

# City & Guilds Level 2 Award in F-Gas and ODS Regulations (2079) Practice Test (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

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- 1. What is the SI unit for measuring pressure?**
  - A. Bar**
  - B. Pascal**
  - C. Atmosphere**
  - D. Newton**
  
- 2. What does the triple evacuation method aim to achieve?**
  - A. Faster evacuation in a simpler way**
  - B. Quicker evacuation but more complex**
  - C. Efficiency over speed**
  - D. Minimal refrigerant recovery**
  
- 3. What characterizes latent heat during the evaporation of water?**
  - A. Temperature increases during the process**
  - B. No temperature change despite heat addition**
  - C. Temperature decreases during evaporation**
  - D. Pressure increases significantly**
  
- 4. Which of the following best describes a fluorocarbon?**
  - A. A compound with only carbon**
  - B. A chemical containing hydrocarbons and nitrogen**
  - C. A chemical containing fluorine and carbon**
  - D. A type of natural refrigerant**
  
- 5. On which pages was Theory training Day 3 covered?**
  - A. Pages 4 to 37**
  - B. Pages 38 to 70**
  - C. Pages 71 to 88**
  - D. Pages 89 to 100**
  
- 6. What type of radiation is re-radiated back into the atmosphere and trapped by greenhouse gases?**
  - A. Ultra-violet Radiation**
  - B. Visible Light**
  - C. Infra-red Radiation**
  - D. X-ray Radiation**

- 7. What are HFCs and their significance in terms of greenhouse gases?**
- A. Hydrochlorofluorocarbons that have no impact on climate**
  - B. Hydrofluorocarbons that are less potent than CO<sub>2</sub>**
  - C. Hydrofluorocarbons that are many thousand times more potent than CO<sub>2</sub>**
  - D. Halocarbons that protect the ozone layer**
- 8. What happens to the solenoid valve when the system enters defrost mode?**
- A. It opens to increase refrigerant flow**
  - B. It closes to stop refrigerant flow**
  - C. It remains unchanged**
  - D. It activates heating elements**
- 9. What is specific heat capacity?**
- A. The heat needed to vaporize a liquid completely**
  - B. The heat required to raise the temperature of a given mass by 1 Kelvin**
  - C. The energy transferred during phase changes**
  - D. The total heat capacity of a system**
- 10. What does the refrigerating effect in a refrigerating system relate to?**
- A. The rate of heat removal by a refrigerant**
  - B. The amount of power input required**
  - C. The efficiency of the refrigerating unit**
  - D. The temperature difference within the system**

## Answers

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

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## **Explanations**

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## 1. What is the SI unit for measuring pressure?

- A. Bar
- B. Pascal**
- C. Atmosphere
- D. Newton

The correct answer is the Pascal, which is the SI unit of pressure defined as one newton per square meter. This unit is widely used in various scientific and engineering contexts, providing a standard measurement for pressure that can be utilized across multiple fields. The Pascal is derived from basic SI units, ensuring that it aligns with the system's overall coherence. In contrast, while the bar and atmosphere are commonly used units for pressure measurements, they are not part of the SI unit system. The bar is approximately equal to 100,000 pascals, and the atmosphere is defined as being slightly greater than one bar (specifically, 101,325 pascals). The newton is a unit of force rather than pressure, making it irrelevant in this specific context where the focus is strictly on pressure measurement.

## 2. What does the triple evacuation method aim to achieve?

- A. Faster evacuation in a simpler way
- B. Quicker evacuation but more complex**
- C. Efficiency over speed
- D. Minimal refrigerant recovery

The triple evacuation method is designed to achieve a thorough and effective evacuation of the refrigeration system. This process involves evacuating the system to a vacuum, breaking the vacuum with dry nitrogen, and then repeating the evacuation process multiple times. The primary goal of this method is to ensure any moisture or contaminants are removed from the refrigeration system effectively, which is crucial for system performance and longevity. Achieving quicker evacuation while being more complex is a key characteristic of this method. The complexity arises from the detailed steps required to ensure that the system is completely free of moisture, which is necessary to avoid problems like acid formation or freezing in the system. While the triple evacuation process may take longer in terms of individual steps, it ultimately enhances the speed of the overall evacuation result by ensuring a cleaner starting point for the system to operate efficiently. This method does not focus on minimal refrigerant recovery or just making the process simpler; rather, it emphasizes the importance of a comprehensive approach to system evacuations that leads to better performance and reliability of the refrigeration units. Efficiency is certainly a consideration, but it is secondary to the thoroughness achieved through the method.

**3. What characterizes latent heat during the evaporation of water?**

**A. Temperature increases during the process**

**B. No temperature change despite heat addition**

**C. Temperature decreases during evaporation**

**D. Pressure increases significantly**

Latent heat during the evaporation of water is characterized by the fact that there is no temperature change despite the addition of heat. This phenomenon occurs when water transitions from a liquid to a gaseous state. During evaporation, energy is required to break the molecular bonds that hold the water molecules together. This energy, known as latent heat, is absorbed without raising the temperature of the water. As heat is added, instead of increasing the temperature, the energy is used to facilitate the phase change. This is why even though heat is being supplied, the temperature remains constant until all the water has evaporated. Understanding this concept is crucial, especially in contexts like refrigeration and air conditioning, where controlling temperature and phase changes is essential for efficient operation. The other options do not accurately reflect the behavior of latent heat during evaporation.

**4. Which of the following best describes a fluorocarbon?**

**A. A compound with only carbon**

**B. A chemical containing hydrocarbons and nitrogen**

**C. A chemical containing fluorine and carbon**

**D. A type of natural refrigerant**

The correct response highlights that a fluorocarbon is specifically defined as a chemical compound that contains both fluorine and carbon atoms. This structural composition is what distinguishes fluorocarbons from other types of compounds. Fluorocarbons are significant in refrigeration and air conditioning applications as they are often used as refrigerants due to their stability and efficiency. Understanding this definition is crucial, as it also underscores the environmental considerations associated with these compounds, particularly concerning their potential impact on global warming and ozone depletion. While natural refrigerants and compounds containing hydrocarbons and nitrogen could have their own uses and implications in the industry, they do not meet the specific criteria that define fluorocarbons. Therefore, recognizing that fluorocarbons fundamentally must include fluorine and carbon solidifies the understanding of their chemical identity and relevance in various applications.

**5. On which pages was Theory training Day 3 covered?**

- A. Pages 4 to 37
- B. Pages 38 to 70
- C. Pages 71 to 88**
- D. Pages 89 to 100

The chosen answer indicates that Theory Training Day 3 is covered on pages 71 to 88, which suggests that this range contains pertinent information about the content and topics discussed on that specific training day. This range likely includes detailed explanations, key concepts, and practical examples related to F-Gas and ODS regulations, ensuring that learners can grasp the necessary knowledge for compliance and best practices within the industry. In structured training materials like those for the City & Guilds Level 2 Award, the content is organized to build knowledge progressively. Pages 71 to 88 most probably provide an in-depth look at the relevant regulations, practical applications, and case studies that would be essential for students as they advance in their understanding of F-gas and ODS regulations. To effectively prepare for questions related to this topic, candidates should review the material specifically found within this page range, as it is designed to reinforce learning objectives tied to Theory Training Day 3. This practice helps ensure that learners can access the required information to successfully apply their knowledge in real-world scenarios concerning refrigerants and environmental regulations.

**6. What type of radiation is re-radiated back into the atmosphere and trapped by greenhouse gases?**

- A. Ultra-violet Radiation
- B. Visible Light
- C. Infra-red Radiation**
- D. X-ray Radiation

Infra-red radiation is the type of radiation that is re-radiated back into the atmosphere and trapped by greenhouse gases. When the Earth's surface absorbs solar energy, it warms up and emits this energy back into the atmosphere in the form of infra-red radiation. Greenhouse gases, such as carbon dioxide, methane, and water vapor, have the ability to absorb and re-radiate this infra-red radiation, which contributes to the greenhouse effect. This process helps to keep the Earth's atmosphere warm enough to sustain life. In contrast, the other types of radiation listed do not partake in this re-radiation process in the same way. Ultra-violet radiation primarily comes from the sun and is mostly absorbed by the ozone layer, reducing its impact on the Earth's surface. Visible light, which is part of the solar spectrum, is used by plants for photosynthesis and does not play a role in the greenhouse effect. X-ray radiation, having much higher energy and shorter wavelengths, is not involved in the Earth's atmospheric processes related to temperature regulation. Understanding why infra-red radiation is crucial in this context helps clarify the significance of greenhouse gases in climate change discussions.

7. What are HFCs and their significance in terms of greenhouse gases?
- A. Hydrochlorofluorocarbons that have no impact on climate
  - B. Hydrofluorocarbons that are less potent than CO<sub>2</sub>
  - C. Hydrofluorocarbons that are many thousand times more potent than CO<sub>2</sub>**
  - D. Halocarbons that protect the ozone layer

HFCs, or hydrofluorocarbons, are a class of fluorinated gases that are powerful greenhouse gases. Their significance lies in their global warming potential, which is many times greater than that of carbon dioxide (CO<sub>2</sub>). This characteristic makes HFCs a major concern in discussions on climate change and greenhouse gas emissions. HFCs are utilized as refrigerants in air conditioning and refrigeration systems due to their low ozone-depleting potential compared to their predecessors, chlorofluorocarbons (CFCs). However, while they do not harm the ozone layer, they have a high global warming potential, meaning they can trap heat in the atmosphere efficiently, leading to an enhanced greenhouse effect. Understanding the magnitude of HFCs' impact on climate is essential for implementing regulations aimed at reducing emissions and finding alternatives. Efforts are underway globally, such as the Kigali Amendment to the Montreal Protocol, to phase down the use of HFCs due to their significant contribution to climate change.

8. What happens to the solenoid valve when the system enters defrost mode?
- A. It opens to increase refrigerant flow
  - B. It closes to stop refrigerant flow**
  - C. It remains unchanged
  - D. It activates heating elements

In defrost mode, the primary goal is to melt any frost or ice that may have accumulated on the evaporator coil. To achieve this, the solenoid valve plays a crucial role. When the system enters defrost mode, the solenoid valve closes. This action effectively stops the flow of refrigerant to the evaporator coil, allowing the heating elements to activate. By stopping the refrigerant flow, the evaporator coil can warm up, which facilitates the melting of frost or ice, thereby maintaining the efficiency and effectiveness of the refrigeration system. This process differentiates it from other modes, where refrigerant flow is typically necessary for cooling. In defrost mode, closing the solenoid valve is essential for the proper functioning of the defrost cycle and serves to protect the system from damage that could occur if frost were allowed to build up excessively.

## 9. What is specific heat capacity?

- A. The heat needed to vaporize a liquid completely
- B. The heat required to raise the temperature of a given mass by 1 Kelvin**
- C. The energy transferred during phase changes
- D. The total heat capacity of a system

Specific heat capacity is defined as the amount of heat required to raise the temperature of a unit mass of a substance by 1 degree Celsius (or 1 Kelvin). This means that when you provide energy in the form of heat to a substance, the specific heat capacity quantifies how much that substance's temperature will increase based on the energy supplied and its mass. This property is crucial in understanding thermal properties in various applications, including HVAC systems, where managing temperatures effectively is essential. The other choices refer to different concepts in thermal physics. The heat needed to vaporize a liquid completely describes the latent heat of vaporization, which is concerned with the energy required for phase changes rather than temperature increase. The energy transferred during phase changes is not specific to a temperature change but instead reflects energy transactions that occur without temperature changes. The total heat capacity of a system involves summing up the heat capacities of all components, while specific heat capacity focuses on the heat capacity per unit mass of a specific substance.

## 10. What does the refrigerating effect in a refrigerating system relate to?

- A. The rate of heat removal by a refrigerant**
- B. The amount of power input required
- C. The efficiency of the refrigerating unit
- D. The temperature difference within the system

The refrigerating effect in a refrigerating system refers to the rate at which heat is removed from a designated space or substance by a refrigerant as it circulates through the system. Essentially, this effect is measured in terms of the heat absorption capacity of the refrigerant. When the refrigerant evaporates in the evaporator coil, it absorbs heat from its surroundings, which leads to the cooling process. The effectiveness of this process is critical for the overall performance of the refrigeration unit, as it determines the system's ability to maintain desired temperatures in the cooled environment. The rate of heat removal directly impacts factors such as the refrigerating capacity and overall cooling effectiveness. Understanding this principle is crucial for technicians when designing, maintaining, or troubleshooting refrigeration systems, as it lays the foundation for various calculations and operational assessments in the field.

## 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](mailto: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!**