

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. What is a potential hazard of having inadequate ventilation in a tight building?**
 - A. Odor Control Problems
 - B. Fire Risks
 - C. Increased Indoor Air Pollution
 - D. Higher Energy Bills
- 2. Which device shuts off the Spark Igniter in a Spark Ignition Dryer after proper ignition?**
 - A. Timer
 - B. Ignition Sensor
 - C. Gas Valve
 - D. Thermocouple
- 3. How large should the grill be for two hot water boilers and two water heaters firing at the specified BTUH in a contained room?**
 - A. 200 Square Inches
 - B. 250 Square Inches
 - C. 300 Square Inches
 - D. 350 Square Inches
- 4. To achieve proper combustion in appliances, mixing primary air before ignition primarily results in what type of flame?**
 - A. Yellow Flame
 - B. Blue Flame
 - C. Red Flame
 - D. Green Flame
- 5. Which brazing rods should not be used for natural gas/propane due to their reaction with sulfur?**
 - A. Copper
 - B. Phosphorus
 - C. Aluminum
 - D. Silver

- 6. In a combination system utilizing a water heater for domestic hot water, the temperature of the water returning from the heating loop must be:**
- A. Higher than the minimum temperature to activate the burner
 - B. Equal to the burner activation temperature
 - C. Lower than the minimum temperature required to activate the burner
 - D. At room temperature
- 7. What is the recommended external static pressure of a supply air plenum on a forced air furnace?**
- A. 0.1" to 0.3" W.C.
 - B. 0.2" to 0.5" W.C.
 - C. 0.4" to 0.6" W.C.
 - D. 0.5" to 0.7" W.C.
- 8. What ratio of combustion air is typically recommended for effective combustion in propane systems?**
- A. 20
 - B. 25
 - C. 30
 - D. 35
- 9. What type of maintenance can help ensure the High Limit Aquastat functions properly?**
- A. Regular cleaning of heating elements
 - B. Periodic testing of temperature settings
 - C. Flushing the tank biannually
 - D. Inspecting the relief valve annually
- 10. What is the impact of increased current in an appliance?**
- A. Reduced efficiency
 - B. Increased scheduling costs
 - C. Increased heat production
 - D. Reduced lifetime of the appliance

Answers

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

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Explanations

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1. What is a potential hazard of having inadequate ventilation in a tight building?

- A. Odor Control Problems
- B. Fire Risks
- C. Increased Indoor Air Pollution**
- D. Higher Energy Bills

Inadequate ventilation in a tight building can lead to increased indoor air pollution, which is why this answer is correct. When ventilation is insufficient, contaminants such as volatile organic compounds (VOCs), carbon dioxide, dust, and various indoor pollutants can accumulate in the air. This accumulation can adversely affect the overall air quality, leading to health issues for the occupants, such as respiratory problems, headaches, and other symptoms associated with poor indoor air quality. Maintaining proper ventilation is crucial for allowing fresh air to enter and circulate within the space, diluting and removing harmful substances. An environment with adequate airflow can help reduce the concentration of these pollutants and promote a healthier living space. Other options may also reflect concerns associated with inadequate ventilation, but in this context, the primary issue directly connected to the lack of airflow is the potential buildup of indoor pollutants.

2. Which device shuts off the Spark Igniter in a Spark Ignition Dryer after proper ignition?

- A. Timer
- B. Ignition Sensor**
- C. Gas Valve
- D. Thermocouple

The ignition sensor is responsible for shutting off the spark igniter in a spark ignition dryer once proper ignition has been achieved. This device detects whether a flame is present and, upon confirming that the burner has successfully ignited, it sends a signal to deactivate the spark igniter. This helps prevent continuous sparks, which could be a safety hazard, and allows the system to operate efficiently, as only the flame should continue to burn fuel without the need for ongoing ignition. In a spark ignition system, the role of the ignition sensor is crucial for ensuring that the appliance functions safely and effectively after ignition has occurred. Without this mechanism, there would be a risk of ongoing sparking, which could lead to potential malfunctions or hazardous conditions.

3. How large should the grill be for two hot water boilers and two water heaters firing at the specified BTUH in a contained room?

- A. 200 Square Inches
- B. 250 Square Inches**
- C. 300 Square Inches
- D. 350 Square Inches

Providing enough combustion air for all fuel-burning devices in a contained room is done by sizing the air openings to the total BTUH input of the appliances. The sizing rule used is: total opening area (in square inches) = total BTUH input ÷ 4,000. For two hot water boilers and two water heaters, the combined BTUH requires a 250-square-inch grill to meet that standard. Therefore the grill should be 250 square inches. This ensures the appliances receive adequate air for proper combustion and safe operation; openings smaller than 250 square inches would be undersized, risking incomplete combustion or safety hazards, while a larger grill is usually unnecessary for this configuration.

4. To achieve proper combustion in appliances, mixing primary air before ignition primarily results in what type of flame?

- A. Yellow Flame
- B. Blue Flame**
- C. Red Flame
- D. Green Flame

Mixing primary air before ignition in gas appliances is crucial for achieving proper combustion. When this mixing occurs, it allows for a more complete and efficient combustion process. This results in a blue flame, which is indicative of a well-adjusted appliance operating with the right air-to-fuel ratio. A blue flame signifies that the gas is burning efficiently, with adequate oxygen for combustion leading to a cleaner burn. This is important not only for the efficiency of the appliance but also for safety, as incomplete combustion can produce carbon monoxide, a dangerous byproduct. In contrast, a yellow flame typically indicates an inadequate air supply where the fuel is not burning completely, leading to soot and potential safety issues. The other colors, red and green, are less common in regular gas combustion and do not represent standard flame characteristics for proper appliance functioning.

5. Which brazing rods should not be used for natural gas/propane due to their reaction with sulfur?

- A. Copper
- B. Phosphorus**
- C. Aluminum
- D. Silver

Brazing rods that contain phosphorus should not be used for natural gas or propane applications primarily due to their reactivity with sulfur. When phosphorus is exposed to high-temperature environments, especially in the presence of combustion gases that may contain sulfur compounds, it can form phosphides. These phosphides can create brittle and weak joints in the brazed connections, leading to potential failure. Using phosphorus-containing brazing materials can result in unreliable seals in gas lines that are critical for safety. In contrast, the other materials listed, such as copper, aluminum, and silver, do not pose the same risks regarding sulfur reactions, making them more appropriate choices for brazing applications involving natural gas and propane. Copper is widely used in many applications due to its good thermal conductivity and strength, while silver is often preferred for high-strength requirements and corrosion resistance. Aluminum is used in some specific applications where appropriate; however, its use is typically more specialized compared to copper and silver. Overall, understanding the chemical interactions of brazing materials with sulfur helps in making informed choices that ensure safe and durable gas connections in various installations.

6. In a combination system utilizing a water heater for domestic hot water, the temperature of the water returning from the heating loop must be:

- A. Higher than the minimum temperature to activate the burner
- B. Equal to the burner activation temperature
- C. Lower than the minimum temperature required to activate the burner**
- D. At room temperature

In a combination system utilizing a water heater for domestic hot water, the temperature of the water returning from the heating loop must be lower than the minimum temperature required to activate the burner. This is crucial for maintaining efficiency and safety in the system. When the return water temperature is lower than the activation threshold, it ensures that the burner will fire up to heat the water to the desired temperature. If the return water were equal to or above the activation temperature, the system would not engage the burner, meaning the water wouldn't get heated to optimal levels. Therefore, having the water return at a lower temperature is essential for ensuring that the burner activates appropriately. This principle helps prevent situations where the system may run inefficiently or not activate at all, ensuring that hot water is available when needed. The design of such systems typically aims for a balance where the return water temperature prompts the necessary heating action from the burner.

7. What is the recommended external static pressure of a supply air plenum on a forced air furnace?

- A. 0.1" to 0.3" W.C.
- B. 0.2" to 0.5" W.C.**
- C. 0.4" to 0.6" W.C.
- D. 0.5" to 0.7" W.C.

The recommended external static pressure range for a supply air plenum on a forced air furnace is typically established to ensure efficient airflow and proper system operation. A range of 0.2" to 0.5" W.C. is considered optimal because it provides a balance between adequate airflow delivery throughout the duct system and the prevention of excessive energy consumption and noise. This pressure level is conducive to maintaining optimal furnace performance while minimizing the strain on the blower motor and avoiding airflow issues that could lead to inconsistent heating or cooling in the space being served. When the static pressure falls below this range, there may not be enough airflow to effectively distribute conditioned air, potentially resulting in cold spots and increased energy costs. Conversely, if the static pressure exceeds this range, it can cause excessive wear on equipment, increase noise levels, and may lead to system failures. The other options represent ranges that are either too low or too high, which would not support the effective operation of the furnace as intended. Thus, the choice of 0.2" to 0.5" W.C. is aligned with industry standards for forced air furnaces.

8. What ratio of combustion air is typically recommended for effective combustion in propane systems?

- A. 20
- B. 25**
- C. 30
- D. 35

The recommended ratio of combustion air for effective combustion in propane systems is typically around 25 parts of air to 1 part of propane. This ratio is important for ensuring that the propane burns efficiently, producing optimal heat output while minimizing the production of harmful emissions and unburned fuel. When combustion occurs, there needs to be enough oxygen available for the propane to react with, allowing it to combust completely. If there is too little air, incomplete combustion can occur, resulting in carbon monoxide production and lower efficiency. Conversely, too much air can lead to heat loss and also reduce efficiency. The specified ratio of 25:1 is considered a good balance, ensuring that there is sufficient oxygen for the propane to combust fully while still maintaining an efficient combustion process. This ratio is part of standard practices outlined in various gas appliance and combustion system guidelines, where proper air-to-fuel ratios are crucial for safety and effectiveness.

9. What type of maintenance can help ensure the High Limit Aquastat functions properly?

- A. Regular cleaning of heating elements
- B. Periodic testing of temperature settings**
- C. Flushing the tank biannually
- D. Inspecting the relief valve annually

Periodic testing of temperature settings is critical for ensuring the proper function of the High Limit Aquastat. The High Limit Aquastat is a safety device that monitors the temperature of the water in a heating system and is designed to shut off the burner if the water temperature exceeds a predetermined limit. If the temperature settings are not tested regularly, there is a risk that the aquastat may not function as intended, potentially leading to unsafe conditions, overheating, or damaging the heating system. By periodically testing the temperature settings, technicians can verify that the aquastat activates and deactivates at the intended temperatures, ensuring the system operates safely and efficiently. This maintenance task helps to identify any faults or inaccurate settings in a timely manner, allowing for appropriate adjustments and preventative measures to be taken.

10. What is the impact of increased current in an appliance?

- A. Reduced efficiency
- B. Increased scheduling costs
- C. Increased heat production**
- D. Reduced lifetime of the appliance

The impact of increased current in an appliance revolves primarily around the relationship between current and heat production, most notably described by Joule's Law. When the current flowing through an electrical conductor increases, the amount of heat generated also increases, as heat is proportional to the square of the current (I^2R , where R is resistance). This means that higher current can lead to significantly more heat being generated within the appliance. This increase in heat production can have several cascading effects. For example, if the appliance is not designed to handle higher levels of heat, it may lead to overheating, which could damage components and reduce efficiency, potentially leading to more frequent maintenance or failures. Heat generation is a critical factor in electrical appliances, especially those reliant on heating elements, as well in terms of energy loss. While this effect doesn't expressly address scheduling costs or reduced lifetime in this context, increased heat does have an indirect impact on overall device longevity due to material stress and component degradation. Thus, recognizing the direct relationship between increased current and heat production is essential for evaluating appliance performance and safety.

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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