TRADES QUALIFICATION (TQ) PRACTICE 3RD YEAR PRACTICE TEST (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://tqpractice3rdyear.examzify.com

Table of Contents

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

1. What are common safety color codes in shop environments?

A. Red for fire equipment, yellow for caution, blue for information, green for safety

B. Red for electrical equipment, yellow for leakage, blue for water, green for waste

C. Red for danger, orange for caution, white for safety, black for exit

D. Red for alarms, yellow for floors, blue for air, green for exit

2. In electrical schematics, which symbol best represents a resistor?

A. Long squiggly line

B. Circle

C. Rectangle

D. Box with diagonal line inside

3. Which gas is not among the three hydrocarbons listed?

A. Methane

B. Propane

C. Butane

D. Ethane

4. When do you need to add an additional circuit vent?

A. On 45 degree change

B. At every 90 degree elbow

C. After 50 feet of run

D. Only with oil burner

5. During the refrigerant cycle in a split system, which phase change occurs as the refrigerant absorbs heat?

A. Evaporation

B. Condensation

C. Compression

D. Expansion

6. The second stage regulator is set at what pressure in inches of water column?

A. 8 In WC

B. 11 In WC

C. 15 In WC

D. 20 In WC

7. Which material would collect most grease?

A. Aluminum

B. PVC

C. Cast iron

D. Copper

8. Minimum trap arm length for a 3 inch trap arm at 1/4 inch per ft slope?

A. 24 inches

B. 18 inches

C. 12 inches

D. 6 inches

9. For 1500 sq ft of 1/2 inch PEX, how many loops are required?

A. 3

B. 4

C. 5

D. 6

10. What is the purpose of a ground fault circuit interrupter (GFCI)?

A. To maintain constant voltage

B. To reduce energy consumption

C. To quickly cut off power when a ground fault is detected

D. To indicate when a circuit is overloaded

Answers

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

Explanations

1. What are common safety color codes in shop environments?

A. Red for fire equipment, yellow for caution, blue for information, green for safety

B. Red for electrical equipment, yellow for leakage, blue for water, green for waste

C. Red for danger, orange for caution, white for safety, black for exit

D. Red for alarms, yellow for floors, blue for air, green for exit

Colors in a shop are used to convey safety messages quickly so people know how to respond. Red is reserved for emergency-related items and actions tied to fire safety, like fire extinguishers, alarms, and emergency stops. Yellow signals caution, highlighting areas or situations where extra care is needed, such as wet floors, pinch points, or exposed moving machinery. Blue is used for information or guidance that tells you what to do, such as safety procedures or advisory notices. Green marks safe conditions or routes, including exits, first aid stations, and locations where safety equipment is ready to use. This combination helps workers react fast and consistently, even when under pressure.

2. In electrical schematics, which symbol best represents a resistor?

A. Long squiggly line

B. Circle

C. Rectangle

D. Box with diagonal line inside

The symbol for a resistor is a long squiggly line because this jagged line has been the traditional, quickly recognizable representation of resistance in many schematic conventions, especially in common classroom and US-based diagrams. It stands out clearly from other components, so you can scan a circuit and immediately spot where resistance is placed. While some standards use a rectangle for a resistor, that variant isn't the symbol used in this context, and the other shapes shown don't match how resistors are typically drawn. So the long squiggly line is the best choice because it aligns with the common depiction of a resistor in everyday schematics.

3. Which gas is not among the three hydrocarbons listed?

A. Methane

B. Propane

C. Butane

D. Ethane

The item asks you to identify which hydrocarbon isn't part of the three named. The three hydrocarbons listed are methane, propane, and butane. Ethane isn't in that set. It's the two-carbon member of the same family (C_2H_6), whereas the others are C1, C3, and C4. So ethane is the gas not among the three listed.

4. When do you need to add an additional circuit vent?

A. On 45 degree change

B. At every 90 degree elbow

C. After 50 feet of run

D. Only with oil burner

Air pockets tend to form when flow is redirected in a pipe, especially at tilted bends. Adding an extra vent at a 45-degree change lets trapped air escape, preventing air locks that can disrupt flow and pressure. That's why this option is the best choice. A 90-degree elbow isn't the default vent point in this rule, and a fixed distance like 50 feet doesn't account for how bends and direction changes affect air buildup. Vents aren't limited to oil burners; the need for venting depends on the system's tendency to trap air, not the fuel type.

5. During the refrigerant cycle in a split system, which phase change occurs as the refrigerant absorbs heat?

A. Evaporation

B. Condensation

C. Compression

D. Expansion

In the evaporator, heat is absorbed from the surroundings, and the liquid refrigerant changes to a gas. This phase change from liquid to vapor is evaporation, driven by the heat input at low pressure. The evaporator's job is precisely to remove heat by allowing this latent heat of vaporization to be absorbed, producing the cooling effect. Condensation would occur when gas loses heat and becomes liquid in the condenser, compression increases pressure without a phase change, and expansion throttles the refrigerant lowering pressure and temperature but doesn't involve heat absorption to change phase. So the phase change during heat absorption is evaporation.

6. The second stage regulator is set at what pressure in inches of water column?

A. 8 In WC

B. 11 In WC

C. 15 In WC

D. 20 In WC

A second stage regulator is designed to deliver breathing gas at nearly ambient pressure, but with a small positive opening pressure so the valve starts to flow smoothly as soon as inhalation begins. That opening pressure, or cracking pressure, is typically set around 11 inches of water column. This value provides just enough force to reliably open the valve without making inhalation effort too high, balancing comfort and valve control. Setting it lower (like 8 in WC) could allow unintended free-flow, while setting it higher (15–20 in WC) would increase the work of breathing and make inhalation harder. So 11 inches of water column is the standard, optimal setting in this context.

7. Which material would collect most grease?

A. Aluminum

B. PVC

C. Cast iron

D. Copper

Grease sticks more to rough, porous surfaces than to smooth, non-porous ones. Cast iron has a coarse, porous surface with many tiny crevices that trap oil and cooking residues, giving grease more places to settle and be difficult to remove. The other materials—aluminum, copper, and PVC—are smoother and less porous, so grease doesn't get as deeply held and is easier to wipe away. So cast iron would collect the most grease.

8. Minimum trap arm length for a 3 inch trap arm at 1/4 inch per ft slope?

A. 24 inches

B. 18 inches

C. 12 inches

D. 6 inches

The concept here is how the trap size and slope influence the required minimum distance from the trap to the vent, i.e., the trap arm length. Larger traps need a longer trap arm to maintain proper venting and prevent siphoning of the trap water seal. For a trap that is 3 inches in diameter and using the standard slope of 1/4 inch per foot, the code/table guidance sets the minimum allowable trap arm length at 18 inches. This is the shortest run that still meets the venting requirements for this trap size with that slope. Shorter lengths would not satisfy the minimum, while a longer length would simply be more than needed but still acceptable. So, the smallest acceptable trap arm length is 18 inches.

9. For 1500 sq ft of 1/2 inch PEX, how many loops are required?

A. 3

B. 4

C. 5

D. 6

In radiant floor systems, the number of loops is based on how much floor area one loop can effectively heat. For 1/2 inch PEX with typical spacing, a single loop is designed to cover about 300 square feet. So 1500 square feet divided by 300 gives five loops. This keeps each loop length and flow within practical limits to ensure even heat distribution and manageable pressure drop. If you tried to do only three loops, each loop would have to heat about 500 square feet, which is beyond the typical design guidance and can lead to insufficient heating. Four loops (about 375 square feet per loop) is closer but still larger than the standard 300 sq ft per loop, while six loops (about 250 square feet per loop) would add extra fittings and expense without a proportional gain in performance.

10. What is the purpose of a ground fault circuit interrupter (GFCI)?

A. To maintain constant voltage

B. To reduce energy consumption

C. To quickly cut off power when a ground fault is detected

D. To indicate when a circuit is overloaded

A GFCI protects people from electric shock by quickly cutting power whenever current leaks to ground. It watches the current flowing in the hot and returning on the neutral; under normal use these two are equal. If some current escapes—through a person or moisture to the ground—the balance is disturbed, and the device trips in a fraction of a second, shutting off power to prevent harm. This rapid response is especially important in wet locations like bathrooms, kitchens, or outdoors. It isn't about keeping voltage constant, reducing energy use, or indicating an overload—that's handled by other devices. The GFCI trips at a very small leakage level, typically around 4–6 milliamps, to catch dangerous leaks early.

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://tqpractice3rdyear.examzify.com

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