

GAS TECHNICIAN 2 (G2) LICENSE PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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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. In a heating system, what can be considered a safe amount of excess air for combustion efficiency when using natural gas?**
 - A. 3
 - B. 5
 - C. 8
 - D. 10

- 2. A Natural Gas Service Regulator is normally set to deliver pressure from:**
 - A. Pounds to 7 Inches W.C.
 - B. Atmospheric Pressure to 5 PSI
 - C. 0 to 20 Inches W.C.
 - D. 7 to 14 Inches W.C.

- 3. What is the boiling point of natural gas?**
 - A. -212 degrees Fahrenheit
 - B. -258 degrees Fahrenheit
 - C. -300 degrees Fahrenheit
 - D. -32 degrees Fahrenheit

- 4. What is the likely cause of an intermittent hissing sound resembling water dripping on something hot from a water heater?**
 - A. A leaking valve in the water heater
 - B. Condensation in the flue passage caused by drawing water from the tank
 - C. A fault in the burner assembly
 - D. Air trapped in the water lines

- 5. Which of the following components is essential for the safe operation of a gas regulator?**
 - A. Flame arrestor
 - B. Diaphragm
 - C. Control valve
 - D. Igniter

- 6. How can the accuracy of a Flue Gas Analyzer measuring CO₂ be verified?**
- A. By calibrating the instrument
 - B. By comparing it to a known sample
 - C. By using a different type of analyzer
 - D. By conducting a visual inspection
- 7. What should be done with joints in a gas piping system to ensure safety?**
- A. They should be painted
 - B. They should be bolted
 - C. They should be soldered
 - D. They should be welded or threaded
- 8. What does a pictorial diagram primarily show?**
- A. The process flow
 - B. The components' functionality
 - C. The components' location
 - D. The safety measures
- 9. As the temperature of a Thermistor rises, the resistance does what?**
- A. Increases
 - B. Decreases
 - C. Remains constant
 - D. Fluctuates
- 10. Which component is illustrated in an Electrical Pictorial Diagram?**
- A. Only circuit breakers
 - B. All electrical components
 - C. Only major appliances
 - D. Only wiring connections

Answers

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

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Explanations

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1. In a heating system, what can be considered a safe amount of excess air for combustion efficiency when using natural gas?

- A. 3
- B. 5**
- C. 8
- D. 10

Excess air is the extra air beyond what's needed for complete combustion. For natural gas, you want a small amount of excess air to ensure full combustion without wasting heat in the flue gas. About five percent is the usual safe and efficient target. Why this works: with around five percent excess air, there's enough oxygen to prevent carbon monoxide formation and unburned fuel, while not carrying excessive heat away with over-venting. If you add too little excess air, combustion can become incomplete, increasing CO risk. If you add too much, the extra air cools the flame and elevates flue-gas losses, reducing overall efficiency. So five percent hits the balance between safety, complete combustion, and efficiency.

2. A Natural Gas Service Regulator is normally set to deliver pressure from:

- A. Pounds to 7 Inches W.C.**
- B. Atmospheric Pressure to 5 PSI
- C. 0 to 20 Inches W.C.
- D. 7 to 14 Inches W.C.

A natural gas service regulator is designed to reduce the pressure of natural gas from the supply line to a usable level for residential or commercial appliances. It typically operates to deliver pressure measured in inches of water column (W.C.), which is a standard measurement for low-pressure gas systems. The correct answer indicates that a service regulator is set to deliver pressure from pounds to 7 inches W.C. This reflects the way natural gas systems function, where the incoming gas supply might be at a high pressure (expressed in pounds per square inch, PSI), but the usable pressure required for most appliances is significantly lower, often measured in inches of water column. The other answer choices either refer to inappropriate pressure ranges or incorrect units for the application of natural gas service regulators, making them unsuitable. Understanding the correct operating pressure is crucial for safety and efficiency in gas systems.

3. What is the boiling point of natural gas?

- A. -212 degrees Fahrenheit
- B. -258 degrees Fahrenheit**
- C. -300 degrees Fahrenheit
- D. -32 degrees Fahrenheit

The boiling point of natural gas is indeed around -258 degrees Fahrenheit, which is essential for understanding how natural gas behaves under various temperatures and pressures. At this low temperature, natural gas, primarily consisting of methane, transitions from a gaseous state to a liquid state. This property is crucial for the storage and transportation of natural gas since it enables the gas to be condensed into a liquid form for more efficient handling. Understanding the boiling point is important for safety and operational procedures in gas handling, as temperatures approaching this boiling point can lead to significant phase changes and potential risks. For example, in cold weather environments or during specific operations, the temperature of the natural gas can approach its boiling point, necessitating careful monitoring to prevent issues such as vapor formation and pressure fluctuations in gas lines. The other options represent temperatures that do not correspond to the boiling point of natural gas, as they are either too warm or far below the necessary threshold for methane. The boiling point of -258 degrees Fahrenheit is a defining characteristic of methane and underlines the unique physical properties of gases in the natural gas industry.

4. What is the likely cause of an intermittent hissing sound resembling water dripping on something hot from a water heater?

A. A leaking valve in the water heater

B. Condensation in the flue passage caused by drawing water from the tank

C. A fault in the burner assembly

D. Air trapped in the water lines

The sound of intermittent hissing that resembles water dripping on something hot is typically caused by condensation forming in the flue passage of the water heater. When hot gases rise through the flue, they can cause moisture in the air to condense, particularly if the temperature of the flue gases is not sufficiently high to prevent condensation. This can happen when cold water is drawn from the tank, allowing cooler air to enter the system and creating a temperature difference that facilitates condensation. As the water drips onto the hot flue or other components, it produces a hissing sound similar to water hitting hot metal. While a leaking valve could cause a similar sound, it is usually more of a steady flow than intermittent and does not typically have the same hissing nature. A fault in the burner assembly might cause various operational issues, but it would not typically lead to a sound like dripping water. Air trapped in the water lines can lead to different noises, such as banging or popping sounds, rather than a hissing sound. Thus, the condensation and subsequent sound produced in the flue passage accurately explain the phenomenon described in the question.

5. Which of the following components is essential for the safe operation of a gas regulator?

A. Flame arrestor

B. Diaphragm

C. Control valve

D. Igniter

The essential component for the safe operation of a gas regulator is the diaphragm. The diaphragm is responsible for regulating the pressure of gas flowing through the system. It senses the pressure and adjusts accordingly to ensure that the output pressure remains steady and within safe limits. This mechanism helps to prevent over-pressurization, which can lead to dangerous situations, including gas leaks or explosions. The diaphragm also serves to isolate the sensing and control functions within the regulator, making it critical for maintaining consistent gas delivery under varying demand conditions. The other components listed do not play the same vital role in regulating gas pressure as the diaphragm does, although some may be important for specific functions in a larger gas system. For example, a flame arrestor prevents the propagation of flame into the gas line, while a control valve might manage the flow rate of gas. An igniter is involved in starting combustion but does not interact directly with the regulation of gas pressure. Hence, the diaphragm is the key component that ensures the safe and reliable functioning of a gas regulator.

6. How can the accuracy of a Flue Gas Analyzer measuring CO₂ be verified?

- A. By calibrating the instrument
- B. By comparing it to a known sample**
- C. By using a different type of analyzer
- D. By conducting a visual inspection

Verifying the accuracy of a Flue Gas Analyzer measuring CO₂ can be effectively achieved by comparing its readings to a known sample. This method ensures that the analyzer is providing accurate measurements by matching them against a standard reference point, which allows for the identification of any discrepancies or calibration errors. Known samples usually consist of gas mixtures with a precise concentration of CO₂, and by analyzing these samples with the instrument, technicians can determine if the analyzer is functioning correctly. This process is critical in ensuring the instrument's reliability, particularly in applications such as combustion analysis where CO₂ levels can significantly impact efficiency and emissions. While calibration of the instrument is essential, comparing results against known standards provides a direct method to validate the analyzer's performance in real-time.

7. What should be done with joints in a gas piping system to ensure safety?

- A. They should be painted
- B. They should be bolted
- C. They should be soldered
- D. They should be welded or threaded**

Joints in gas piping must be leak-tight and able to withstand the pressures and conditions the system will see. Welding fuses the pipe ends into a continuous metal path, which provides a very strong, inherently leak-proof seal. Threaded joints, when done correctly and sealed with the proper gas-rated sealant and tightened to specification, also deliver a reliable, durable connection that can be disassembled if maintenance is needed. Painting a joint offers no sealing capability, and bolting alone isn't a method that guarantees a gas-tight joint unless it uses properly sealed flanges, which isn't the standard approach for most gas piping. Soldering or brazing is generally not acceptable for gas piping in many codes because solders can creep or crack under gas conditions and may not be rated for the required pressures. After joints are made, the system should be pressure-tested or leak-checked per code to confirm safety.

8. What does a pictorial diagram primarily show?

- A. The process flow
- B. The components' functionality
- C. The components' location**
- D. The safety measures

A pictorial diagram is designed to visually represent various components and their spatial arrangement within a system. This type of diagram uses images or drawings to indicate where each component is located, serving as a helpful guide for understanding the layout of a system or equipment. By showcasing the physical positioning of elements, it allows technicians to easily identify the parts they need to work with or troubleshoot. It does not primarily convey the process flow, functionality, or safety measures, which may be represented in other types of diagrams or documentation, such as flowcharts or schematic diagrams. Understanding the layout is crucial for effective installation, maintenance, and repair tasks in gas-related systems.

9. As the temperature of a Thermistor rises, the resistance does what?

- A. Increases
- B. Decreases**
- C. Remains constant
- D. Fluctuates

When a thermistor experiences an increase in temperature, its resistance decreases. This behavior is characteristic of thermistors, particularly negative temperature coefficient (NTC) thermistors, which are commonly used in various applications, including temperature sensing and control systems. The fundamental principle behind this phenomenon lies in the material properties of the thermistor. As the temperature rises, the increase in thermal energy causes more charge carriers (electrons) to be available for conduction. Consequently, the overall resistance of the material decreases. This relationship allows thermistors to be effective in measuring temperature changes; as the ambient temperature increases, the falling resistance can be monitored through an appropriate circuit to provide an accurate temperature reading. Understanding this property is essential for effectively using thermistors in applications such as HVAC systems, appliances, and electronic devices, where precise temperature readings and control are necessary.

10. Which component is illustrated in an Electrical Pictorial Diagram?

- A. Only circuit breakers
- B. All electrical components**
- C. Only major appliances
- D. Only wiring connections

The correct answer highlights that an Electrical Pictorial Diagram includes all electrical components. This type of diagram is designed to provide a comprehensive visual representation of the electrical system, showcasing not only the wiring connections but also all the various electrical components that make up the system. These components can include circuit breakers, switches, motors, and any other devices involved in the electrical circuit. By encompassing all electrical components, this diagram allows for a better understanding of how the electrical system functions as a whole. It helps technicians visualize the connections between components and the overall configuration of the system, which is essential for installation, maintenance, or troubleshooting. In contrast, focusing solely on circuit breakers, major appliances, or only wiring connections would provide an incomplete picture, missing critical information needed for effective work on the electrical systems.

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://gastechnician2.examzify.com>

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

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