G2 GAS FITTER PRACTICE EXAM (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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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!

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Questions

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1. What is the correct total air volume supply requirement for an atmospheric burner?

A. 20 ft cubed of air for each 1000 BTU input

B. 25 ft cubed of air for each 1000 BTU input

C. 30 ft cubed of air for each 1000 BTU input

D. 35 ft cubed of air for each 1000 BTU input

2. What common voltages are used in portable electric drills?

A. 24 VDC

B. 12 VDC

C. 6 VDC

D. 48 VDC

3. Which type of burner supplies combustion air using a mechanical device like a fan?

A. Natural draft burner

B. Forced draft burner

C. Indirect vent burner

D. Open flame burner

4. What regulates gas delivery at atmospheric pressure?

A. Pressure relief valve

B. Flow control valve

C. Zero governor

D. Safety valve

5. A yellow flame at an atmospheric burner may indicate which condition?

A. Excessive primary air

B. Insufficient primary air

C. Too much fuel input

D. High ambient pressure

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6. Which tool is commonly used to cut external threads on pipe?

A. Pipe cutters

B. Pipe reamers

C. Pipe taps

D. Pipe dies

7. What is the normal drop-out reading of a thermocouple flame sensor?

A. 0-1 mV

B. 2-4 mV

C. 5-10 mV

D. 10-15 mV

8. Which gas is not typically a byproduct of complete natural gas combustion?

A. Carbon dioxide

B. Water vapor

C. Nitrogen

D. Carbon monoxide

9. What principle does a filament CGI unit operate on?

A. Catalytic combustion

B. Conduction heating

C. Induction heating

D. Radiant heating

10. What is the primary purpose of a heat reclaimer in a venting system?

A. To regulate gas flow

B. To extract heat from gases

C. To provide mechanical draft

D. To ignite the fuel supply

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Answers

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

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Explanations

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1. What is the correct total air volume supply requirement for an atmospheric burner?

A. 20 ft cubed of air for each 1000 BTU input

B. 25 ft cubed of air for each 1000 BTU input

C. 30 ft cubed of air for each 1000 BTU input

D. 35 ft cubed of air for each 1000 BTU input

The correct total air volume supply requirement for an atmospheric burner is 30 cubic feet of air for each 1,000 BTU input. This standard is based on the combustion requirements for atmospheric burners, which rely on natural draft to bring in air for combustion. Atmospheric burners are designed to operate efficiently, and the specified volume of air ensures that there is adequate oxygen available for complete combustion of the gas, minimizing the risk of incomplete combustion and the production of harmful byproducts. Understanding this requirement is crucial for ensuring that appliances function effectively and safely. If an installation does not provide the necessary volume of air, it could lead to inadequate combustion, increased emissions, and potential safety hazards such as the production of carbon monoxide. The specified amount of air supply is calculated to ensure optimum performance and efficiency within the combustion system.

2. What common voltages are used in portable electric drills?

A. 24 VDC

B. 12 VDC

C. 6 VDC

D. 48 VDC

Portable electric drills typically operate at common voltages such as 12 VDC, which is a standard for many consumer power tools. This voltage strikes a balance between power and portability, allowing drills to achieve adequate performance for a variety of tasks while ensuring that the tools remain lightweight and easy to handle. The 12 VDC is widely adopted across many drill models because it supports the required torque and RPM levels necessary for drilling without the need for cumbersome batteries or heavy-duty power supplies. The other voltage options like 6 VDC are generally used in smaller or less powerful devices, which might not provide sufficient power for drilling applications. Higher voltages such as 24 VDC and 48 VDC are typically found in more industrial or specialized applications, providing increased power output, but they may lead to heavier equipment that is less practical for portable use. Thus, 12 VDC emerges as the most appropriate and commonly used voltage for portable electric drills, balancing power and usability effectively.

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3. Which type of burner supplies combustion air using a mechanical device like a fan?

A. Natural draft burner

B. Forced draft burner

C. Indirect vent burner

D. Open flame burner

A forced draft burner is designed to supply combustion air using a mechanical device, typically a fan. This system works by actively pushing air into the combustion chamber, ensuring a consistent and adequate supply of air for efficient combustion. The use of a fan to facilitate air movement allows the burner to operate effectively regardless of external conditions, such as changes in atmospheric pressure or wind influences, making it ideal for applications that require precise control over the combustion process. In contrast, a natural draft burner relies on the buoyancy of hot gases to draw air into the combustion chamber, which can be less reliable in certain conditions. An indirect vent burner and an open flame burner have distinct functions that do not primarily involve mechanical assistance in air supply, further highlighting the unique role of the forced draft burner in ensuring optimal combustion efficiency.

4. What regulates gas delivery at atmospheric pressure?

A. Pressure relief valve

B. Flow control valve

C. Zero governor

D. Safety valve

The zero governor is a device specifically designed to regulate gas delivery at atmospheric pressure by controlling the flow of gas to maintain constant pressure levels. It operates by responding to variations in demand for gas, ensuring a consistent delivery without allowing pressure to exceed safe operational limits. This is particularly important in applications where a stable gas supply is essential for the proper functioning of appliances. Unlike pressure relief valves or safety valves, which are primarily designed to protect systems from overpressure conditions, the zero governor proactively manages the gas flow to maintain pressure at a desired set point at atmospheric levels. Flow control valves, while important for managing flow rates, do not specifically address the need to maintain atmospheric pressure delivery. Thus, the zero governor's focused role in regulating gas delivery at atmospheric pressure makes it the correct answer.

5. A yellow flame at an atmospheric burner may indicate which condition?

A. Excessive primary air

B. Insufficient primary air

C. Too much fuel input

D. High ambient pressure

A yellow flame at an atmospheric burner typically indicates insufficient primary air. In gas combustion, the correct balance of fuel and air is essential for efficient and clean burning. When there is not enough primary air, the combustion process is incomplete, leading to a noticeable yellow or luminous flame. This incomplete combustion can produce carbon monoxide and other harmful emissions, which underscores the importance of proper air-to-fuel ratios for both safety and efficiency. The yellow flame suggests the presence of unburned carbon particles, often referred to as soot, which results from the lack of sufficient air to fully oxidize the fuel. In contrast, a well-adjusted burner with sufficient primary air would produce a blue flame, indicating complete combustion and the optimal burning conditions. Understanding this relationship helps gas fitters to troubleshoot burners and ensure they are operating within the appropriate parameters for safety and efficiency.

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6. Which tool is commonly used to cut external threads on pipe?

A. Pipe cutters

B. Pipe reamers

C. Pipe taps

D. Pipe dies

The commonly used tool for cutting external threads on pipe is the pipe die. Pipe dies are specifically designed for this purpose, allowing the user to create threaded sections on the outside of the pipe, which are essential for making connections with other threaded components. When a pipe die is used, it ensures that the threads are cut to a precise and consistent pitch, which is crucial for the proper fit and sealing of threaded joints. The use of a pipe die also allows for adjustments to be made easily should the pipe need to be shortened or modified. While other tools such as pipe cutters are designed for slicing through pipe material, they do not create threads. Similarly, pipe reamers help smooth or enlarge the inside diameter of pipes to prevent burrs and rough edges, but they also do not address external threading. Pipe taps, on the other hand, are used for creating internal threads. Thus, in the context of creating external threads on a pipe, the pipe die stands out as the appropriate tool.

7. What is the normal drop-out reading of a thermocouple flame sensor?

A. 0-1 mV

B. 2-4 mV

C. 5-10 mV

D. 10-15 mV

The normal drop-out reading of a thermocouple flame sensor is typically found within the range of 2-4 mV. This reading is crucial for the safe operation of gas appliances, as it indicates whether the sensor is able to detect the presence of a flame. A reading within this range suggests that the sensor is functioning properly, providing a sufficient voltage signal when a flame is present to maintain the operation of safety mechanisms, such as the gas valve. When the voltage falls below this range, it may indicate an issue with the flame or sensor, leading to the gas valve closing to prevent unsafe conditions. Understanding the normal operational range of the thermocouple is essential for diagnosing problems in gas appliances and ensuring that the safety measures are effective. This knowledge helps gas fitters maintain compliance with safety standards and prevent potential hazards in gas systems.

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8. Which gas is not typically a byproduct of complete natural gas combustion?

A. Carbon dioxide

B. Water vapor

C. Nitrogen

D. Carbon monoxide

Complete combustion of natural gas, which primarily consists of methane (CH4), ideally produces carbon dioxide and water vapor as the primary byproducts. In this reaction, the carbon atoms from methane combine with oxygen to create carbon dioxide, while the hydrogen atoms combine with oxygen to form water vapor. Therefore, carbon dioxide and water vapor are standard products of complete combustion. Nitrogen, while present in the air, is not a byproduct of the combustion process itself. It remains largely unchanged during combustion and does not react significantly under typical conditions where natural gas is burned. Instead, it simply exists in the environment during the combustion process. Carbon monoxide, on the other hand, is commonly produced during incomplete combustion when there is insufficient oxygen available for the carbon in the fuel to oxidize fully to carbon dioxide. This is indicative of a less efficient burning process, representing a less complete reaction compared to the ideal combustion scenario. Thus, when evaluating the byproducts of complete natural gas combustion, nitrogen is not a product that is formed through the chemical reaction of burning the fuel, and it distinguishes itself from the other gases listed since they arise directly as a result of the combustion process.

9. What principle does a filament CGI unit operate on?

A. Catalytic combustion

B. Conduction heating

C. Induction heating

D. Radiant heating

A filament CGI (Ceramic Gas Ignition) unit operates on the principle of catalytic combustion. This technology utilizes a catalyst to lower the ignition temperature of fuel, allowing it to burn more efficiently and cleanly. The catalytic process occurs at a lower temperature than traditional combustion methods, leading to reduced emissions and increased energy efficiency. In a filament CGI unit, the catalyst aids in igniting the gas as it passes over the heated surface, allowing for more effective fuel utilization and a more stable flame. This method ensures that the combustion process is not only effective but also environmentally friendly, aligning with modern energy standards for reduced pollution. The other principles listed, such as conduction heating, induction heating, and radiant heating, refer to different methods of heat transfer and generation. Conduction heating involves direct heat transfer through materials, induction heating relies on electromagnetic fields to generate heat directly in conductive materials, and radiant heating involves transferring heat through infrared radiation. While these methods are significant in various heating applications, they do not pertain to the unique operation of a filament CGI unit, which focuses specifically on catalysis and efficient gas combustion.

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10. What is the primary purpose of a heat reclaimer in a venting system?

A. To regulate gas flow

B. To extract heat from gases

C. To provide mechanical draft

D. To ignite the fuel supply

The primary purpose of a heat reclaimer in a venting system is to extract heat from the gases that are produced during combustion processes. This technology is instrumental in energy efficiency, as it captures otherwise wasted thermal energy from exhaust gases and redirects it for reuse within the system or for heating purposes. By harnessing this heat, a heat reclaimer helps to improve the overall efficiency of the heating system, reducing energy consumption and operational costs. In this context, heat reclaimers are particularly important in systems that vent hot gases into the atmosphere, where they would otherwise dissipate their heat. The design and placement of a heat reclaimer facilitate the transfer of heat from the exhaust stream to a fluid, often water or air, which can then be used for space heating or to enhance the efficiency of boiler operations. The other options pertain to different functions that are not related to the primary role of a heat reclaimer. While regulating gas flow, providing mechanical draft, and igniting the fuel supply are crucial aspects of venting systems and combustion efficiency, they do not align with the primary function of extracting heat from gases.

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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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