

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 voltage reading indicates that a thermostat is potentially malfunctioning?**
 - A. 0 Volts
 - B. 110 Volts
 - C. 24 Volts
 - D. High Resistance
- 2. What is the minimum acceptable closed thermocouple reading?**
 - A. 5 mV
 - B. 10 mV
 - C. 15 mV
 - D. 20 mV
- 3. What is the minimum supply air in CFM per ton of cooling required for a domestic air conditioner?**
 - A. 200
 - B. 300
 - C. 400
 - D. 500
- 4. Before firing a gas burner in a steam boiler system, what is the first thing that must be checked?**
 - A. Gas pressure levels
 - B. Presence of oxygen
 - C. Amount of water
 - D. Status of the burner
- 5. In a combination heating system utilizing a water heater, where should isolation valves be installed?**
 - A. Only in the return line of the heating loop
 - B. Only in the supply line of the heating loop
 - C. In both the supply and return line of the heating loop
 - D. In the water heater only

- 6. Which component is essential for measuring voltage in gas systems?**
- A. Ammeter
 - B. Voltmeter
 - C. Thermometer
 - D. Manometer
- 7. What is the primary function of a Ground Fault Circuit Interrupter?**
- A. Prevent circuit overloads
 - B. Detect ground faults quickly
 - C. Reduce electrical interference
 - D. Maintain voltage stability
- 8. How many inches of W.C. is 0.5 PSIG?**
- A. 10" W.C.
 - B. 12" W.C.
 - C. 14" W.C.
 - D. 16" W.C.
- 9. What occurs in the cooling mode if the prefilter of an electronic air cleaner gets plugged with dirt?**
- A. The cooling coil remains unaffected
 - B. The system runs more efficiently
 - C. The cooling coil frosts
 - D. The air flow increases
- 10. Which of the following is NOT a type of valve used in gas systems?**
- A. Check Valve
 - B. Piston Valve
 - C. Ball Valve
 - D. Globe Valve

Answers

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

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Explanations

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1. In a heating system, what voltage reading indicates that a thermostat is potentially malfunctioning?

A. 0 Volts

B. 110 Volts

C. 24 Volts

D. High Resistance

A reading of 0 volts at the thermostat indicates a potential malfunction. In a typical heating system, especially those that operate on low voltage control systems like a 24-volt setup, the thermostat acts as a switch that controls the heating device (like a furnace or boiler). When the thermostat is functioning correctly, it should produce a voltage reading that corresponds to its operation, typically around 24 volts in these systems, when the thermostat is calling for heat. If you measure 0 volts, it means there is no power reaching the thermostat or that the thermostat is not completing the circuit, suggesting a failure either in the thermostat itself, the wiring, or the transformer supplying power to the system. The other readings mentioned (110 volts, 24 volts, and high resistance) do not indicate a malfunction in the context of a typical low-voltage thermostat. A reading of 24 volts is expected when the thermostat is operational and calling for heat, while 110 volts is atypical for residential heating controls and could signify a different issue if observed. High resistance might indicate a problem but does not directly point to a thermostat malfunction in the same clear manner as a 0-volt reading does.

2. What is the minimum acceptable closed thermocouple reading?

A. 5 mV

B. 10 mV

C. 15 mV

D. 20 mV

The minimum acceptable closed thermocouple reading is 10 mV. This voltage indicates that the thermocouple is functioning effectively and detecting a sufficient temperature differential. Thermocouples operate on the principle of generating a voltage through the Seebeck effect, where a circuit made of two different metals produces a measurable voltage that correlates to the temperature difference present between the measurement junction and the reference junction. Having a reading of at least 10 mV ensures that the thermocouple has enough sensitivity and accuracy to provide reliable temperature readings for safety and operational efficiency, especially in gas applications. If the reading is lower than this threshold, it may indicate a malfunction or that the thermocouple is not properly placed, leading to possible safety hazards or inaccurate temperature measurements in gas appliance operation.

3. What is the minimum supply air in CFM per ton of cooling required for a domestic air conditioner?

- A. 200
- B. 300
- C. 400**
- D. 500

For a domestic air conditioning system, the minimum supply air requirement is typically assessed based on the cooling capacity of the system, which is measured in tons. The standard guideline suggests that for effective temperature control and adequate humidity removal, a domestic air conditioning system should deliver approximately 400 cubic feet per minute (CFM) of supply air per ton of cooling capacity. When each ton of cooling is designed to handle a specific thermal load, it's essential to have sufficient airflow to ensure efficient heat exchange. The 400 CFM per ton standard helps in balancing comfort and energy efficiency, as it allows enough air to pass over the evaporator coil, which in turn cools the air being circulated back into the living space. Choosing a figure lower than 400 CFM might lead to insufficient air movement, resulting in poor cooling efficiency and potential humidity issues within the conditioned space, while opting for a higher airflow could unnecessarily increase energy consumption without significant benefit in cooling performance. Understanding this standard is fundamental for ensuring that the air conditioning system operates efficiently and effectively within residential settings.

4. Before firing a gas burner in a steam boiler system, what is the first thing that must be checked?

- A. Gas pressure levels
- B. Presence of oxygen
- C. Amount of water**
- D. Status of the burner

In a steam boiler system, ensuring the safety and proper functioning of the equipment is crucial before initiating the firing sequence of a gas burner. The first step should be to check the amount of water in the boiler. This is essential because the boiler must have an adequate water level to prevent overheating and potential damage to the boiler components. If the water level is too low, it can lead to a range of dangerous conditions, including the risk of a boiler explosion or damage from overheating the metal components. Monitoring the water level ensures that there is sufficient water to convert to steam and to maintain safe operating conditions. This fundamental step emphasizes the importance of following proper operational procedures to minimize risks when handling gas appliances in a steam system.

5. In a combination heating system utilizing a water heater, where should isolation valves be installed?

- A. Only in the return line of the heating loop
- B. Only in the supply line of the heating loop
- C. In both the supply and return line of the heating loop**
- D. In the water heater only

In a combination heating system that utilizes a water heater, it is essential to install isolation valves in both the supply and return lines of the heating loop. This setup allows for effective maintenance and serviceability of the system without draining the entire system or disrupting the operation of the water heater. Having isolation valves on both lines enables technicians to isolate specific sections of the system, which is particularly useful if repairs or adjustments are needed. It also helps in troubleshooting and ensures that the heating components can be accessed for inspection or cleaning without affecting the rest of the system, thus maintaining efficient operation. The other options present limitations in maintenance flexibility. For example, installing valves only in the return line would make it challenging to service the supply side, whereas having them solely in the supply line would do the opposite. Placing isolation valves in the water heater alone does not provide adequate control over the entire heating loop, thereby reducing the effectiveness of the system management and maintenance.

6. Which component is essential for measuring voltage in gas systems?

- A. Ammeter
- B. Voltmeter**
- C. Thermometer
- D. Manometer

The component essential for measuring voltage in gas systems is a voltmeter. This device is specifically designed to measure electrical potential difference between two points in an electrical circuit. In gas systems, which may involve electrical controls and components, understanding voltage is crucial for ensuring proper operation and safety. A voltmeter facilitates the diagnosis and troubleshooting of electrical issues by providing accurate voltage readings, which can indicate whether components are functioning correctly or whether there are faults present in the system. This is particularly important when dealing with electronic ignition systems or other components powered by electricity. In contrast, an ammeter measures electric current, a thermometer gauges temperature, and a manometer measures gas pressure. While each of these instruments has its own critical role within gas systems, none fulfill the specific function of measuring voltage. Thus, the voltmeter's role is irreplaceable in terms of assessing voltage levels in gas systems.

7. What is the primary function of a Ground Fault Circuit Interrupter?

- A. Prevent circuit overloads
- B. Detect ground faults quickly**
- C. Reduce electrical interference
- D. Maintain voltage stability

The primary function of a Ground Fault Circuit Interrupter (GFCI) is to detect ground faults quickly. A ground fault occurs when there is an unintended path for current to flow to the ground, which can happen if, for example, a person accidentally touches a live wire or a device that is connected to the electrical circuit. The GFCI monitors the electrical current flowing through the circuit and compares the current coming from the power source to the current returning. If it detects an imbalance as small as 4 to 6 milliamperes, it will swiftly shut off the electrical supply, thereby protecting individuals from serious electrical shock and potential electrocution. This rapid detection is crucial because it significantly reduces the risk of electrical injuries in environments where water may be present, such as bathrooms or kitchens, where traditional circuit protection may not suffice. Understanding this function highlights the importance of GFCIs in electrical safety practices, particularly in safeguarding human lives.

8. How many inches of W.C. is 0.5 PSIG?

- A. 10" W.C.
- B. 12" W.C.
- C. 14" W.C.**
- D. 16" W.C.

To convert PSIG (pounds per square inch gauge) to inches of water column (W.C.), it's essential to understand the relationship between these two units of pressure. 1 PSIG is approximately equivalent to 2.77 inches of water column. Therefore, to find out how many inches of W.C. correspond to 0.5 PSIG, you would multiply 0.5 by 2.77. Performing the calculation: $0.5 \text{ PSIG} \times 2.77 \text{ inches of W.C./PSIG} = 1.385 \text{ inches of W.C.}$ Rounding this value gives us approximately 1.4 inches of W.C. Thus, when determining how many inches of water column correspond to 0.5 PSIG, the answer is indeed 1.4 inches of W.C. which confirms that it is the correct choice. This knowledge is critical in gas technician work to ensure safe and accurate pressure measurements in gas appliances.

9. What occurs in the cooling mode if the prefilter of an electronic air cleaner gets plugged with dirt?

- A. The cooling coil remains unaffected
- B. The system runs more efficiently
- C. The cooling coil frosts**
- D. The air flow increases

When the prefilter of an electronic air cleaner becomes clogged with dirt while the system is in cooling mode, it restricts the airflow across the cooling coil. This lack of adequate airflow can lead to a significant drop in the temperature of the coil because the air is not effectively being circulated through it. As the temperature of the coil drops excessively due to reduced airflow, moisture from the air can freeze on the coil, resulting in frost formation. This can further exacerbate airflow issues and may lead to system inefficiencies or even shutdown. Frosting of the cooling coil is a common issue in HVAC systems when airflow is compromised, as it can impede the overall cooling capacity of the unit. Proper airflow is crucial for maintaining the necessary conditions for heat exchange, and any obstruction, such as a dirty prefilter, can create conditions that encourage frost buildup.

10. Which of the following is NOT a type of valve used in gas systems?

- A. Check Valve
- B. Piston Valve**
- C. Ball Valve
- D. Globe Valve

In gas systems, various types of valves are used to control the flow of gas, each serving specific functions. Check valves, ball valves, and globe valves are all recognized and commonly utilized types within these systems. Check valves are designed to allow gas to flow in one direction only, preventing backflow, which is essential for maintaining proper system function and safety. Ball valves feature a rotating ball mechanism that provides a quick and efficient shut-off capability, making them a popular choice due to their reliability and ease of operation. Globe valves are typically used for regulating flow, thanks to their design which allows for fine adjustments. On the other hand, a piston valve is not traditionally categorized as a type of valve in gas systems. While piston valves can be found in various applications, they are more common in hydraulic systems or similar setups rather than in gas control applications. Hence, identifying piston valve as the option that does not belong in the context of valve types for gas systems is accurate.

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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:

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

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