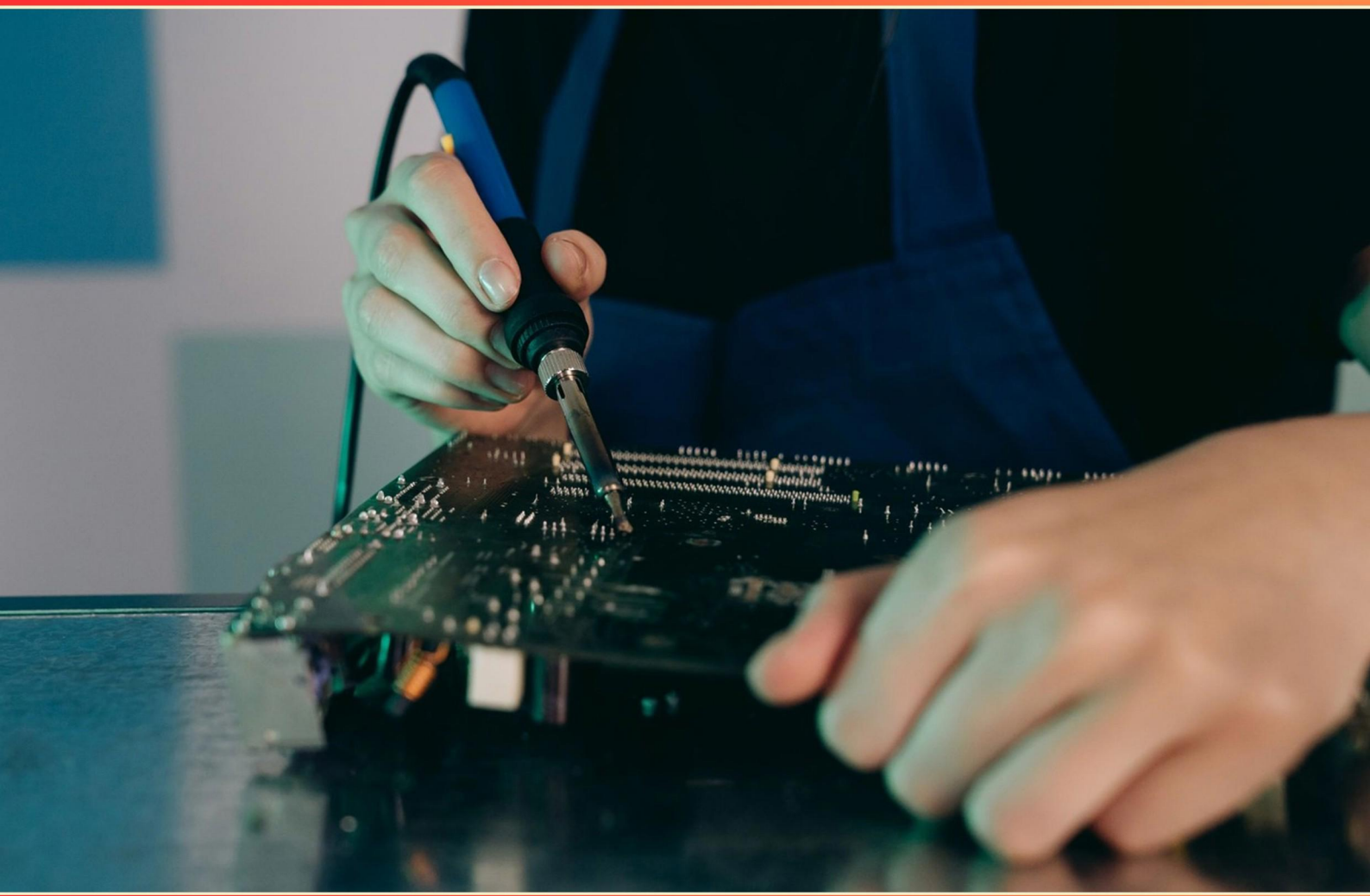
NCCER THE ELECTRICAL INDUSTRY (26101-23) PRACTICE TEST (SAMPLE)

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.

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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!

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Questions

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1. What device protects a branch circuit from overload and short circuits?

A. Transformer

B. Fuse

C. Circuit breaker

D. Capacitor bank

2. In a parallel circuit with two equal resistors of 6 Ω each connected to a 12 V source, what is the total current?

A. 2 A

B. 3 A

C. 4 A

D. 6 A

3. Copper-clad aluminum is an example of what category?

A. Insulation material

B. Conductor material

C. Grounding method

D. Protective coating

4. Ohm's law: If a circuit has 120 V and draws 6 A, what is the resistance?

A. 2 Ω

B. 10 Ω

C. 20 Ω

D. 60 Ω

5. In commercial systems, the wire is run in a conduit that makes up the _____.

A. Industrial Electrician

B. Raceway system

C. Rough-in

D. Trim-out

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6. What information does an electrical wiring diagram provide?

A. The arrangement and connections of components and conductors in a circuit.
B. The physical size of components.
C. The color coding standard used.
D. The rating of protective devices.

7. A residential wiring system typically uses which type of cable?

A. Nonmetallic-sheathed cable
B. Medium-voltage cable
C. Tray cable
D. Flat conductor cable

8. OSHA standards for general industry are covered in which CFR part?

A. 29 CFR, 1910
B. 29 CFR, 1926
C. 29 CFR, 1965
D. 29 CFR, 1970

9. Which term describes the total opposition to current in an AC circuit?

A. Voltage
B. Current
C. Power
D. Impedance

10. How is lighting efficacy calculated?

A. Lumens per watt
B. Watt hours
C. Lumens per square meter
D. Lux per lumen

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Answers

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

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Explanations

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1. What device protects a branch circuit from overload and short circuits?

A. Transformer

B. Fuse

C. Circuit breaker

D. Capacitor bank

Overcurrent protection devices interrupt current to keep conductors and equipment from overheating or failing during faults. A circuit breaker does this by automatically opening the circuit when current is too high, whether from a sustained overload or a short circuit. Because it trips and can be reset after the fault is cleared, it's practical for ongoing protection of a branch circuit. A fuse also protects by breaking the circuit when current exceeds the rating, but it must be replaced after it blows, so it isn't resettable. A transformer changes voltage, not protection, and a capacitor bank stores energy for power factor correction, not for interrupting fault current. That's why the circuit breaker best fits the role described.

2. In a parallel circuit with two equal resistors of 6 Ω each connected to a 12 V source, what is the total current?

A. 2 A

B. 3 A

C. 4 A

D. 6 A

In a parallel circuit, the same voltage drives each branch, and the branch currents add to give the total current. Each 6 Ω resistor has 12 V across it, so the current through each path is 12/6 = 2 A. The currents in parallel add, so the total current is 2 A + 2 A = 4 A. (You can also see this by combining the resistors: two 6 Ω in parallel give 3 Ω total, and 12 V / 3 Ω = 4 A.)

3. Copper-clad aluminum is an example of what category?

A. Insulation material

B. Conductor material

C. Grounding method

D. Protective coating

Copper-clad aluminum is a conductor material. In electrical work, materials are grouped into conductors, insulators, grounding methods, or protective coatings. Copper-clad aluminum has a thin copper layer bonded to an aluminum core to combine good conductivity with lighter weight and lower cost. Its primary role is to carry current, not to insulate, ground, or serve mainly as a protective coating. The copper layer improves termination and solderability and offers better corrosion resistance than bare aluminum, while the aluminum core keeps weight and cost down. So it's classified as a conductor material.

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4. Ohm's law: If a circuit has 120 V and draws 6 A, what is the resistance?

A. 2 Ω

B. 10 Ω

C. 20 Ω

D. 60 Ω

Using Ohm's law to solve for resistance when voltage and current are known: R = V / I. With 120 volts and 6 amperes, the resistance is 120 ÷ 6 = 20 ohms. This also checks out with V = I × R: 6 A × 20 Ω = 120 V. For quick intuition, if the resistance were 2 Ω, the current would be 60 A; if 10 Ω, 12 A; if 60 Ω, 2 A. Only 20 Ω gives a 6 A current at 120 V.

5. In commercial systems, the wire is run in a conduit that makes up the _____.

A. Industrial Electrician

B. Raceway system

C. Rough-in

D. Trim-out

Wiring in commercial systems is routed through a protected channel called a raceway. The conduit you see—whether metal or plastic—forms a raceway system that protects the conductors, keeps them organized, and makes pulling and future servicing easier while meeting code requirements. The other terms describe stages of installation or an occupation, not the conduit arrangement: rough-in is the early installation stage, trim-out is the finishing stage, and industrial electrician is the trade. So the conduit network is best described as a raceway system.

6. What information does an electrical wiring diagram provide?

A. The arrangement and connections of components and conductors in a circuit.

B. The physical size of components.

C. The color coding standard used.

D. The rating of protective devices.

A wiring diagram shows how components and conductors are arranged and connected in a circuit. It uses symbols for components and lines for wires to map out exactly how power, control signals, and grounding paths run between devices, switches, and loads. This makes installation, testing, and troubleshooting possible by letting you trace how the circuit is wired and how current can flow through the system. Physical size of components isn't shown in this diagram, so you wouldn't rely on it to determine dimensions. Color coding standards may be indicated by wire colors in the diagram, but the formal standard itself is specified elsewhere. Ratings of protective devices aren't part of the diagram's function; those ratings are shown on the devices or in a separate panel schedule.

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7. A residential wiring system typically uses which type of cable?

A. Nonmetallic-sheathed cable

B. Medium-voltage cable

C. Tray cable

D. Flat conductor cable

Nonmetallic-sheathed cable is used in most residential wiring because it is designed for indoor, dry locations, is economical, and easy to install through studs and inside walls. The plastic outer jacket protects multiple insulated conductors and a grounding conductor, making it a convenient, code-approved option for typical home circuits. It's well-suited for the temperatures and loads found in houses and is widely available and easy to work with for run-of-the-mill branch circuits. Other options aren't typical for standard homes: medium-voltage cable is meant for high-voltage distribution, not household circuits; tray cable is used in industrial settings where cables run in trays; flat conductor cable is older, less common for new residential work, and not the standard choice for typical home wiring.

8. OSHA standards for general industry are covered in which CFR part?

A. 29 CFR, 1910

B. 29 CFR, 1926

C. 29 CFR, 1965

D. 29 CFR, 1970

OSHA regulations are grouped by industry, with general industry standards covering non-construction workplaces in 29 CFR Part 1910. This part serves as the baseline for safety and health requirements across most industries, including areas like hazard communication, walking-working surfaces, and electrical safety (under Subpart S). Construction has its own set of rules in 29 CFR Part 1926. The other numbers aren't the general industry part. So the best answer is 29 CFR 1910.

9. Which term describes the total opposition to current in an AC circuit?

A. Voltage

B. Current

C. Power

D. Impedance

Impedance describes the total opposition to current in an AC circuit. It combines resistance, which is the steady opposition that dissipates real power, with reactance, which comes from inductors and capacitors and varies with frequency as energy is stored and returned. Because impedance accounts for both effects, it determines how much current flows for a given applied voltage (I = V/Z) and sets the phase difference between voltage and current. Voltage is the driving potential, current is the flowing quantity, and power is the rate of energy transfer; none of those alone describe how strongly the circuit resists the flow of AC, especially when reactive elements are involved.

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10. How is lighting efficacy calculated?

A. Lumens per watt

B. Watt hours

C. Lumens per square meter

D. Lux per lumen

Lighting efficacy measures how efficiently a light source converts electrical power into visible light. It is calculated by dividing the total light output in lumens by the electrical power input in watts, giving the unit lumens per watt. This directly expresses the efficiency of the source—the higher the lm/W, the more light produced per watt of power. Watt hours, in contrast, measure energy used over time, not efficiency. Lumens per square meter (lux) describes how bright a surface is, not how efficiently the light is produced. Lux per lumen would be an inverted, non-standard ratio and isn't used to rate efficiency. Example: a 10 W lamp that emits 900 lumens has an efficacy of 90 lm/W, illustrating high efficiency.

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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://nccer2610123.examzify.com

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

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