# CITY & GUILDS LEVEL 2 AWARD IN F□GAS AND ODS REGULATIONS (2079) PRACTICE TEST (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. How is the liquid line solenoid valve controlled in a refrigeration system?**

A. By mechanical switches

B. By an electro-magnetic coil

C. By fluid pressure

D. By manual adjustment

**2. What is the typical duration for the deep vacuum method for small to medium sized systems?**

A. 1 hour

B. 4 hours

C. 12 hours

D. 24 hours

**3. What type of activities does Category II cover in the assessment?**

A. Leak checking and appliance installation

B. Recovery on systems with more than 6kg of refrigerant

C. Service and maintenance of any system

D. Only leakage checks on large systems

**4. What physical change occurs in water as it absorbs longer wavelengths of light?**

A. The water becomes a solid

B. The water appears opaque

C. The water presents a bluish tint

D. The water evaporates faster

**5. What distinguishes sensible heat from latent heat?**

A. Sensible heat changes humidity, latent heat changes temperature

B. Sensible heat changes temperature, latent heat changes state

C. Both affect temperature but in different mediums

D. Only latent heat contributes to thermal energy

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**6. Which property measures the amount of matter an object contains, irrespective of external forces?**

A. Weight

B. Mass

C. Volume

D. Density

**7. What is a saturated mixture in refrigeration terms?**

A. A high pressure, high temperature mixture of liquid and vapor

B. A low pressure, low temperature mixture of liquid and vapor

C. A solid mixture of refrigerant and lubricants

D. A vapor-only state of refrigerant

**8. What effect does a non-condensable gas have in a refrigeration system?**

A. It lowers the compressor's efficiency.

B. It cools the refrigerant.

C. It increases the system's vacuum pressure.

D. It leads to a lower head pressure.

**9. Why is achieving the minimum vacuum level critical in refrigeration?**

A. It is essential for preventing pressure build-up

B. It aids in moisture removal from the system

C. It enhances the cooling capacity of the system

D. It ensures the compressor operates efficiently

**10. What is the definition of work in the context of energy transfer?**

A. Work is the force applied over a distance

B. Work is a form of energy transferred between systems

C. Work is energy converted into heat

D. Work is the total energy of an object

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# Answers

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

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# Explanations

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## 1. How is the liquid line solenoid valve controlled in a refrigeration system?

A. By mechanical switches

B. By an electro-magnetic coil

C. By fluid pressure

D. By manual adjustment

*In a refrigeration system, the liquid line solenoid valve is primarily controlled by an electro-magnetic coil. This type of valve utilizes electrical energy to create a magnetic field that moves a plunger or armature within the valve. When the coil is energized, it opens the valve, allowing refrigerant to flow through the liquid line. This system is advantageous because it allows for automatic control, meaning that the valve can open or close based on the needs of the refrigeration cycle without requiring manual intervention. The electro-magnetic coil offers precise control and quick response times, making it suitable for modern refrigeration systems that require reliable operation and efficiency. The use of electronic controls can optimize the refrigeration process, improving energy efficiency and system performance compared to other methods, such as mechanical switches or manual adjustments.*

## 2. What is the typical duration for the deep vacuum method for small to medium sized systems?

A. 1 hour

B. 4 hours

C. 12 hours

D. 24 hours

*The deep vacuum method is a critical process in the servicing of small to medium-sized refrigeration and air conditioning systems. This method involves removing all refrigerant and moisture from the system to ensure its efficiency and longevity. The typical duration for conducting a deep vacuum on these systems is often around 24 hours. This extended period allows for thorough evacuation of both the refrigerant and any contaminants, such as moisture, that may have infiltrated the system over time. Achieving a deep vacuum is essential because any remaining moisture can lead to problems like corrosion, acid formation, or reduced thermodynamic performance. Fulfilling the deep vacuum requirement protects the integrity of the refrigerant and enhances system performance. Therefore, 24 hours aligns with best practices in the industry, ensuring that the system is adequately prepared for recharging, ultimately contributing to its operational reliability.*

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## 3. What type of activities does Category II cover in the assessment?

A. Leak checking and appliance installation

B. Recovery on systems with more than 6kg of refrigerant

C. Service and maintenance of any system

D. Only leakage checks on large systems

*Category II activities specifically cover those tasks that involve working with refrigerants in a limited scope. Among these activities, leak checking and appliance installation are included because they are essential tasks that do not require the technician to handle large quantities of refrigerants or to engage in extensive service and maintenance practices. Leak checking is vital for ensuring that HVAC systems operate efficiently and in compliance with regulations that prevent refrigerant loss, which contributes to environmental protection. Appliance installation is also critical; it involves setting up new refrigeration or air conditioning units where technicians hold responsibility for ensuring that the equipment is correctly installed and compliant with the required standards. In contrast, options addressing recovery on systems with more than 6kg of refrigerant and service and maintenance of any system pertain to more complex activities that typically fall under different categories requiring higher levels of certification. Similarly, the option focusing solely on leakage checks on large systems does not fully encapsulate the broader range of tasks covered under Category II, which includes both installation and leak checking for various types of appliances, not just large ones.*

## 4. What physical change occurs in water as it absorbs longer wavelengths of light?

A. The water becomes a solid

B. The water appears opaque

C. The water presents a bluish tint

D. The water evaporates faster

*When water absorbs longer wavelengths of light, such as infrared light, it tends to absorb energy, which can affect its properties. While water is generally transparent to visible light, the absorption of longer wavelengths can lead to a phenomenon known as scattering, which can cause the water to take on a bluish tint. This bluish appearance is most evident in larger bodies of water, where the absorption and scattering of light occur more significantly. The bluish tint occurs because shorter wavelengths of light (blue and green) are scattered more than the longer wavelengths, which are absorbed. Therefore, the more the longer wavelengths are absorbed, the more the shorter wavelengths can dominate our perception of the water's color. This is why the absorption of longer wavelengths leads to the observation of a bluish tint in the water. In contrast, the other options do not accurately describe the physical changes that occur in water under these conditions. For instance, water becoming a solid pertains to freezing, which is unrelated to light absorption, while opacity refers to the ability to block light rather than the scattering that enhances its blue color. Evaporation is also a process that depends on temperature and energy transfer, not solely on the absorption of light wavelengths.*

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## 5. What distinguishes sensible heat from latent heat?

A. Sensible heat changes humidity, latent heat changes temperature

B. Sensible heat changes temperature, latent heat changes state

C. Both affect temperature but in different mediums

D. Only latent heat contributes to thermal energy

*Sensible heat is defined as the heat that causes a change in temperature of a substance without changing its state. When sensible heat is added or removed from a substance, you can measure that change as a temperature change. For instance, when you heat water from 20°C to 80°C, the temperature rises without changing the state of the water. Latent heat, on the other hand, is the heat that causes a substance to change its state (or phase), such as from solid to liquid (melting) or from liquid to gas (vaporization), without a change in temperature. For example, when ice melts into water, it absorbs latent heat but remains at 0°C until it is fully melted. Understanding this distinction is crucial in fields like HVAC and refrigeration, where managing temperatures and states of refrigerants is essential for efficient system operation. Recognizing that sensible heat is associated with temperature changes while latent heat is associated with changes in state underscores the fundamental differences between these two heat concepts. This knowledge is important for opting for the correct calculations and methods in practical applications involving thermal energy management.*

## 6. Which property measures the amount of matter an object contains, irrespective of external forces?

A. Weight

B. Mass

C. Volume

D. Density

*Mass is the property that measures the amount of matter an object contains, independent of external forces such as gravity. Unlike weight, which can vary depending on the gravitational field strength, mass remains constant regardless of the object's location in the universe. This distinction is crucial in scientific contexts where understanding the fundamental quantity of matter is necessary, such as in calculations involving force, energy, and momentum. Weight, on the other hand, is a measure of the gravitational force acting on an object and can change depending on the gravitational pull of the planet or environment. Volume refers to the space that an object occupies, which does not directly correlate to the amount of matter it contains. Density is a related concept that measures the mass of an object per unit volume, but it is derived from both mass and volume rather than being a direct measurement of matter.*

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## 7. What is a saturated mixture in refrigeration terms?

A. A high pressure, high temperature mixture of liquid and vapor

B. A low pressure, low temperature mixture of liquid and vapor

C. A solid mixture of refrigerant and lubricants

D. A vapor-only state of refrigerant

*A saturated mixture in refrigeration refers to a condition where both liquid and vapor phases of a refrigerant coexist at equilibrium. This means that the refrigerant is in a state where it is partially liquid and partially vapor, at a specific pressure and temperature known as the saturation point. In the context of refrigeration, a low pressure and low temperature mixture reflects the conditions under which cooling occurs, especially in evaporators. This state is vital for the effective functioning of refrigeration systems, as it allows the refrigerant to absorb heat from the environment, causing a cooling effect. The mixture is key for maintaining the efficiency of the refrigeration cycle, ensuring that the refrigerant transitions appropriately between liquid and vapor phases to facilitate heat exchange. The other options do not accurately describe a saturated mixture in refrigeration. For instance, a high pressure, high temperature mixture is typically found in condenser systems rather than in an equilibrium state. A solid mixture involving refrigerant and lubricants does not pertain to the phase equilibrium of the refrigerant itself. Finally, a vapor-only state implies complete vaporization of the refrigerant, which does not define a saturated mixture since that would lack the liquid phase necessary for saturation conditions.*

## 8. What effect does a non-condensable gas have in a refrigeration system?

A. It lowers the compressor's efficiency.

B. It cools the refrigerant.

C. It increases the system's vacuum pressure.

D. It leads to a lower head pressure.

*A non-condensable gas in a refrigeration system, such as air or any other gas that does not condense under the operating conditions of the system, negatively impacts the performance of the system. When non-condensables are present, they occupy space in the condenser where the refrigerant should be condensing. As a result, the compressor has to work harder to achieve the same cooling effect, which leads to a decrease in the overall efficiency of the compressor. This manifests as higher energy consumption and reduced cooling capacity. In contrast, non-condensable gases do not cool the refrigerant as they do not participate in the heat exchange process in the condenser. Therefore, the refrigerant cannot efficiently release heat, impacting the system's ability to maintain the appropriate operating conditions. The presence of non-condensables can also affect the pressure in various parts of the system, but primarily they hinder the compressor's efficiency, which is the key takeaway regarding their effect in refrigeration systems.*

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## 9. Why is achieving the minimum vacuum level critical in refrigeration?

A. It is essential for preventing pressure build-up

B. It aids in moisture removal from the system

C. It enhances the cooling capacity of the system

D. It ensures the compressor operates efficiently

*Achieving the minimum vacuum level in refrigeration is crucial primarily because it aids in moisture removal from the system. When a refrigeration system is evacuated to a proper vacuum, it effectively removes any moisture present in the refrigerant lines and components. Moisture can lead to various issues, including corrosion, freezing within expansion devices, and overall system inefficiency. By ensuring that moisture is adequately removed, the system can operate smoothly and efficiently without the risk of ice formation or chemical reactions that could harm the components. While other aspects such as preventing pressure build-up and efficient compressor operation are important in refrigeration, they are not the primary reason for achieving the minimum vacuum level. Enhancing the cooling capacity of the system may be a secondary benefit of maintaining a dry environment, but the fundamental concern during the evacuation process is to eliminate moisture to protect and optimize system performance.*

## 10. What is the definition of work in the context of energy transfer?

A. Work is the force applied over a distance

B. Work is a form of energy transferred between systems

C. Work is energy converted into heat

D. Work is the total energy of an object

*In the context of energy transfer, the definition of work is that it is a form of energy transferred between systems. This definition underscores the idea that work is not merely a measurement of force or distance, but rather it represents the transfer of energy from one entity to another as a result of a physical interaction. When an object exerts a force on another object causing it to move, this process transfers energy; hence, work is directly related to this energy transfer mechanism. It embodies the principle that energy can be converted from one form to another and transferred between systems, effectively enabling various physical processes and transformations. The other options, while pertaining to concepts related to energy and mechanics, do not encapsulate the complete essence of work as it relates specifically to energy transfer in a systematic context. For instance, while stating that work is the force applied over a distance captures a component of work, it does not fully articulate its role in energy transfer. Similarly, work being defined as energy converted into heat describes thermodynamic processes rather than focusing on the fundamental transfer aspect, and characterizing work as the total energy of an object deviates from the definition since work involves a process rather than a static measurement.*

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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:

https://cityandguilds2079.examzify.com

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

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