage?
 - A. 500 VDC
 - B. 600 VDC
 - C. 400 VDC
 - D. 700 VDC

- 6. How much weight is associated with one joule of energy when lifted a distance of one foot?**
- A. 0.5 pounds**
 - B. 0.377 pounds**
 - C. 1 pound**
 - D. 2 pounds**
- 7. Which component is primarily responsible for limiting current flow in a circuit?**
- A. Voltage source**
 - B. Transformer**
 - C. Resistor**
 - D. Capacitor**
- 8. What happens when a circuit is open?**
- A. Current flows through the circuit**
 - B. Voltage exists in the circuit**
 - C. No voltage exists in the circuit**
 - D. Resistance is absent in the circuit**
- 9. What type of number is used to represent a quantity less than zero?**
- A. Positive**
 - B. Whole**
 - C. Negative**
 - D. Integer**
- 10. What will the absolute value of any number always be?**
- A. A negative number**
 - B. A positive number or zero**
 - C. A whole number**
 - D. A fractional number**

Answers

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

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Explanations

1. If the selector is in the 25 DCmA position, what is the correct current value?

- A. 25 mA
- B. 20 mA**
- C. 30 mA
- D. 15 mA

When the selector is positioned at 25 DCmA, it indicates that the current value being measured or indicated is exactly 25 mA. In this context, DCmA refers to direct current milliampere, which is a unit of measurement for electric current. The direct interpretation of the selector's position clearly signifies that the current flowing in the circuit or being measured is 25 mA. This understanding is pivotal in various applications, particularly in substations and other electrical environments where precise current levels must be monitored and maintained for system performance and safety. The choices provided include various milliampere readings, but the setting of 25 DCmA is unequivocal in its indication of current value. Knowing how selectors work in instruments helps in accurately interpreting readings, which is crucial for effective troubleshooting and system diagnostics.

2. What mathematical equation is used to find the current in a circuit when power and resistance are known?

- A. $I = P/R$**
- B. $I = P + R$
- C. $I = P * R$
- D. $I = P ^ R$

The equation used to find the current in a circuit when power and resistance are known is derived from the relationship between power (P), current (I), and resistance (R). The correct equation, which is expressed as $I = P / R$, is based on Ohm's Law and the power equation in electrical circuits. In electrical terms, power is defined as the product of current and voltage ($P = I * V$). Ohm's Law states that voltage (V) is the product of current (I) and resistance (R) ($V = I * R$). By substituting R in the power equation, we can express the current in terms of power and resistance. When rearranging the equations, you can derive current as $I = P / V$ and since $V = I * R$, it can be rearranged to $V = I * R$. Since V can again be expressed in terms of P and I, this leads us to $I = P / R$ when we know both power and resistance. This understanding highlights that current is inversely proportional to resistance when the power supply remains a constant factor. Thus, if the resistance increases while power remains constant, the current will decrease, and vice versa. The incorrect choices include expressions that

3. What is defined as a completed path for voltage to flow from a source through a load and back to the source?

- A. Open circuit**
- B. Closed circuit**
- C. Short circuit**
- D. Load circuit**

A completed path for voltage to flow from a source through a load and back to the source is known as a closed circuit. In a closed circuit, the electrical pathway is uninterrupted, allowing current to flow smoothly. This flow is essential for powering devices, as electricity travels from the power source, through the load (such as a light bulb or an appliance), and returns to the source, completing the circuit. In contrast, an open circuit does not allow current to flow because it lacks a complete pathway; this happens when a component is disconnected or there is a break in the circuit. A short circuit occurs when there is an unintended path with very low resistance, often bypassing the load, which can lead to excessive current flow and potentially dangerous situations. The term "load circuit" is not standard; it generally refers to a circuit that includes a load but does not specifically emphasize the completed nature of the path. The definition of a closed circuit directly addresses the paramount characteristic of an electrical circuit being functional and complete, which is why it is the correct choice.

4. What instrument is used to measure potential difference in a circuit?

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

The voltmeter is the instrument designed specifically for measuring potential difference, also known as voltage, in an electrical circuit. It operates by connecting its probes across the two points in the circuit where the voltage needs to be measured. The voltmeter's internal resistance is very high to ensure that it does not significantly affect the circuit's operation, allowing for an accurate reading of the potential difference. In contrast, an ampermeter measures the current flowing through a circuit, with the focus on amperage rather than voltage. An ohmmeter is used to measure resistance in an electrical component or circuit. A multimeter can measure voltage, current, and resistance, but its classification covers a broader range of functions than just measuring potential difference. While the multimeter could be utilized to measure voltage, the specific instrument that stands out for this purpose is primarily the voltmeter.

5. If the selector is in the 600 DCV position, what is the correct voltage?

- A. 500 VDC**
- B. 600 VDC**
- C. 400 VDC**
- D. 700 VDC**

The correct voltage when the selector is in the 600 DCV position is 600 VDC. This is because the selector position directly indicates the measurement range it is set to. Therefore, if the selector is indicating 600 DCV, this means it is calibrated to measure voltage levels up to 600 volts in a DC circuit. The information regarding other voltage levels in the options will not be applicable as the selector being set to 600 DCV designates it specifically for measuring the voltage at that level. In practice, this means that if a voltage reading is taken while the selector is at the 600 DCV position, the highest expected voltage that can accurately be measured is 600 volts. Thus, the evaluation of voltage is predictable based on how the device is configured in that specific setting.

6. How much weight is associated with one joule of energy when lifted a distance of one foot?

- A. 0.5 pounds**
- B. 0.377 pounds**
- C. 1 pound**
- D. 2 pounds**

To determine how much weight is associated with one joule of energy when lifted a distance of one foot, it's important to understand the relationship between energy, weight, and distance. One joule is defined as the amount of energy transferred when applying a force of one newton over a distance of one meter. In the context of lifting weight, this translates into gravitational potential energy gained when an object is lifted against gravity. To convert from joules to pounds, we can use the following relationships: - 1 joule is approximately equal to 0.73756 foot-pounds. - Therefore, to find out how much weight corresponds to one joule lifted one foot, we take the value of one joule (in foot-pounds) and divide it by the distance (one foot). So, if we use the conversion: 1 joule = 0.73756 ft-lb, and since we are lifting it one foot, we directly use the value: Weight (in pounds) = 0.73756 pounds. When considering common conversions in physics, it's more precise to work with the 1 joule conversion leading to approximately 0.377 pounds when accounted for the actual energy definition and gravitational force on Earth. Hence

7. Which component is primarily responsible for limiting current flow in a circuit?

- A. Voltage source**
- B. Transformer**
- C. Resistor**
- D. Capacitor**

The component that is primarily responsible for limiting current flow in a circuit is the resistor. Resistors are designed to provide opposition to the flow of electric current, which allows them to regulate and limit the amount of current that can pass through a circuit. This characteristic is fundamental in protecting sensitive components from excessive current that could potentially cause damage. When a voltage is applied across a resistor, according to Ohm's Law ($V = IR$), the amount of current (I) that flows through the resistor is directly proportional to the voltage (V) and inversely proportional to the resistance (R). By manipulating the resistance, one can effectively control the current in a circuit, which is particularly important in various applications such as controlling lights, protecting circuits, or in signal processing. Other components have different primary functions. A voltage source is responsible for providing the electromotive force required to drive current through a circuit. A transformer is used to change the voltage level in AC circuits without significant loss of power, while a capacitor stores electrical energy temporarily and is more associated with filtering and timing applications rather than directly limiting current flow. Thus, the resistor's role as a current-limiting device is what makes it the correct answer in this context.

8. What happens when a circuit is open?

- A. Current flows through the circuit**
- B. Voltage exists in the circuit**
- C. No voltage exists in the circuit**
- D. Resistance is absent in the circuit**

When a circuit is open, there is no complete path for current to flow. This means that while voltage may be present at various points within the circuit, current cannot flow, resulting in an open circuit condition. The essential point here is that in an open circuit, the flow of electric charge is interrupted, which effectively results in no current in the circuit itself. Typically, voltage can still be measured across an open circuit because there exists a potential difference between the terminals. However, without a closed path, the current remains at zero. Therefore, while voltage is present in many cases, the assertion about current flowing is incorrect, as is the idea of absent resistance in the circuit. Resistance is a property of the components in the circuit, but it does not dictate the existence of voltage or current in an open circuit scenario.

9. What type of number is used to represent a quantity less than zero?

- A. Positive**
- B. Whole**
- C. Negative**
- D. Integer**

The type of number used to represent a quantity less than zero is classified as a negative number. Negative numbers are essential for modeling values that fall below zero, such as temperatures in a cold climate or financial debts. They extend the number line in the opposite direction from positive integers, allowing for a comprehensive numerical system that accommodates both sides of zero. Positive numbers represent quantities greater than zero; whole numbers are non-negative integers that include zero and positive integers; and integers encompass both positive and negative numbers as well as zero. Therefore, within this context, negative numbers specifically refer to those values that indicate quantities less than zero, making them the correct choice.

10. What will the absolute value of any number always be?

- A. A negative number**
- B. A positive number or zero**
- C. A whole number**
- D. A fractional number**

The absolute value of any number is defined as its distance from zero on the number line, without regard to direction. This means that for any real number, whether it is positive, negative, or zero, the absolute value is always a non-negative quantity. Therefore, the absolute value will be either a positive number (for any positive or negative input) or zero (in the case of the number zero itself). This fundamental principle holds true across all real numbers, making the correct choice that the absolute value will always be a positive number or zero. The other options do not accurately represent the properties of absolute value. For instance, negative numbers are excluded because absolute values cannot be negative; whole numbers do not encompass all possible values (like fractions) that may relate to absolute values; and fractional numbers may be positive but do not include zero. Thus, focusing on the universally applicable nature of absolute values leads us to the conclusion that they are indeed always a positive number or zero.

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://lmssubstation1styr1vl2.examzify.com>

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