Gas Technician 2 (G2) License 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. 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

1. **What is the minimum combustion air opening size for an appliance without a draft hood and input of 125,000 BTUH in a tightly sealed structure?**

   A. 0 Square Inches

   B. 6 Square Inches

   C. 9 Square Inches

   D. 12 Square Inches

2. **In a different no heat call scenario, if the high limit terminals read 110 volts while the thermostat terminals read 0 volts, which component is identified as open?**

   A. Gas Valve

   B. High Limit Switch

   C. Thermostat

   D. Transformer

3. **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.

4. **When should every branch supply line of a piping system be purged?**

   A. Never

   B. Only during initial installation

   C. Always

   D. When leaks are detected

5. **What is a Fan Control classified as?**

   A. Normally Open Temperature Control that Closes on Temperature Rise

   B. Normally Closed Temperature Control that Opens on Temperature Rise

   C. Temperature Control with no moving parts

   D. Electromechanical Temperature Control

6. When two capacitors are connected in parallel, how is their capacitance calculated?

A. Always remains the same

B. Sum of their capacitance values

C. The difference in their capacitance values

D. Half of their combined capacitance

7. If one cubic foot of Propane Gas is 2500 BTUH, what is the ratio of Combustion Air?

A. 10

B. 15

C. 20

D. 25

8. What is the minimum allowable distance from a 50,000 BTUH water heater flue outlet to grade level?

A. 6 inches

B. 12 inches

C. 18 inches

D. 24 inches

9. What is the regulation regarding Single Wall Vent Connectors passing through floors, ceilings, or roofs?

A. Shall pass freely without restriction

B. Shall not pass through Floors, Ceilings or Roofs

C. Shall only pass through ceilings

D. May pass through roofs with appropriate insulation

10. In a propane gas system exceeding 5 PSIG, what should the line relief valve be set to?

A. Normal pressure

B. 1.5 to 2 times the normal pressure

C. 3 times the normal pressure

D. Equal to the maximum allowable pressure

Answers

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

Explanations

1. What is the minimum combustion air opening size for an appliance without a draft hood and input of 125,000 BTUH in a tightly sealed structure?

A. 0 Square Inches

B. 6 Square Inches

C. 9 Square Inches

D. 12 Square Inches

The correct choice reflects the minimum combustion air requirements for appliances installed in tightly sealed structures without a draft hood. For an appliance with an input of 125,000 BTUH, proper ventilation is critical to ensure adequate air supply for combustion. In sealed environments, it is necessary to provide enough combustion air to prevent asphyxiation of the combustion process, which can lead to incomplete combustion and the production of harmful gases, such as carbon monoxide. The values established by the National Fuel Gas Code or the relevant local codes dictate the minimum opening size necessary based on the appliance's BTU input. For appliances of this size, the standard requirement is typically 12 square inches of combustion air opening to ensure a safe and efficient combustion process. The other options do not meet the minimum requirements for safe operation of a combustion appliance. Openings that are too small may lead to insufficient combustion air, thereby causing operational issues and safety hazards. Moreover, zero square inches or too small an opening would not allow for any proper airflow, creating an unsafe situation within the sealed environment.

2. In a different no heat call scenario, if the high limit terminals read 110 volts while the thermostat terminals read 0 volts, which component is identified as open?

A. Gas Valve

B. High Limit Switch

C. Thermostat

D. Transformer

In this scenario, the reading of 0 volts at the thermostat terminals indicates that there is no voltage present to signal a call for heat. This situation typically suggests that the thermostat is either not functioning or is set to a temperature below the ambient temperature, meaning it isn't calling for heat. On the other hand, the high limit switch reading 110 volts means that it is closed and allowing current to flow, indicating that it is functioning correctly and not open. The purpose of the high limit switch is to prevent overheating by interrupting the current if temperatures exceed safe operating limits; in this case, it is not the source of the problem. Therefore, given that the high limit switch is operating normally while the thermostat terminals show no voltage, the correct conclusion is that the thermostat must be open or defective, as it is not providing the necessary signal to initiate heating. This aligns with the readings presented in the question.

3. 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.

4. When should every branch supply line of a piping system be purged?

A. Never

B. Only during initial installation

C. Always

D. When leaks are detected

Every branch supply line of a piping system should be purged always to ensure safety, efficiency, and proper functioning of the gas system. Purging is the process of removing air or other non-combustible gases from the piping system before introducing fuel gas. This is necessary because the presence of air in gas lines can create a hazardous situation, including the risk of explosion or fire when the gas is ignited. By purging every branch supply line, technicians can ensure that the system is free of air, moisture, and any contaminants that could affect performance or pose safety risks. This practice is vital not only during the initial installation of the system but also whenever maintenance work is performed or when any changes are made to the piping arrangement. Maintaining proper purging protocols helps in the effective operation of the gas system and contributes to the overall safety of its use, highlighting the importance of rigorous adherence to these procedures throughout the lifecycle of the piping system.

5. What is a Fan Control classified as?

A. Normally Open Temperature Control that Closes on Temperature Rise

B. Normally Closed Temperature Control that Opens on Temperature Rise

C. Temperature Control with no moving parts

D. Electromechanical Temperature Control

A Fan Control is classified as a Normally Open Temperature Control that Closes on Temperature Rise because its primary function is to operate fans in response to temperature changes. In this configuration, the device is designed to remain open (meaning the circuit is incomplete and the fan is off) until a certain temperature is reached. Once the temperature rises above the predetermined setpoint, the fan control closes the circuit, allowing current to flow and activating the fan to promote cooling or ventilation. This mechanism is particularly important in applications such as heating, ventilation, and air conditioning (HVAC) systems, where maintaining a specific temperature range is crucial for efficiency and comfort. The design ensures that energy is only used when needed, enhancing operational efficiency and prolonging equipment life. This understanding of fan control systems is fundamental in gas technician operations, especially when ensuring safety and compliance with operational standards in HVAC environments.

6. When two capacitors are connected in parallel, how is their capacitance calculated?

A. Always remains the same

B. Sum of their capacitance values

C. The difference in their capacitance values

D. Half of their combined capacitance

When capacitors are connected in parallel, their overall capacitance is calculated by summing their individual capacitance values. This is due to the way capacitors function in this configuration. In a parallel arrangement, the voltage across each capacitor remains the same, while the total charge stored in the system is the sum of the charge stored in each capacitor. The capacitance of a capacitor is defined as the amount of charge it can store per unit voltage, expressed mathematically as $C = \frac{Q}{V}$. When capacitors are connected in parallel, the total capacitance (C_total) can be expressed as: $$C_{total} = C_1 + C_2 + C_3 + ... + C_n$$ This means that the effective capacitance increases as more capacitors are added in parallel, allowing the system to store more charge at the same voltage. This principle is critical to understanding how different arrangements of capacitors can affect circuit performance, particularly in applications where capacitance plays a key role, such as in filtering or timing circuits.

7. If one cubic foot of Propane Gas is 2500 BTUH, what is the ratio of Combustion Air?

A. 10

B. 15

C. 20

D. 25

To determine the ratio of combustion air for propane, it is essential to understand the amount of air required for complete combustion. Propane (C3H8) typically requires a specific volume of air to ensure all of the gas burns efficiently and effectively. For each cubic foot of propane, the complete combustion requires about 24 cubic feet of air. Given that one cubic foot of propane produces 2500 BTUH, the typical air-fuel ratio for propane combustion is around 24 to 1. When this exact ratio translates into a simplified form, in many educational contexts, rounding the air requirements to the closest whole number can lead to a more manageable figure. In this context, when considering the combustion air requirements and how they relate to energy output in BTUs, a common accepted conversion for heating purposes leads us to a ratio of about 25 parts of air to 1 part of gas. Therefore, this gives us the combustion air ratio as 25, indicating that for every unit of propane gas consumed, 25 units of combustion air are required. This value ensures that the combustion process will be efficient, reducing the risk of incomplete combustion and the production of harmful carbon monoxide. Hence, the ratio of combustion air for the given problem aligns correctly

8. What is the minimum allowable distance from a 50,000 BTUH water heater flue outlet to grade level?

A. 6 inches

B. 12 inches

C. 18 inches

D. 24 inches

The minimum allowable distance from the flue outlet of a 50,000 BTUH water heater to grade level is 12 inches. This requirement is based on safety and proper venting practices, ensuring that combustion gases are safely expelled and do not pose a risk to occupants or the environment. The 12-inch height helps prevent the possibility of re-entry of flue gases into the living space and ensures that the gases disperse effectively into the atmosphere. Venting regulations are critical for gas appliances to avoid issues like carbon monoxide poisoning or other hazardous conditions from improper exhaust flow. Flue outlets positioned too close to the ground, such as 6 inches or other lower measurements, would not provide adequate dispersal of flue gases. Therefore, following this minimum distance is essential for compliance with safety standards and building codes.

9. What is the regulation regarding Single Wall Vent Connectors passing through floors, ceilings, or roofs?

A. Shall pass freely without restriction

B. Shall not pass through Floors, Ceilings or Roofs

C. Shall only pass through ceilings

D. May pass through roofs with appropriate insulation

The regulation stating that single wall vent connectors shall not pass through floors, ceilings, or roofs is based on safety considerations. Single wall vent connectors are designed for optimal venting performance within designated spaces, typically short distances in direct contact with the appliance they serve. When these connectors pass through structural barriers such as floors, ceilings, or roofs, it can create potential hazards. The primary concern is that as these connectors are constructed of materials that may not withstand the high temperatures associated with the venting of combustion gases, they pose a risk of fire if they come into contact with combustible material. Additionally, vent connectors that penetrate ceilings or roofs can lead to improper venting, increasing the risk of carbon monoxide exposure and other harmful emissions if they are not properly installed. This regulation helps maintain a safe environment and ensures that all venting is managed appropriately while mitigating risks associated with improper installation or use of unsuitable materials. Compliance with this regulation is essential for the safe operation of gas appliances and overall system integrity.

10. In a propane gas system exceeding 5 PSIG, what should the line relief valve be set to?

A. Normal pressure

B. 1.5 to 2 times the normal pressure

C. 3 times the normal pressure

D. Equal to the maximum allowable pressure

In a propane gas system that operates at pressures exceeding 5 PSIG, the appropriate setting for the line relief valve is critical for safety and compliance with regulations. The relief valve should be set to a pressure that is 1.5 to 2 times the normal operating pressure of the system. By setting the relief valve within this range, it ensures that the system can safely handle pressure fluctuations without risking a rupture or a failure that could lead to dangerous situations. If the relief valve is set too close to the normal operating pressure, it may not activate in time to prevent pressure from exceeding safe levels. Conversely, setting the relief valve too high could delay the relief, putting the entire system at risk. This practice aligns with industry standards and safety protocols, which aim to maintain system integrity and protect against overpressure conditions. Thus, a setting of 1.5 to 2 times the normal pressure allows for sufficient safety margins while still being effective in protecting the propane system from excess pressure scenarios.

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!