

4TH STEAM 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 device is used to remove oil from the exhaust steam line from a turbine?**
 - A. Oil separator
 - B. Filter
 - C. Strainer
 - D. Demister

- 2. The measure of how much solar radiation is reflected by a surface is known as what?**
 - A. Albedo
 - B. Absorption
 - C. Scattering
 - D. Infrared index

- 3. Who enforces Alberta's boiler regulations?**
 - A. ABSA
 - B. ASME
 - C. OSHA
 - D. CSA

- 4. What is the minimum pressure test for medical gas piping?**
 - A. 100 psi
 - B. 150 psi
 - C. 200 psi
 - D. 250 psi

- 5. Lobster back is another name for which piping component?**
 - A. Double back elbow
 - B. Elbow
 - C. Tees
 - D. Reducers

- 6. What does a skimmer do in the steam drum?**
- A. Rids condensate of suspended particles and oil
 - B. Regulates steam pressure
 - C. Measures condensate level
 - D. Adds chemicals to condensate
- 7. What prevents a boiler from collapsing when being dumped?**
- A. Manual Air Vent
 - B. Safety Valve
 - C. Vacuum Breaker
 - D. Blowdown Valve
- 8. Sprinkler system type where all heads are open and discharge through a common outlet?**
- A. Deluge
 - B. Wet
 - C. Dry
 - D. Foam System
- 9. What is a combination of active and passive solar heating systems?**
- A. Hybrid systems
 - B. Combined systems
 - C. Mixed solar
 - D. Dual-mode system
- 10. The two valves on a boiler blow off or what type?**
- A. Angle globe and a quick opening
 - B. Gate and globe
 - C. Ball and check
 - D. Butterfly and globe

Answers

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

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Explanations

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1. Which device is used to remove oil from the exhaust steam line from a turbine?

A. Oil separator

B. Filter

C. Strainer

D. Demister

Oil from the lubrication system can become entrained in turbine exhaust steam, so it must be removed before the steam goes to the condenser. An oil separator is designed for this purpose: it uses coalescing or separation techniques to pull oil droplets out of the steam, returning the oil to the lubrication system while clean steam continues on. Filters and strainers target solid particles, not oil; a demister removes moisture droplets from gas but isn't effective at removing oil from steam. So the device that best serves this need is the oil separator.

2. The measure of how much solar radiation is reflected by a surface is known as what?

A. Albedo

B. Absorption

C. Scattering

D. Infrared index

Albedo is the measure of how much solar radiation is reflected by a surface. It's expressed as a fraction or percentage between 0 and 1, where high albedo means the surface reflects most of the sunlight (like fresh snow), and low albedo means it absorbs more energy (like dark asphalt). This concept is key in understanding how surfaces influence the Earth's energy balance and climate. Absorption, on the other hand, is about how much energy the surface takes in, which is essentially the complement of reflectance. Scattering describes light being redirected in many directions and can affect brightness, but it's not the overall reflectivity measure. The term infrared index isn't a standard measure of reflectivity either. So, the quantity that directly quantifies the fraction of incoming solar radiation that is reflected is albedo.

3. Who enforces Alberta's boiler regulations?

A. ABSA

B. ASME

C. OSHA

D. CSA

In Alberta, the enforcement of boiler regulations is handled by ABSA, the Alberta Boilers Safety Association. ABSA administers the province's boiler and pressure vessel safety program, issuing permits, conducting inspections, and licensing boiler operators and installations to ensure safe operation. Their authority comes from provincial laws like the Safety Codes Act and the Alberta Boiler Safety Regulations. While organizations such as ASME provide design and construction codes and CSA sets national standards, they are not the enforcing body in Alberta, and OSHA is a U.S. agency not applicable to Alberta.

4. What is the minimum pressure test for medical gas piping?

- A. 100 psi
- B. 150 psi**
- C. 200 psi
- D. 250 psi

Testing medical gas piping relies on a hydrostatic test that pushes the system beyond its normal operating pressure to reveal leaks or weak joints. The minimum test pressure is set at 1.5 times the maximum operating pressure of the system. For many medical gas installations, that results in 150 psi as the minimum test pressure. This provides a safe margin—high enough to uncover defects, but not so high as to risk damage to the piping or components. A test pressure of 100 psi wouldn't give sufficient margin, while 200 or 250 psi would go beyond the standard minimum.

5. Lobster back is another name for which piping component?

- A. Double back elbow**
- B. Elbow
- C. Tees
- D. Reducers

In piping, some fittings earn nicknames based on their shape. A "lobster back" refers to a double back elbow, a fitting that makes a return turn by two successive bends in a compact space. It's basically two elbows combined to create a tight 180-degree turn, which is why it's classified with elbows rather than with tees or reducers. A standard elbow is a single bend, a tee adds a branch, and a reducer changes the pipe size. So the lobster back is the double back elbow.

6. What does a skimmer do in the steam drum?

- A. Rids condensate of suspended particles and oil**
- B. Regulates steam pressure
- C. Measures condensate level
- D. Adds chemicals to condensate

A skimmer focuses on the surface layer of water in the steam drum, pulling off oil and other floating impurities that rise to the top. Oil from boiler operation or feedwater can form a slick on the water surface, and these floating contaminants can be carried into the steam and condensate system if not removed. By skimming off this surface layer, the condensate becomes cleaner and less likely to carry oil or scum into turbines and heat exchangers. This explains why removing oil and floating particles from the top of the boiler water is the primary job of a skimmer. The other functions—regulating pressure, measuring condensate level, or adding chemicals—are handled by different components.

7. What prevents a boiler from collapsing when being dumped?

- A. Manual Air Vent
- B. Safety Valve
- C. Vacuum Breaker
- D. Blowdown Valve

When a boiler is being dumped, water and steam are removed from the shell. As the water leaves and the steam space volume changes, the inside can start to pull a vacuum if air cannot enter. That vacuum tends to pull the boiler walls inward, risking collapse. The remedy is to let air into the boiler from the outside as the internal pressure drops, so the pressure inside stays near atmospheric and the shell isn't squeezed. A vacuum breaker serves this purpose by opening when the internal pressure falls below ambient, letting air in and equalizing the pressure. That automatic air ingress directly prevents the vacuum from forming and protects the boiler during drainage. A manual air vent, by contrast, is designed to vent air out of the system as it fills or heats, not to admit air during dumping, so it wouldn't prevent the collapse risk. The other devices have different roles—safety valves release excess pressure, and a blowdown valve removes water and impurities—not about preventing vacuum during draining.

8. Sprinkler system type where all heads are open and discharge through a common outlet?

- A. Deluge
- B. Wet
- C. Dry
- D. Foam System

Deluge systems are built so every sprinkler head is open. When the system is activated, water is released through the entire network and flows out of all heads at once via a single, common outlet. This makes deluge ideal for areas where rapid, wide-area coverage is needed, since there are no individual heads that close off water flow. In contrast, a wet system keeps water-filled piping with heads that operate individually, a dry system keeps the pipes charged with air until activation, and foam systems use foam concentrate for specific hazards.

9. What is a combination of active and passive solar heating systems?

- A. Hybrid systems
- B. Combined systems
- C. Mixed solar
- D. Dual-mode system

The main idea here is combining two ways of capturing and using solar heat into one integrated system. Passive solar uses the building's design—like proper orientation, large south-facing windows, thermal mass (concrete, stone, or brick that stores heat), and selective shading—to collect and store heat without pumps or mechanical Devices. Active solar, on the other hand, uses equipment such as collectors, pumps, and storage tanks to actively move heat where it's needed. A hybrid solar heating system brings these approaches together. It leverages passive elements to capture and store heat naturally, while also using active components to boost heat collection, transfer it with a fluid, and distribute it to spaces or water needs. This synergy increases efficiency and reliability, because the system can rely on passive heat when available and supplement with active heating as needed, often controllable by sensors and a central controller. Other terms you might see are less standard or less descriptive of what's happening in practice, whereas "hybrid" clearly describes the blend of passive and active methods in one system.

10. The two valves on a boiler blow off or what type?

A. Angle globe and a quick opening

B. Gate and globe

C. Ball and check

D. Butterfly and globe

The idea is that a boiler blowdown line uses two valves: an angle globe valve for throttling and a quick-opening valve for rapid discharge. The globe-type valve provides smooth, controllable flow and a good seal, which is ideal for regulating how much water you blow down to remove impurities without shocking the boiler. The quick-opening valve is designed to open rapidly, allowing fast, full discharge when you need to purge quickly or perform an emergency blowdown. Put together, you get both precise control and a fast response. The other pairings don't fit because they don't combine a valve suited for careful throttling with a valve designed for quick, large-volume opening.

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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://4thsteam.examzify.com>

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

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