# ELECTRICAL APPRENTICESHIP TECHNOLOGY 2 (T2) PHASE 4 PRACTICE EXAM (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. Which of the following is a design consideration for a lighting control strategy in a commercial building?**

A. Remote controlled switches

B. Use of incandescent bulbs everywhere

C. No daylight integration

D. Time controlled switches

**2. Addressable lighting control system: one disadvantage.**

A. More expensive to install due to mains supply and communications cable.

B. Fault identification is slower.

C. No central control.

D. No need for power.

**3. What is the purpose of the NEC in electrical installations?**

A. It provides safety standards for design, installation, and inspection of electrical systems.

B. It lists every wiring color code for labeling.

C. It prescribes only voltage levels for residential circuits.

D. It governs only electrical equipment manufacturing.

**4. One type of cable suitable for installation in soil with a high impact resistance pipe in an industrial or commercial building and state minimum burial depth?**

A. SWA; buried at least 450 mm

B. NYY; buried 300 mm

C. PVC; buried 100 mm

D. LSF; buried 600 mm

**5. How is a basic continuity check performed?**

A. Use a voltmeter to check continuity.

B. Disconnect the circuit and rely on visual inspection.

C. Use a digital multimeter in continuity mode or resistance mode to verify a low-resistance path between two points.

D. Continuity cannot be tested with a digital multimeter.

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**6. Which function checks the lamp will strike correctly on power failure?**

A. Provide a facility for normal power to be restored

B. The lamp's battery is sufficient to run the lamp for the rated duration

C. Simulation of failure for set periods of time eg 1H. 2h

D. Method of checking lamp will strike correctly on power failure

**7. Addressable lighting control system: one advantage.**

A. Faulty lights can be identified using the SCADA system.

B. Requires no mains supply.

C. Easier installation than standalone.

D. More expensive to install.

**8. Which device is used to connect a motor to its load while allowing for misalignment?**

A. Flexible coupling

B. Belt drive

C. Gearbox

D. Clutch

**9. During quarterly testing, how long should a 3-hour emergency lighting system be simulated for?**

A. 60 minutes

B. 15 minutes

C. 45 minutes

D. 30 minutes

**10. LED lamps run up to full output immediately when turned on.**

A. True

B. False

C. It varies

D. Not specified

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# Answers

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

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# Explanations

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## 1. Which of the following is a design consideration for a lighting control strategy in a commercial building?

A. Remote controlled switches

B. Use of incandescent bulbs everywhere

C. No daylight integration

D. Time controlled switches

*Designing a lighting control strategy for a commercial building focuses on delivering the right illumination where and when it's needed while minimizing energy waste. Time controlled switches are a key design feature because they automate on/off schedules that match typical occupancy patterns, so spaces are lit during use and dimmed or dark when unoccupied. This helps curb energy use, reduce operating costs, and supports predictable maintenance and energy budgeting. While remote controlled switches can add flexibility and daylight harvesting can cut consumption further, a solid time-based control provides a reliable baseline and can be used in combination with other strategies. Using incandescent bulbs everywhere is inefficient and defeats the goal of an energy-conscious system, and skipping daylight integration misses a major opportunity to leverage natural light for saving energy.*

## 2. Addressable lighting control system: one disadvantage.

A. More expensive to install due to mains supply and communications cable.

B. Fault identification is slower.

C. No central control.

D. No need for power.

*Addressable lighting control systems let each fixture be controlled individually over a data network. The main drawback is the higher installation cost, because you must provide both the mains supply and a dedicated communications cable for the control data, along with the necessary controllers, gateways, and network hardware. This added cabling and equipment tends to raise the upfront price compared to non-addressable or simpler dimming setups. The other statements don't fit as well: these systems typically rely on a central controller or network, so saying there's no central control isn't accurate; the luminaires still require power to operate; and fault identification is not inherently slower since digital status feedback can actually speed up locating issues.*

## 3. What is the purpose of the NEC in electrical installations?

A. It provides safety standards for design, installation, and inspection of electrical systems.

B. It lists every wiring color code for labeling.

C. It prescribes only voltage levels for residential circuits.

D. It governs only electrical equipment manufacturing.

*The main idea is that the NEC is a safety standard that sets minimum requirements to safeguard people and property from electrical hazards by guiding how electrical systems should be designed, installed, and inspected. This is why the correct choice is that the NEC provides safety standards for design, installation, and inspection of electrical systems. It covers wiring methods, grounding, overcurrent protection, and more to ensure installations are safe. It isn't limited to listing wiring color codes, nor does it focus only on voltage levels, and it doesn't govern how electrical equipment is manufactured. Those areas are addressed by other standards or by different aspects of regulation, while the NEC concentrates on safe installation practices.*

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**4. One type of cable suitable for installation in soil with a high impact resistance pipe in an industrial or commercial building and state minimum burial depth?**

A. SWA; buried at least 450 mm

B. NYY; buried 300 mm

C. PVC; buried 100 mm

D. LSF; buried 600 mm

*The key idea is providing mechanical protection for underground cables in demanding industrial or commercial environments. Steel Wire Armoured (SWA) cable has a steel armour that guards the conductors from physical impact, moisture, and damage when buried in soil or installed in protective ducts. That armour makes it suitable for direct burial in soil, even where a heavy-duty protective pipe is present, because it resists crushing and disturbance. The minimum burial depth of about 450 mm is chosen to keep the cable well below the area likely to be disturbed by surface loads and activities, providing reliable protection in an industrial setting. The other cable types either lack armour or rely on insulation and sheathing alone, which don't offer the same level of mechanical protection for direct burial, and the stated depths either don't meet the protection needs or aren't appropriate for direct underground installation.*

**5. How is a basic continuity check performed?**

A. Use a voltmeter to check continuity.

B. Disconnect the circuit and rely on visual inspection.

C. Use a digital multimeter in continuity mode or resistance mode to verify a low-resistance path between two points.

D. Continuity cannot be tested with a digital multimeter.

*Continuity checks verify a complete, low-resistance path between two points. To perform it, first de-energize the circuit. Use a digital multimeter in continuity mode or resistance (ohms) mode. Place the probes on the two points to test; if there is a good path, the meter will usually beep and show a small resistance value (often a few ohms or less). If the path is open or highly resistive, you'll see no beep or a high resistance reading. This direct method catches breaks that visual inspection can miss and confirms the actual electrical connection. Using a voltmeter isn't a direct continuity test since it measures voltage, not path integrity, and it's incorrect to say a digital multimeter can't test continuity.*

**6. Which function checks the lamp will strike correctly on power failure?**

A. Provide a facility for normal power to be restored

B. The lamp's battery is sufficient to run the lamp for the rated duration

C. Simulation of failure for set periods of time eg 1H. 2h

D. Method of checking lamp will strike correctly on power failure

*The key idea is verifying automatic activation of the emergency lamp when power fails. To ensure reliability, you need a defined test method that triggers a loss of supply and confirms the lamp lights up as it should and stays on for the rated duration. That explicit testing procedure is what this option describes, making it the best fit. The other points relate to keeping normal power available, the battery's capacity, or a general simulation, but they don't specify the actual verification method for the failure condition.*

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## 7. Addressable lighting control system: one advantage.

A. Faulty lights can be identified using the SCADA system.

B. Requires no mains supply.

C. Easier installation than standalone.

D. More expensive to install.

*In an addressable lighting control system, every luminaire has its own digital address and reports status to a central controller. The big advantage is that faults can be identified through the SCADA system, which continuously monitors the network and flags issues like lamp or ballast failures and communication problems, pinpointing the exact fixture. This lets maintenance locate and fix problems quickly, reducing downtime and avoiding hours of manual testing across many lights. While these systems still require mains power and can be more complex or costly to install, the ability to spot faulty lights via SCADA is the standout benefit.*

## 8. Which device is used to connect a motor to its load while allowing for misalignment?

A. Flexible coupling

B. Belt drive

C. Gearbox

D. Clutch

*Misalignment between motor and load shafts is common and can cause excessive wear if the connection is rigid. A flexible coupling provides a compliant link that transmits torque while absorbing angular, parallel (offset), and axial misalignment. This keeps shafts aligned, reduces stress on bearings and seals, and dampens vibration. Belt drives do transmit power and require careful alignment and tensioning; significant misalignment will wear belts and bearings. A gearbox changes speed and torque but doesn't address misalignment directly. A clutch engages or disengages power, not to accommodate continuous shaft misalignment.*

## 9. During quarterly testing, how long should a 3-hour emergency lighting system be simulated for?

A. 60 minutes

B. 15 minutes

C. 45 minutes

D. 30 minutes

*During quarterly testing, the goal is to verify that the emergency lighting automatically comes on and runs reliably for a representative portion of its rated endurance. A system designed to run for 3 hours is capable of 3 hours of illumination, but quarterly tests use a shorter simulation to check critical operation, battery condition, and lamp performance without stressing the battery with a full 3-hour discharge. Thirty minutes provides enough time to confirm the lighting stays on, the circuitry and controls function, and the output remains within spec. The full 3-hour duration is typically reserved for more thorough testing, such as an annual test, to prove the system can sustain operation for the entire rated period.*

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## 10. LED lamps run up to full output immediately when turned on.

A. True

B. False

C. It varies

D. Not specified

*Light is produced by LEDs as soon as forward current flows through the diode, so they reach their designed brightness essentially instantly. The brightness is set by the drive current from the ballast or driver, not by heating up a filament, which is why LEDs don't require a warm-up period. In practice, you'll see near-immediate full output when you turn them on. Some drivers use soft-start or inrush limiting to reduce electrical surges, which can look like a very brief ramp in power, but the light itself appears immediately once the current is established. If you ever notice a noticeable delay, it's more likely due to dimming circuitry, sensors, or a faulty driver rather than the LED itself.*

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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://elecapprenticet2phase4.examzify.com

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

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