

Steamfitter Certificate of Qualification (CFQ) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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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. Why is a clear lens advantageous in front of a filtered welding lens?**
 - A. Enhances visibility**
 - B. Prevents scratches on the filter lens**
 - C. Shields the filter lens from heat and sparks**
 - D. Reduces eye fatigue**

- 2. Once the correcting chemical is introduced into a bypass chemical feeder, what should be done next?**
 - A. Close the feeder**
 - B. Open and vent the isolation valves**
 - C. Throttle flow with the bypass valve**
 - D. Start the heating system**

- 3. What type of material is used for superheater tubes operating at temperatures above 950 °F?**
 - A. A 213**
 - B. A 335**
 - C. A 106**
 - D. A 500**

- 4. Which pressure does the UV type PSV operate above its set point?**
 - A. 5%**
 - B. 10%**
 - C. 15%**
 - D. 20%**

- 5. How does a bimetallic thermostatic trap react to varying temperatures?**
 - A. It uses electrical sensors for operation**
 - B. It bends to open or close based on temperature**
 - C. It maintains constant flow regardless of temperature**
 - D. It releases steam pressure to avoid overheating**

- 6. In 2 pipe systems without traps, what is the recommended "A" dimension for returning condensate to the boiler?**
- A. 18 inches**
 - B. 28 inches**
 - C. 30 inches**
 - D. 32 inches**
- 7. Which of the following is NOT a primary function of a steam trap?**
- A. Release condensate**
 - B. Conserve steam**
 - C. Remove air and non-condensable gases**
 - D. Increase steam pressure**
- 8. What does the term "bull headed tee" describe?**
- A. All flow enters or exits the branch opening**
 - B. Flow is split equally between two outlets**
 - C. Reduction in pipe size with a single outlet**
 - D. The formation of a junction with three outlets**
- 9. In terms of heat transfer, what is a key factor in the design of steam tracing?**
- A. Length of lines**
 - B. Material composition**
 - C. Line positioning**
 - D. Insulation thickness**
- 10. What does an increase in pressure differential above the manufacturer's rating typically indicate?**
- A. System optimization**
 - B. Potential clogging in the system**
 - C. Improved fluid efficiency**
 - D. Increased pump speed**

Answers

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

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Explanations

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1. Why is a clear lens advantageous in front of a filtered welding lens?

- A. Enhances visibility**
- B. Prevents scratches on the filter lens**
- C. Shields the filter lens from heat and sparks**
- D. Reduces eye fatigue**

A clear lens is advantageous in front of a filtered welding lens primarily because it shields the filter lens from heat and sparks. During welding, there is a significant amount of heat generated, along with sparks and spatter that can occur from the welding process. Having a clear lens acts as a protective barrier that absorbs much of the physical damage that can come from these sparks, thereby prolonging the life of the more expensive filtered lens underneath. This protective feature is crucial, as it helps maintain the integrity and effectiveness of the filter lens, ensuring that it can perform its function of protecting the welder's eyes against harmful radiation and brightness from the weld. While enhancing visibility, preventing scratches, and reducing eye fatigue are also valid considerations when discussing welding lenses, the primary function of the clear lens in this context is its role in physical protection against the numerous hazards present during welding.

2. Once the correcting chemical is introduced into a bypass chemical feeder, what should be done next?

- A. Close the feeder**
- B. Open and vent the isolation valves**
- C. Throttle flow with the bypass valve**
- D. Start the heating system**

The correct action after introducing the correcting chemical into a bypass chemical feeder is to close the feeder. Closing the feeder after the chemical is introduced ensures that no further chemical is accidentally released into the system, which could potentially lead to over-treatment or an imbalance in the chemical dosing. By sealing the feeder, you also prevent contamination and maintain accurate control over the amount of chemical being used. Following this, it is important to monitor the system to ensure that the chemical has distributed properly. This may involve confirming that the isolation valves are open if they were closed prior to introducing the chemical, allowing proper flow and mixing. Additionally, techniques such as throttling the flow with the bypass valve or starting the heating system may be part of subsequent steps in the process, but closing the feeder is crucial for initial containment and safety.

3. What type of material is used for superheater tubes operating at temperatures above 950 °F?

- A. A 213
- B. A 335**
- C. A 106
- D. A 500

The correct choice for superheater tubes operating at temperatures above 950 °F is indeed B. A 335. This material designation refers to the ASME specification for alloy steel pipes that are specifically designed to withstand high temperatures and pressures, making them well-suited for use in superheaters. A 335 pipes are typically made from chromium-molybdenum alloy steels, which provide excellent high-temperature strength and oxidation resistance, important properties when dealing with the extreme conditions present in superheater environments. The alloying elements in A 335 help improve the mechanical properties of the steel at elevated temperatures, making it an ideal choice for applications in power plants and industrial boilers. In contrast, the other options either do not have the same high-temperature resistance or are not specifically designed for superheater applications. For example, A 213 refers to seamless alloy steel and is primarily used for boiler tubes, whereas A 106 is used for standard carbon steel high-temperature service but does not offer the same level of performance as A 335 in really high-temperature environments. Therefore, B. A 335 is the optimal material choice for superheater tubes operating under such demanding conditions.

4. Which pressure does the UV type PSV operate above its set point?

- A. 5%
- B. 10%**
- C. 15%
- D. 20%

The UV type Pressure Safety Valve (PSV) is designed to operate at a specified pressure set point, and it typically opens to relieve pressure when the system pressure exceeds this set point. The specific characteristic of the UV type PSV is that it generally operates above its set point by a certain percentage to ensure a safe and effective release of pressure. Choosing 10% indicates a balance between providing enough pressure relief while also minimizing the risk of premature opening. This is a common standard for many types of PSVs to ensure that they do not open unnecessarily due to minor fluctuations in pressure, which could lead to varying performance and safety issues. Therefore, a 10% operation above the set point is intended to provide a controlled and reliable mechanism to protect against overpressure scenarios without compromising the system's efficiency. Understanding the appropriate percentage is crucial for ensuring that the PSV performs as required to safeguard equipment and maintain safe operational conditions.

5. How does a bimetallic thermostatic trap react to varying temperatures?

- A. It uses electrical sensors for operation**
- B. It bends to open or close based on temperature**
- C. It maintains constant flow regardless of temperature**
- D. It releases steam pressure to avoid overheating**

A bimetallic thermostatic trap operates by utilizing the physical properties of two different metals that expand and contract at different rates when exposed to temperature changes. As the temperature increases, the differential expansion of the metals causes the bimetallic element to bend. This bending action directly influences the opening and closing of the trap, allowing it to respond to changes in steam and condensate temperatures effectively. When steam is present, the trap will stay closed until the temperature drops, indicating lower pressure or the presence of condensate. Conversely, as the temperature rises, the bimetallic component bends and opens the trap, allowing condensate to drain while preventing steam from escaping. This mechanism enables the trap to react dynamically to fluctuations in temperature and pressure, maintaining system efficiency. In contrast, the other options either describe mechanisms that are not applicable to a bimetallic thermostatic trap or misrepresent its function. The use of electrical sensors is unrelated to this kind of trap, which operates purely on mechanical properties. Maintaining constant flow is not characteristic of this design since it varies flow based on temperature conditions. Lastly, while traps do serve to protect against overheating, the specific function described does not accurately reflect the main operational principle of a bimetallic thermostatic

6. In 2 pipe systems without traps, what is the recommended "A" dimension for returning condensate to the boiler?

- A. 18 inches**
- B. 28 inches**
- C. 30 inches**
- D. 32 inches**

The recommended "A" dimension for returning condensate to the boiler in a two-pipe system without traps is 28 inches. This dimension is crucial because it helps ensure proper flow and pressure balance in the system, facilitating efficient condensate return and minimizing the risk of water hammer or improper drainage. In a two-pipe system, maintaining an adequate height for the condensate return line is essential to create the sufficient gravitational force necessary for the condensate to return to the boiler. A dimension of 28 inches strikes a balance between allowing enough head pressure for effective flow and preventing issues that might arise from too great a height which could complicate the return process. Understanding these parameters is important for steamfitters as they design and maintain heating systems to ensure optimal performance.

7. Which of the following is NOT a primary function of a steam trap?

- A. Release condensate**
- B. Conserve steam**
- C. Remove air and non-condensable gases**
- D. Increase steam pressure**

The correct answer identifies that increasing steam pressure is not a primary function of a steam trap. Steam traps are designed primarily to manage condensate and ensure the efficient functioning of steam systems. Their main roles include releasing condensate, conserving steam by preventing steam loss, and removing air and non-condensable gases from the system. By allowing condensate to exit the system while retaining steam, steam traps help maintain the efficiency and effectiveness of the steam system without causing pressure buildup or energy loss. Therefore, their function revolves around managing steam and condensing gases, rather than manipulating pressure directly, which is typically handled by other components such as pressure regulators or control valves.

8. What does the term "bull headed tee" describe?

- A. All flow enters or exits the branch opening**
- B. Flow is split equally between two outlets**
- C. Reduction in pipe size with a single outlet**
- D. The formation of a junction with three outlets**

The term "bull headed tee" refers to a specific type of fitting where all flow enters or exits through the branch opening. This design allows for a larger mainline pipe to connect directly to a smaller branch line at a right angle. The unique construction facilitates increased flow capabilities through the branch, as it directs the fluid through a single point rather than splitting it between multiple outlets. In the context of plumbing or piping systems, understanding the function of a bull headed tee is crucial for tasks that require efficient fluid dynamics. It is particularly beneficial in scenarios where maintaining a singular flow path is necessary, such as in drainage systems where a concentrated outlet is required for effective disposal. Other options describe different types of fittings or flow characteristics that do not apply to the bull headed tee. For example, the notion of splitting flow equally aligns with a different fitting type, while a reduction in pipe size indicates a different purpose altogether. Thus, recognizing the accurate term and its function is vital for appropriate application in steamfitting and piping systems.

9. In terms of heat transfer, what is a key factor in the design of steam tracing?

- A. Length of lines**
- B. Material composition**
- C. Line positioning**
- D. Insulation thickness**

In the context of steam tracing, line positioning is crucial for effective heat transfer. Proper positioning ensures that the steam tracing lines are optimally placed to enhance thermal contact with the surfaces that require heating. This allows for more efficient transfer of heat from the steam to the object, maintaining the desired temperature and preventing heat loss. Inadequate positioning can lead to uneven heating, which might compromise system performance and efficiency. For instance, placing tracing lines too far from the surface being heated can result in significant heat losses, particularly if the steam lines are not insulated properly. While length of lines, material composition, and insulation thickness are also important considerations in the design of steam tracing systems, they do not directly influence the immediate conductive heat transfer between the steam lines and the surfaces being heated as much as proper line positioning does. Therefore, it is vital to prioritize correct placement when designing a steam tracing system to optimize heat transfer efficiency.

10. What does an increase in pressure differential above the manufacturer's rating typically indicate?

- A. System optimization**
- B. Potential clogging in the system**
- C. Improved fluid efficiency**
- D. Increased pump speed**

An increase in pressure differential above the manufacturer's rating typically indicates potential clogging in the system. When the pressure differential exceeds the specified limits, it suggests that the flow pathway is facing resistance, which is often caused by blockages or restrictions within the pipes, fittings, or equipment. This increased resistance requires the pump to work harder to maintain the desired flow rate, resulting in a higher pressure differential. Understanding this concept is crucial because it highlights the importance of regular maintenance and monitoring of fluid systems. Clogging can lead to further issues such as decreased efficiency, potential damage to the pump, and increased energy consumption. Therefore, recognizing signs of abnormal pressure differentials can help in taking proactive measures to diagnose and resolve potential blockages before they cause significant problems in the system.

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://steamfittercfq.examzify.com>

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

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