

Texas Compressed Natural Gas (CNG) Category 3 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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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. Where should fuel supply cylinders not be installed in relation to vehicle driving characteristics?**
 - A. To improve handling and maneuverability**
 - B. To adversely affect the driving characteristics of the vehicle**
 - C. To stabilize the weight distribution of the vehicle**
 - D. To ensure accessibility for maintenance**

- 2. Equipment located inside the perimeter fencing must be protected against what?**
 - A. Human interference**
 - B. Weather conditions**
 - C. Damage**
 - D. Natural disasters**

- 3. What is the typical cycle time for a CNG fueling station to complete a refueling?**
 - A. A few seconds**
 - B. Several minutes**
 - C. Over an hour**
 - D. Instantaneous**

- 4. What is a crucial characteristic of the CNG service hose?**
 - A. It must be capable of conducting an electric current**
 - B. It must be resistant to UV radiation**
 - C. It must be able to withstand extreme cold temperatures**
 - D. It must be flexible for easy handling**

- 5. When installing piping, what is a critical factor to consider in areas prone to corrosion?**
 - A. The volume of gas**
 - B. The type of protective coating**
 - C. The type of gas used**
 - D. The environmental conditions**

- 6. Where must fuel containers be installed on a school bus or mass transit vehicle?**
- A. On the roof of the vehicle**
 - B. On the underside of the vehicle**
 - C. In the passenger compartment**
 - D. Near the front of the vehicle**
- 7. What should be avoided for the CNG hose to ensure safety?**
- A. Fretting and overheating**
 - B. Moisture exposure**
 - C. Direct sunlight**
 - D. Mud and dirt accumulation**
- 8. Piping components must withstand what level of hydrostatic test?**
- A. Two times the rated working pressure**
 - B. Four times the rated working pressure without structural failure**
 - C. Three times the rated working pressure**
 - D. Fifteen times the working pressure**
- 9. Why might government incentives promote the use of CNG?**
- A. To reduce the cost of traditional fuels**
 - B. To encourage the use of alternative fuels**
 - C. To limit the availability of CNG**
 - D. To increase reliance on gasoline**
- 10. What must valve designs ensure regarding ease of maintenance operations?**
- A. They should allow for quick replacements without specialized tools**
 - B. They should facilitate valve stem access without removing the bonnet or disassembling the valve body**
 - C. They should include built-in diagnostic systems for monitoring**
 - D. They should be compatible with automated systems only**

Answers

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

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Explanations

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1. Where should fuel supply cylinders not be installed in relation to vehicle driving characteristics?

- A. To improve handling and maneuverability**
- B. To adversely affect the driving characteristics of the vehicle**
- C. To stabilize the weight distribution of the vehicle**
- D. To ensure accessibility for maintenance**

In the context of vehicle design and safety, fuel supply cylinders, particularly in vehicles using compressed natural gas (CNG), must be positioned in such a way that they do not negatively impact the driving characteristics. The choice indicating that fuel supply cylinders should not be installed to adversely affect the driving characteristics of the vehicle highlights the importance of maintaining optimal vehicle performance, stability, and control. When fuel cylinders are improperly placed, it can lead to uneven weight distribution, which may cause issues such as compromised handling, instability during turns, and an overall negative impact on vehicle dynamics. Maintaining a balanced and well-distributed weight in the vehicle is crucial for safe operation, especially in situations that demand precise maneuvering. Proper location of fuel supply cylinders is therefore essential for ensuring that driving performance is maintained and enhanced rather than hindered. Other options focus on factors like handling improvement, weight stability, and maintenance accessibility, all of which are important but do not specifically address the potential adverse impacts on driving characteristics, making them less relevant to the question at hand. The primary concern is to ensure that the design choices regarding fuel cylinder placement favor safety and performance rather than compromise them.

2. Equipment located inside the perimeter fencing must be protected against what?

- A. Human interference**
- B. Weather conditions**
- C. Damage**
- D. Natural disasters**

The correct choice highlights the importance of protecting equipment inside the perimeter fencing from potential damage. This is essential because such equipment can be costly and crucial for operational efficiency. Damage can occur through various means, such as unintentional contact, operational mishaps, or external factors relating to equipment use. Ensuring that equipment is safeguarded against damage helps maintain functionality and safety, ultimately contributing to successful operations within the facility. While human interference, weather conditions, and natural disasters are also important considerations for protecting equipment, the emphasized focus on damage is critical since it encapsulates a range of risks that could directly impact the integrity and performance of the equipment. Ultimately, damage prevention is a fundamental aspect of operational management in environments where equipment is vital for processes, making it a priority for those responsible for equipment maintenance and safety.

3. What is the typical cycle time for a CNG fueling station to complete a refueling?

- A. A few seconds**
- B. Several minutes**
- C. Over an hour**
- D. Instantaneous**

The typical cycle time for a CNG fueling station to complete a refueling is several minutes. This duration is influenced by several factors, including the size of the vehicle's fuel tank and the pressure at which the CNG is dispensed. Unlike conventional gasoline or diesel fueling, which can be completed in a matter of seconds, CNG refueling requires more time due to the compression process involved. During refueling, the CNG must be safely filled into the vehicle's tank, which is designed to handle high pressures. The filling process not only takes into account the pressure of the gas but also allows for safe and efficient transfer of fuel from the fueling station to the vehicle. Understanding the factors that affect the timing is important for users and operators of CNG fueling stations, as it helps manage expectations for refueling times and plan schedules accordingly. Several minutes remains a standard and practical duration for CNG refueling in today's fueling stations.

4. What is a crucial characteristic of the CNG service hose?

- A. It must be capable of conducting an electric current**
- B. It must be resistant to UV radiation**
- C. It must be able to withstand extreme cold temperatures**
- D. It must be flexible for easy handling**

A crucial characteristic of a CNG service hose is its capability to withstand the specific conditions associated with compressed natural gas service. The correct answer relates to its resistance to UV radiation. This is vital because hoses exposed to sunlight and outdoor conditions can degrade over time due to ultraviolet rays, which can lead to leaks or failures in the hose. CNG service hoses are typically made of materials designed to resist such degradation, ensuring they maintain their structural integrity and performance over time. Hoses that lack UV resistance would pose significant safety and reliability issues in outdoor installations. While other characteristics, such as flexibility for handling, resistance to extreme temperatures, and electrical conductivity might be relevant in specific contexts, the primary focus in this question revolves around the need for the hose to withstand environmental factors like UV radiation to ensure safety and longevity in service.

5. When installing piping, what is a critical factor to consider in areas prone to corrosion?

- A. The volume of gas**
- B. The type of protective coating**
- C. The type of gas used**
- D. The environmental conditions**

In areas prone to corrosion, one of the most critical factors to consider when installing piping is the type of protective coating. Protective coatings serve as a barrier between the piping and the corrosive elements present in the environment, significantly enhancing the longevity and integrity of the piping system. These coatings can prevent moisture and corrosive substances from directly contacting the metal, thereby reducing the risk of rust and deterioration over time. While the volume of gas, the type of gas used, and the environmental conditions can play essential roles in gas system design and safety, they are not the primary factors directly affecting the corrosion resistance of piping. The protective coating's material, application method, and maintenance are vital for corrosion prevention, making it a key consideration in piping installations, particularly in challenging environments where corrosion risks are high.

6. Where must fuel containers be installed on a school bus or mass transit vehicle?

- A. On the roof of the vehicle**
- B. On the underside of the vehicle**
- C. In the passenger compartment**
- D. Near the front of the vehicle**

Installing fuel containers on the underside of a school bus or mass transit vehicle is critical for several reasons. Placing them beneath the vehicle helps to protect the integrity of the fuel system by minimizing the risk of leaks or spills in the passenger compartment, ensuring both safety and comfort for occupants. This placement can also aid in weight distribution, which is essential for maintaining vehicle stability and performance. Furthermore, positioning the fuel containers underneath allows for better structural support and encasement in a crash scenario, reducing potential hazards in the event of an accident. This approach is consistent with safety regulations and standards concerning the installation of fuel systems in public transportation vehicles, emphasizing the importance of passenger safety and operational efficiency.

7. What should be avoided for the CNG hose to ensure safety?

- A. Fretting and overheating**
- B. Moisture exposure**
- C. Direct sunlight**
- D. Mud and dirt accumulation**

Fretting and overheating are critical concerns for CNG hoses because they can compromise the integrity of the hose and lead to potential failures or leaks. Fretting occurs when there is relative movement between the hose and its connectors, which can cause wear and tear over time. This wear can create small cracks or abrasions that may allow gas to escape, posing a significant safety hazard. Overheating can be a result of gas compression and increased pressure within the hose or due to external environmental factors. Elevated temperatures can weaken the materials used in the hose, leading to degradation, loss of flexibility, and ultimately failure. Therefore, managing both fretting and overheating is essential for maintaining the safety and functionality of CNG hoses, ensuring that they operate effectively without risk of leaks or bursts. While moisture exposure, direct sunlight, and mud and dirt accumulation may also have negative impacts on the longevity and operation of CNG hoses, the combination of fretting and overheating represents direct mechanical and thermal threats that can result in immediate safety issues if not addressed.

8. Piping components must withstand what level of hydrostatic test?

- A. Two times the rated working pressure**
- B. Four times the rated working pressure without structural failure**
- C. Three times the rated working pressure**
- D. Fifteen times the working pressure**

The correct option indicates that piping components must withstand a hydrostatic test of four times the rated working pressure without experiencing structural failure. This is a critical safety standard in the design and testing of gas piping systems. Hydrostatic testing is performed to ensure the integrity and safety of piping systems, especially in applications involving high-pressure gases like compressed natural gas (CNG). By requiring the components to endure a pressure that is four times their rated working pressure, regulators aim to confirm that the materials can handle extreme conditions and operate safely under normal circumstances. This adds an essential margin of safety, accounting for potential fluctuations in pressure during operation and ensuring that even the worst-case scenarios do not lead to catastrophic failures. This rigorous testing requirement helps to prevent leaks and failures that could pose serious safety risks, including potential explosions or the release of hazardous gas into the environment. Overall, the standard ensures compliance with rigorous safety protocols in the industry, protecting both personnel and the surrounding community.

9. Why might government incentives promote the use of CNG?

- A. To reduce the cost of traditional fuels**
- B. To encourage the use of alternative fuels**
- C. To limit the availability of CNG**
- D. To increase reliance on gasoline**

Government incentives promote the use of compressed natural gas (CNG) primarily to encourage the use of alternative fuels. This approach is aimed at reducing reliance on conventional fossil fuels like gasoline and diesel, which can contribute to environmental issues, including air pollution and greenhouse gas emissions. By providing financial incentives, such as tax credits, grants, or subsidies for vehicles that use CNG, the government effectively supports a transition towards cleaner energy options that can help improve air quality and reduce carbon footprints. This initiative not only fosters the development of infrastructure for alternative fuel sources but also stimulates the economy by encouraging innovation and investment in the energy sector.

10. What must valve designs ensure regarding ease of maintenance operations?

- A. They should allow for quick replacements without specialized tools**
- B. They should facilitate valve stem access without removing the bonnet or disassembling the valve body**
- C. They should include built-in diagnostic systems for monitoring**
- D. They should be compatible with automated systems only**

The focus on valve stem access without the need to remove the bonnet or disassemble the valve body is crucial for effective maintenance operations. This design consideration allows technicians to quickly and efficiently perform necessary adjustments, repairs, or replacements on the valve stem, which is a critical component that controls the flow of gas, in this case, compressed natural gas (CNG). By ensuring easy access to the valve stem, the maintenance workflow is streamlined, minimizing downtime and optimizing operational efficiency. It allows for timely responses to any issues that may arise during valve operation, thereby enhancing safety and performance. In many industrial applications, ease of maintenance is key to maintaining reliability and reducing maintenance costs over time. Additional contextual insights highlight that while quick replacement and compatibility with diagnostic systems are valuable, they don't prioritize the specific maintenance activity of accessing the valve stem. Similarly, restricting designs to only work with automated systems may limit their versatility and practicality in various maintenance scenarios, where manual interventions may also be necessary.

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://txcngcat3.examzify.com>

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