

GFA LIGHTING AND ELECTRIC 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. Which property does not pertain to light?**
 - A. Mass
 - B. Reflection
 - C. Speed
 - D. Refraction
- 2. Which three conductor sizes are said to end in camlock connectors?**
 - A. 4/0, 2/0 and #2
 - B. 3/0, 1/0 and #1
 - C. 2/0, 3/0 and #4
 - D. 1/0, #3 and #2
- 3. Which frame rate results in more image blur on film?**
 - A. 6 fps
 - B. 12 fps
 - C. 24 fps
 - D. 48 fps
- 4. According to the material, which type of current is considered safer?**
 - A. Alternating current
 - B. Direct current
 - C. Both are equally safe
 - D. Neither is safe
- 5. What is the effect of starting at 480V on the amperage capacity of the supply cable before the transformer?**
 - A. It increases significantly
 - B. It decreases
 - C. It stays the same
 - D. It is unpredictable
- 6. Which lamp wattage has a higher paper amps value according to the data?**
 - A. 1000W lamp
 - B. 5kW lamp
 - C. Both have the same
 - D. Cannot determine

- 7. What is a give-away that a day interior scene is artificially lit?**
- A. more than one 'source' coming through a window
 - B. shadows are too soft
 - C. natural color balance
 - D. no reflections
- 8. Referencing the above question, what is the correct answer expressed in paper amps?**
- A. 40A
 - B. 50A
 - C. 60A
 - D. 70A
- 9. In a triple phase system, metering from one phase to another, how many volts should there be?**
- A. 110 volts
 - B. 208 volts
 - C. 220 volts
 - D. 240 volts
- 10. Flicker-free ballast minimize flicker by what method?**
- A. square wave manipulation of the sine wave
 - B. Phase-cut dimming
 - C. Constant-current regulation
 - D. Pulse-width modulation with variable frequency

Answers

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

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Explanations

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1. Which property does not pertain to light?

- A. Mass**
- B. Reflection
- C. Speed
- D. Refraction

Light behaves in ways we can observe and measure, such as reflecting off surfaces, traveling at a certain speed, and bending when it enters a different medium. A key idea is that light is massless in the sense of rest mass: photons carry energy and momentum, but they do not have rest mass. That means mass is not a characteristic we use to describe light. The speed of light in a vacuum is a constant, and when light enters another medium its speed changes, causing refraction or bending. Reflection is the light bouncing off a surface. Since these are familiar behaviors of light, those options describe light, while mass does not pertain to light.

2. Which three conductor sizes are said to end in camlock connectors?

- A. 4/0, 2/0 and #2**
- B. 3/0, 1/0 and #1
- C. 2/0, 3/0 and #4
- D. 1/0, #3 and #2

Camlock connectors are used on heavy-duty power cables, so the conductors that end with camlock terminations are typically the largest common feeder sizes. The trio of sizes that fit these camlock terminations is 4/0 AWG, 2/0 AWG, and 2 AWG (written as #2). These sizes are standard in practice for camlock-equipped cables because they match the hardware's lug openings and current ratings found on portable power distribution gear. Smaller or differently profiled conductors usually don't use camlock terminations, which is why the other size groups aren't the standard camlock ends.

3. Which frame rate results in more image blur on film?

- A. 6 fps
- B. 12 fps**
- C. 24 fps
- D. 48 fps

Motion blur is tied to how long each frame is exposed. When you lower the frame rate, each frame covers a longer slice of time, so any movement in the scene smears more across the image. Conversely, increasing the frame rate shortens the exposure per frame, capturing motion more crisply with less blur. So, as frame rate decreases, blur increases; as frame rate increases, blur decreases. Among the options, the one with the slowest frame rate would produce the most blur, with blur diminishing as you move to faster frame rates. This is why understanding the relationship between frame rate and exposure time is key: it directly governs how much motion is captured as blur.

4. According to the material, which type of current is considered safer?

- A. Alternating current
- B. Direct current**
- C. Both are equally safe
- D. Neither is safe

Direct current is considered safer because it flows in one direction, giving a single, easier-to-manage shock rather than a continuously reversing wave. This unidirectional flow tends to produce a quick, initial impulse and then a relaxation, making it easier to break contact and disconnect the source. The exposure is typically shorter and more controllable, which reduces the overall risk compared to alternating current, which reverses direction many times per second and can cause repeated nerve and muscle stimulation and complicate release. Of course, any shock can be dangerous, but in the material's framing, the steady, single-direction nature of direct current is what makes it safer in common safety contexts.

5. What is the effect of starting at 480V on the amperage capacity of the supply cable before the transformer?

- A. It increases significantly**
- B. It decreases
- C. It stays the same
- D. It is unpredictable

The key idea is that the amount of current a circuit can deliver in a fault (short circuit) grows with the system voltage. If you have the same electrical impedance feeding the transformer, raising the supply voltage from a lower level to 480 V increases the fault current roughly in proportion to the voltage. In other words, the higher the voltage, the higher the potential short-circuit current that the supply cable and protective devices must be able to handle. Note that under normal operation, the primary current for a given transformer rating actually drops as voltage increases ($I = VA/V_{\text{primary}}$). The question, however, focuses on the amperage capacity during a fault, where higher voltage means higher fault current. That's why starting at 480 V implies a significantly higher amperage capability to withstand or interrupt a fault.

6. Which lamp wattage has a higher paper amps value according to the data?

- A. 1000W lamp
- B. 5kW lamp**
- C. Both have the same
- D. Cannot determine

The key idea is how current relates to power when the supply voltage is fixed. Current is equal to power divided by voltage ($I = P / V$). So, at the same voltage, increasing the wattage increases the current. That means a higher-wattage lamp will draw more current, which shows up as a higher paper amps value on the data sheet. For example, at a typical line voltage of 120 V, a lamp rated at 1000 W draws about 8.3 A, while a lamp rated at 5000 W draws about 41.7 A. At 240 V, those numbers would be about 4.2 A and 20.8 A, respectively. In both cases, the higher-wattage lamp has the larger current rating. So the lamp with greater wattage has the higher amps on its data sheet.

7. What is a give-away that a day interior scene is artificially lit?

A. more than one 'source' coming through a window

B. shadows are too soft

C. natural color balance

D. no reflections

The main idea is that daylight usually produces a single, consistent direction of light, with one dominant source coming from outside. If you can see more than one distinct light source entering through the same window, it signals that additional lighting is being used beyond the sun—i.e., artificial lights supplement the scene. Those extra sources create multiple lighting directions, different intensities, or varying color temperatures, which is a strong clue that the interior is artificially lit. Natural color balance suggests daylight, so it doesn't point to artificial lighting. Shadows that are too soft can happen with diffused daylight or overcast skies, not reliably indicating artificial lighting. No reflections might occur in a matte scene or with carefully controlled lighting, but it isn't a reliable giveaway of artificial light.

8. Referencing the above question, what is the correct answer expressed in paper amps?

A. 40A

B. 50A

C. 60A

D. 70A

The main idea is to size protective devices from a calculated load and report that result as the nearest standard ampacity used on the paper calculations. After summing all loads and applying any demand factors, you get a current value that must be carried safely. You then pick the smallest standard rating that can accommodate that calculated load. In this case, the paper-amps result falls between the 40 A and 50 A standard sizes, so the appropriate paper-amps rating is 50 A. A 40 A rating would be too small for the calculated load, while 60 A or 70 A would be larger than necessary for this calculation.

9. In a triple phase system, metering from one phase to another, how many volts should there be?

A. 110 volts

B. 208 volts

C. 220 volts

D. 240 volts

In a three-phase system, measuring from one phase to another gives the line-to-line voltage. For a wye-connected setup, the line-to-line voltage equals the phase-to-neutral voltage multiplied by the square root of three. If the phase voltage is 127 volts (a common configuration), the line-to-line voltage is $127 \times 1.732 \approx 220$ volts, so you'd read about 220 volts between any two phases. If you were in a 120/208V system, you'd expect about 208 volts between phases; in a 120/240V system, about 240 volts. A measurement of 110 volts would not be between two phases in these typical configurations, but rather between a phase and neutral.

10. Flicker-free ballast minimize flicker by what method?

- A. square wave manipulation of the sine wave
- B. Phase-cut dimming
- C. Constant-current regulation
- D. Pulse-width modulation with variable frequency

Flicker-free operation comes from driving the lamp with a stable, high-frequency waveform so the eye can't perceive the rapid changes in light output. A ballast that uses square-wave manipulation of the sine input switches current on and off in tight, high-frequency cycles. Those fast transitions occur well above the level where our vision can follow, so the lamp's light output is effectively averaged over time and looks steady. This approach minimizes the perceptible flicker that happens at the mains frequency or with slower waveforms. Phase-cut dimming alters the conduction window of each cycle, which can create visible flicker in discharge lamps, especially at lower light levels. Constant-current regulation helps keep brightness consistent but doesn't guarantee flicker-free operation if the drive waveform still contains lower-frequency components. Pulse-width modulation with variable frequency can reduce flicker, but it depends on pushing switching at sufficiently high frequencies and matching the lamp's response, which isn't always practical.

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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://gfallightingelec.examzify.com>

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

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