

GET WIRED 102 INTRODUCTION TO THE BASIC INSTALLATION OF LIGHTING FIXTURES AND BRANCH CIRCUITS 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. Transients are ____.
 - A. Short duration disturbances on electrical lines
 - B. Long duration disturbances on electrical lines
 - C. Voltage surges
 - D. Oscillating noise
2. The long slot on a 15-ampere, 125-volt, receptacle is the ____ conductor.
 - A. Hot
 - B. Grounded
 - C. Neutral
 - D. Ungrounded
3. What material is used for the recreation room ceiling finish when installing surface-mounted fluorescent luminaires?
 - A. Gypsum board
 - B. Masonite
 - C. Plywood
 - D. Low-density cellulose fiberboard
4. What is the primary function of a GFCI device?
 - A. Trip when ground-fault current exceeds a small threshold
 - B. Provide surge protection
 - C. Switch off power to the entire building in a fault
 - D. Detect overcurrent in any conductor
5. A two-branch parallel circuit has a 30 ohm and a 15 ohm resistor. What is the total resistance?
 - A. 45 ohms
 - B. 25 ohms
 - C. 60 ohms
 - D. 10 ohms

- 6. When selecting a trim for a recessed luminaire, which criterion is correct?**
- A. Any trim that physically fits and can be attached to the luminaire.
 - B. Only trims indicated by the manufacturer may be used with the luminaire.
 - C. Trims must be UL-listed for the luminaire.
 - D. Trims must be the same brand as the luminaire.
- 7. The suffix "B" in Type NM-B nonmetallic cable means that the conductors have an insulation temperature rated ____.**
- A. 60 C
 - B. 75 C
 - C. 90 C
 - D. 105 C
- 8. In a parallel circuit, the total current is the sum of the currents in each branch.**
- A. True
 - B. It depends on resistor values
 - C. It equals the voltage
 - D. False
- 9. A recessed luminaire bears no marking indicating it is 'Identified for Through-Wiring'. Is it permitted to run branch-circuit conductors other than the conductors that supply the luminaire through the integral junction box?**
- A. Yes
 - B. Not specified
 - C. Only if the luminaire is marked for through-wiring
 - D. No
- 10. Which color is associated with the neutral terminal on most standard receptacles?**
- A. Brass
 - B. Green
 - C. Black
 - D. White or silver

Answers

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

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Explanations

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1. Transients are ____.

A. Short duration disturbances on electrical lines

B. Long duration disturbances on electrical lines

C. Voltage surges

D. Oscillating noise

Transients are brief disturbances in the electrical supply, lasting only a short time (typically milliseconds or a few cycles of 60 Hz) before the voltage and current return to normal. They happen when equipment switches on or off, during faults, or due to events like lightning. Because they are short-lived, they are described as short duration disturbances on electrical lines. A voltage surge is a common type of transient, but the key idea is the very brief nature of the disturbance. Oscillating noise, by contrast, implies a continuing or repeating irregular signal, not a single brief event.

2. The long slot on a 15-ampere, 125-volt, receptacle is the ____ conductor.

A. Hot

B. Grounded

C. Neutral

D. Ungrounded

In a standard US 15-amp, 125-volt receptacle, the two flat slots are the hot and neutral conductors, with the round hole for the grounding conductor. The long (wide) slot is the neutral conductor, which is a grounded conductor because it's bonded to the earth at the service equipment and serves as the return path for current. The hot slot is the ungrounded conductor that carries the voltage relative to neutral, and the grounding conductor provides a safety path to earth. Colors typically: neutral is white, hot is black, and ground is green or bare.

3. What material is used for the recreation room ceiling finish when installing surface-mounted fluorescent luminaires?

A. Gypsum board

B. Masonite

C. Plywood

D. Low-density cellulose fiberboard

When you're mounting fluorescent luminaires on the ceiling, you want a finish that is lightweight, easy to cut around for fixture openings, and provides a smooth, reliable backing for the fixture hardware. Low-density cellulose fiberboard fits this need well: it's thin, inexpensive, and easy to shape so you can create clean openings for the luminaires without adding a lot of weight or requiring heavy framing. This makes installation straightforward and keeps the ceiling surface uniform for the fixtures' mounting and diffusers. By contrast, heavier materials like gypsum board, masonite, or plywood are tougher to cut precisely around multiple fixtures, can add unwanted weight, and may be more prone to cracking or warping around openings, making them less convenient for recreation room ceilings with surface-mounted luminaires.

4. What is the primary function of a GFCI device?

A. Trip when ground-fault current exceeds a small threshold

B. Provide surge protection

C. Switch off power to the entire building in a fault

D. Detect overcurrent in any conductor

The main function of a GFCI is to protect people from electric shock by sensing any leakage of current to ground and interrupting the circuit quickly. It does this by continuously comparing the current flowing through the hot conductor and the return current on the neutral conductor. If the two aren't equal, that difference means some current is escaping to ground (often through a person), and the device trips within milliseconds at a very small threshold, typically around a few milliamps. This rapid cut-off is what prevents serious shocks. It isn't meant for surge protection, it doesn't shut off power to the entire building in a fault, and it doesn't monitor overcurrent in a conductor—that's the job of other protective devices.

5. A two-branch parallel circuit has a 30 ohm and a 15 ohm resistor. What is the total resistance?

A. 45 ohms

B. 25 ohms

C. 60 ohms

D. 10 ohms

In a parallel circuit, the total resistance comes from adding the reciprocals of each branch and then taking the reciprocal of that sum. For two resistors, $1/R_t = 1/R_1 + 1/R_2$. Plugging in 30 ohms and 15 ohms: $1/R_t = 1/30 + 1/15 = 1/30 + 2/30 = 3/30 = 1/10$. Inverting gives $R_t = 10$ ohms. This fits the general rule that the total resistance in parallel is always less than the smallest individual resistance, which here is 15 ohms, so 10 ohms makes sense. The other options don't fit: 45 ohms would be the sum of the resistors (series), 60 ohms isn't achievable with these values in parallel, and 25 ohms would be greater than the smallest resistor, which isn't possible in parallel.

6. When selecting a trim for a recessed luminaire, which criterion is correct?

A. Any trim that physically fits and can be attached to the luminaire.

B. Only trims indicated by the manufacturer may be used with the luminaire.

C. Trims must be UL-listed for the luminaire.

D. Trims must be the same brand as the luminaire.

Selecting a trim is about keeping the fixture's listing and performance intact. The trim is part of the tested, rated assembly for a recessed luminaire, and the manufacturer validates exactly which trims are approved to be used with that housing. Using trims not indicated by the manufacturer can void the listing and create safety or performance problems, even if the trim seems to fit physically. A non-listed trim may not match the luminaire's thermal design, electrical clearances, fire-rating, or insulation compatibility, and could lead to overheating, arcing, or degraded light control. For these reasons, only trims indicated by the manufacturer may be used with the luminaire.

7. The suffix "B" in Type NM-B nonmetallic cable means that the conductors have an insulation temperature rated ____.

- A. 60 C
- B. 75 C
- C. 90 C**
- D. 105 C

The main idea here is that the suffix on a nonmetallic cable indicates the temperature rating of the conductor insulation. For Type NM-B, the B suffix means the insulation around the conductors is rated for 90°C. This rating tells you how hot the insulation can safely get without breaking down, not the maximum current the circuit can carry. In practice, you still consider the device terminations and other components, which are usually rated at 60°C, so that often sets the actual ampacity you use in residential wiring. The other temperature ratings listed aren't what the NM-B suffix denotes, so 90°C is the correct designation.

8. In a parallel circuit, the total current is the sum of the currents in each branch.

- A. True**
- B. It depends on resistor values
- C. It equals the voltage
- D. False

In a parallel circuit, the current from the source splits among the branches, and the total current equals the sum of the currents in each branch. The voltage across every branch is the same, and each branch draws its own current based on its impedance. By Kirchhoff's current law, the currents flowing through all branches must add up to the current delivered by the source, so $I_{tot} = I_1 + I_2 + I_3 + \dots$. This is true regardless of the resistor values; those values just determine how large each branch current is, not whether the total is the sum. The current is not equal to the voltage, and saying it depends on resistor values alone misses the fundamental rule that the branch currents add to the total.

9. A recessed luminaire bears no marking indicating it is 'Identified for Through-Wiring'. Is it permitted to run branch-circuit conductors other than the conductors that supply the luminaire through the integral junction box?

- A. Yes
- B. Not specified
- C. Only if the luminaire is marked for through-wiring
- D. No**

Through-wiring a recessed fixture depends on the fixture being identified in its listing as suitable for passing conductors through its junction box. If the luminaire does not carry that identification, you cannot run branch-circuit conductors through its integral junction box. The box and its internal wiring aren't evaluated or rated for such use, so attempting to pass other conductors through could violate the listing, exceed the box fill, or create unsafe conditions. To continue a circuit, you'd need to use a separate, listed junction box or alternative wiring method that is approved for through-wiring. If the fixture were marked for through-wiring, then passing conductors through would be allowed only in accordance with the listing and fill requirements.

10. Which color is associated with the neutral terminal on most standard receptacles?

A. Brass

B. Green

C. Black

D. White or silver

Neutral conductors are identified by white (or gray) color in wiring. On most standard receptacles, the neutral terminal is the silver-colored screw and is connected to the white conductor. The hot (live) terminal uses a brass-colored screw and is connected to the black conductor, while the ground terminal is green or bare. This color coding helps ensure the return path is correct and improves safety, since swapping neutral and hot can create shock hazards and other issues.

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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://getwired102.examzify.com>

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

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