

3rd Year Electrical Trades Qualification (TQ) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

1. To adjust the grade of a flush valve WC, which component is adjusted?
 - A. Inlet valve
 - B. Adjustable faceplate
 - C. Float cup
 - D. Seat ring

2. What is a simple way to decrease the output of a cast iron radiator?
 - A. Paint it
 - B. Replace with a larger radiator
 - C. Increase water temperature
 - D. Remove insulation around the pipe

3. Spacing for gang showers?
 - A. 750 mm / 30 inches
 - B. 600 mm / 24 inches
 - C. 900 mm / 36 inches
 - D. 500 mm / 20 inches

4. What is the gas allowed as a fuel in the example?
 - A. Propane
 - B. Oxygen
 - C. Nitrogen
 - D. Argon

5. What is the area of a circle with radius 0.5 units?
 - A. 0.7854
 - B. 1.5708
 - C. 0.3927
 - D. 0.6283

- 6. When pouring concrete over pipes, what must be maintained to prevent damage?**
- A. Keep pressure test during pour**
 - B. Maintain constant temperature**
 - C. Stop pour if air bubbles appear**
 - D. Cover pipes with insulation**
- 7. A 750 square foot area using 1/2 inch PEX requires how many loops?**
- A. 2**
 - B. 4**
 - C. 5**
 - D. 3**
- 8. Where should combustion air terminate indoors?**
- A. 2' vertically 1' horizontally from largest natural draft burner**
 - B. 3' vertically 1' horizontally from largest natural draft burner**
 - C. 1' vertically 3' horizontally from largest natural draft burner**
 - D. 1' vertically 2' horizontally from largest natural draft burner**
- 9. Which piping arrangement provides the most balanced flow in a heating system?**
- A. Direct return**
 - B. Reverse return**
 - C. Common return**
 - D. Mixed return**
- 10. Discharge of the air inlet for a regulator should be directed in which orientation relative to the inlet and at what distance?**
- A. facing up 10 ft away from inlet**
 - B. facing down 5 ft away from inlet**
 - C. perpendicular to inlet, 10 ft away**
 - D. facing down 10 ft away from inlet**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. To adjust the grade of a flush valve WC, which component is adjusted?

- A. Inlet valve**
- B. Adjustable faceplate**
- C. Float cup**
- D. Seat ring**

The amount of water released during a flush is set by the opening in the flush valve. The adjustable faceplate sits on top of the valve and is turned or modified to change that opening. A larger opening lets more water flow with each flush, giving a stronger or higher-grade flush, while a smaller opening reduces the volume for a gentler flush. The other parts—Inlet valve (the fill valve), Float cup (part of the fill valve that controls the tank refill level), and Seat ring (the seal of the valve)—do not control how much water is discharged during a flush, so they don't set the flush grade.

2. What is a simple way to decrease the output of a cast iron radiator?

- A. Paint it**
- B. Replace with a larger radiator**
- C. Increase water temperature**
- D. Remove insulation around the pipe**

Radiator output can be trimmed by changing how its surface emits heat. The amount of heat a radiator sends into the room comes from both convection and radiation, and the radiative part depends on the surface's emissivity. Bare cast iron has a relatively high emissivity, so it radiates a good amount of heat. Painting the surface adds a coating that lowers emissivity, which reduces the amount of radiant heat emitted at the same surface temperature. That makes the radiator feel cooler and deliver less heat to the room, and it's a simple, reversible way to dial down output without changing the system settings.

3. Spacing for gang showers?

- A. 750 mm / 30 inches**
- B. 600 mm / 24 inches**
- C. 900 mm / 36 inches**
- D. 500 mm / 20 inches**

Spacing between adjacent gang showers must allow safe access to each unit and prevent spray from one shower from interfering with the next. The standard spacing is 750 mm (about 30 inches) from center to center. This provides enough room for a person to stand in front of a shower, reach the controls, and move to safety without crowding the neighboring unit, while also reducing the chance of water impacting the adjacent shower area. Spacing smaller than this, like 600 mm (24 inches) or 500 mm (20 inches), tends to be too tight for comfortable and safe operation. A larger gap, such as 900 mm (36 inches), uses more space than typically required for most layouts.

4. What is the gas allowed as a fuel in the example?

- A. Propane**
- B. Oxygen**
- C. Nitrogen**
- D. Argon**

The main idea here is identifying which gas can supply energy through combustion. A fuel gas provides chemical energy that burns with an oxidizer to produce heat. Propane is a hydrocarbon fuel that readily combusts when mixed with air or with an oxidizer, delivering usable heat in flames, torches, and many gas-fueled appliances. Oxygen, while essential to support combustion, is not a fuel itself—it's the substance that reacts with the fuel. Nitrogen is largely inert and serves as a diluent or purge gas, not a source of energy. Argon is an inert shielding gas used to protect the weld or flame from air, not to fuel combustion. So propane is the gas that serves as the fuel in the example.

5. What is the area of a circle with radius 0.5 units?

- A. 0.7854**
- B. 1.5708**
- C. 0.3927**
- D. 0.6283**

Area is found using $A = \pi r^2$. With a radius of 0.5 units, $r^2 = 0.25$, so $A = \pi \times 0.25 = 0.25\pi \approx 0.7854$ square units. This is the exact value expressed numerically as 0.7854, matching the given result. The other numbers would come from using a different radius or a misapplication of π , not from the correct radius value.

6. When pouring concrete over pipes, what must be maintained to prevent damage?

- A. Keep pressure test during pour**
- B. Maintain constant temperature**
- C. Stop pour if air bubbles appear**
- D. Cover pipes with insulation**

Maintaining a pressure test during the pour keeps the pipe system under load and sealed as the concrete and surrounding material settle around it. The internal pressure helps resist external forces from the newly poured concrete and backfill, and it immediately reveals any leaks or weak joints while the concrete is still fresh. This proactive check protects joints and connections from damage or movement that could occur if pressure isn't maintained, ensuring the piping remains intact as the encasing material cures. Temperature control and insulation don't specifically guard the pipe during the pour, and stopping the pour for air bubbles targets concrete voids rather than the integrity of the pipe installation itself.

7. A 750 square foot area using 1/2 inch PEX requires how many loops?

- A. 2**
- B. 4**
- C. 5**
- D. 3**

The idea being tested is how many radiant-floor loops you need to cover a given area with a practical loop length. For 1/2 inch PEX, you design loops so you don't exceed a reasonable pipe length per loop while still spacing the passes to heat the space evenly. A rough rule of thumb is that area covered by one loop is tied to the total pipe length you can fit in that loop, along with the spacing between parallel passes. If you have 750 sq ft to heat and you space passes around 9 inches (about 0.75 ft), you'd need roughly $750 / 0.75 \approx 1000$ feet of pipe total to cover the area. A typical 1/2 inch PEX loop can carry around 350-400 feet of pipe before pressure drop and flow balancing become problematic, so you'd need about 2.5 loops, i.e., three loops, to distribute the heat effectively. Therefore, three loops is the practical answer. In real designs, exact numbers depend on room shape, floor construction, and heat-load requirements, but three loops is a common solution for this scenario.

8. Where should combustion air terminate indoors?

- A. 2' vertically 1' horizontally from largest natural draft burner**
- B. 3' vertically 1' horizontally from largest natural draft burner**
- C. 1' vertically 3' horizontally from largest natural draft burner**
- D. 1' vertically 2' horizontally from largest natural draft burner**

Combustion air for indoor appliances must be drawn from a location that stays clear of the burner's exhaust and heat, so the air entering the appliance is fresh and not preheated or contaminated by the venting flow. The requirement uses the largest natural-draft burner to set the clearance because that burner represents the worst case for draft and heat effects. Terminating the air intake at least 1 foot above the floor helps avoid taking in heavy dust or cold air from the very floor and reduces floor-level drafts. Keeping the intake at least 2 feet horizontally away from the largest natural-draft burner keeps it out of the direct path of the exhaust and away from the burner's heat zone, lowering the chance of backflow or interference with the venting system. Collectively, these minimum distances ensure reliable combustion and reduce the risk of drawing combustion byproducts back into the space. Other distances would either be more restrictive than necessary or fail to meet the required separation from the burner and exhaust, so the 1-foot vertical and 2-foot horizontal separation is the proper guideline.

9. Which piping arrangement provides the most balanced flow in a heating system?

- A. Direct return
- B. Reverse return**
- C. Common return
- D. Mixed return

Balancing flow in a heating system comes from making the pressure drops for each radiator branch roughly the same. In a reverse return arrangement, the piping is laid out so that the length of the supply path to each radiator has a corresponding, opposite-length return path. This means the pressure losses that each radiator sees on the way out and back tend to cancel across all radiators, giving each one a similar flow rate. The result is the most uniform distribution of water and, therefore, the most even heating. Direct return can cause uneven flow because the nearer radiators can take more of the available pressure before the farther ones, leading to some radiators getting more water than others. Common return blends all returns together in a way that doesn't balance the individual branch losses, and mixed return combines elements that also tend to produce imbalance.

10. Discharge of the air inlet for a regulator should be directed in which orientation relative to the inlet and at what distance?

- A. facing up 10 ft away from inlet
- B. facing down 5 ft away from inlet
- C. perpendicular to inlet, 10 ft away
- D. facing down 10 ft away from inlet**

Discharge from a regulator is exhaust air that can carry oil mist or condensate, so it must be directed away from the inlet and kept clear of the intake to prevent re-ingestion and nuisance to people nearby. Pointing it downward and placing it about 10 ft from the inlet ensures the exhaust is directed to the floor and far enough away to avoid being drawn back into the inlet or into surrounding equipment. Directing the discharge upward or too close to the inlet increases the risk of re-entry of exhaust, while a sideways (perpendicular) direction at the same distance does not guarantee the exhaust won't interact with the inlet or nearby components. Hence, facing down 10 ft away is the safest and most effective arrangement.

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://3rdyreelectricaltq.examzify.com>

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

SAMPLE