

Commercial Food Equipment Service Association (CFESA) Refrigeration Certification 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. Where is the most effective place to remove moisture from refrigerant?**
 - A. The compressor**
 - B. The evaporator**
 - C. The liquid line**
 - D. The suction line**

- 2. What does the coefficient of performance (COP) indicate?**
 - A. The cost of operation of the unit**
 - B. The cooling capacity of the refrigerant**
 - C. The efficiency of the refrigeration system**
 - D. The lifespan of the compressor**

- 3. Where should a trap be installed when piping refrigerant lines in a system with the compressor above the evaporator?**
 - A. At the condensate drain**
 - B. At the base of the vertical riser after leaving the evaporator**
 - C. After the evaporator before the TEV sensor**
 - D. Every 20 feet of rise of the suction line**

- 4. What is the primary reason a condensing unit located in a restricted space will run higher than normal head pressures?**
 - A. Lack of refrigerant**
 - B. Restricted airflow causing recirculating hot air off of the condenser**
 - C. Excessive refrigerant charge**
 - D. Low ambient temperature**

- 5. What is the primary function of a fan delay thermostat in commercial freezers?**
 - A. Prevent the evaporator fans from blowing out hot air**
 - B. Prevent the evaporator fans from blowing water droplets into the box**
 - C. Control the overall temperature of the freezer**
 - D. Regulate the power supply to the compressor**

6. What is the typical duration set for defrost timers in commercial freezers?

- A. 10-15 minutes**
- B. 20-25 minutes**
- C. 30-40 minutes**
- D. 50-60 minutes**

7. How does a two-stage refrigeration system operate?

- A. It uses one compressor operating at high pressure.**
- B. It uses two compressors operating at different pressures to enhance efficiency and capacity.**
- C. It operates on a single low-pressure system.**
- D. It relies on external heating sources.**

8. How does a compressor function within a refrigeration system?

- A. It evaporates the refrigerant**
- B. It cools the food directly**
- C. It compresses refrigerant gas and raises its pressure**
- D. It condenses vapor refrigerant into liquid**

9. Where must the sensor bulb on a TEV be installed on the suction line?

- A. At the bottom of the line**
- B. On any flat section of the line**
- C. On the top of the line for lines smaller than 7/8 "**
- D. At the entrance of the suction line**

10. What can cause frost build-up around the evaporator coil?

- A. Excessive refrigerant charge**
- B. Low refrigerant charge or dirty filters**
- C. Consistent airflow**
- D. High ambient temperatures**

Answers

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

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Explanations

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1. Where is the most effective place to remove moisture from refrigerant?

- A. The compressor
- B. The evaporator
- C. The liquid line**
- D. The suction line

The most effective place to remove moisture from refrigerant is in the liquid line. The liquid line is an essential component of the refrigeration system where refrigerant is transported from the condenser to the expansion device or evaporator. At this point, the refrigerant is in its liquid state, which allows moisture, as well as any non-condensable gases, to be absorbed by a filter dryer or similar device. Moisture is particularly dangerous in a refrigeration system because it can lead to freezing and blockages, as well as chemical reactions that can cause corrosion and damage to system components. By proactively removing moisture in the liquid line, the system operates more efficiently and has a reduced risk of mechanical failure. While the compressor, evaporator, and suction line are all vital parts of the refrigeration cycle, they are not the primary locations for moisture removal. The compressor primarily circulates the refrigerant, the evaporator is where heat is absorbed and the refrigerant evaporates, and the suction line carries the refrigerant in its vapor state back to the compressor. Therefore, addressing moisture management in the liquid line is crucial for maintaining the overall health of the refrigeration system.

2. What does the coefficient of performance (COP) indicate?

- A. The cost of operation of the unit
- B. The cooling capacity of the refrigerant
- C. The efficiency of the refrigeration system**
- D. The lifespan of the compressor

The coefficient of performance (COP) is a key indicator of the efficiency of a refrigeration system. It is a measure of the ratio of useful heating or cooling provided to the work required to produce that heat or cooling. A higher COP value signifies a more efficient system, allowing it to generate a greater amount of cooling or heating per unit of energy consumed. This makes the COP a crucial parameter for evaluating how effectively a refrigeration system operates. Understanding and calculating the COP can help technicians assess equipment performance and utility costs over time, leading to better service and maintenance decisions.

3. Where should a trap be installed when piping refrigerant lines in a system with the compressor above the evaporator?

- A. At the condensate drain**
- B. At the base of the vertical riser after leaving the evaporator**
- C. After the evaporator before the TEV sensor**
- D. Every 20 feet of rise of the suction line**

The correct installation location for a trap when piping refrigerant lines in a system with the compressor above the evaporator is at the base of the vertical riser after leaving the evaporator. In refrigeration systems, a trap is essential to prevent the accumulation of liquid refrigerant in the suction line, which could lead to compressor damage or inefficiency. When the compressor is positioned above the evaporator, the refrigerant must travel vertically up the riser. Installing the trap at the base of this vertical section ensures that any liquid refrigerant that condenses in the suction line can be properly collected and removed, allowing only vapor to enter the compressor. This configuration maintains optimal system performance and reliability. Implementation of traps at other suggested locations may not effectively address the needs of the refrigerant cycle. For example, placing a trap at the condensate drain or after the evaporator before the TEV sensor could lead to improper refrigerant flow and potential flooding of the compressor. Additionally, requiring a trap every 20 feet of rise in the suction line may not align with proper refrigeration design principles and can result in excessive traps that are unnecessary for optimal system operation.

4. What is the primary reason a condensing unit located in a restricted space will run higher than normal head pressures?

- A. Lack of refrigerant**
- B. Restricted airflow causing recirculating hot air off of the condenser**
- C. Excessive refrigerant charge**
- D. Low ambient temperature**

The primary reason a condensing unit located in a restricted space runs higher than normal head pressures is due to restricted airflow causing recirculating hot air off of the condenser. In a refrigeration system, the condensing unit is responsible for dissipating heat absorbed by the refrigerant from the evaporator. This heat removal process requires sufficient airflow across the condenser coils to effectively cool the refrigerant. When airflow is restricted—due to factors like lack of ventilation, obstructions, or the unit being in a confined space—the heat cannot dissipate efficiently. As a result, the refrigerant does not cool down as it passes through the condenser, leading to an increase in head pressure. This elevated head pressure can cause strain on the compressor, affect the system's overall efficiency, and ultimately lead to operational issues. In contrast, other choices such as lack of refrigerant or excessive refrigerant charge primarily affect the refrigerant's ability to absorb and release heat, rather than directly impacting airflow and heat dissipation in confined spaces. Low ambient temperature would generally lead to lower head pressures, as cooler air allows for better heat exchange in the condenser. Thus, restricted airflow due to environmental limitations is the key factor leading to higher head pressures in this scenario.

5. What is the primary function of a fan delay thermostat in commercial freezers?

- A. Prevent the evaporator fans from blowing out hot air**
- B. Prevent the evaporator fans from blowing water droplets into the box**
- C. Control the overall temperature of the freezer**
- D. Regulate the power supply to the compressor**

The primary function of a fan delay thermostat in commercial freezers is to prevent the evaporator fans from blowing out hot air. This device plays a crucial role in maintaining optimal operational efficiency and product safety. When the compressor is running, the evaporator coil cools down, and a fan is used to circulate the cold air throughout the freezer. However, when the compressor stops, it can lead to a situation where hot air from the environment or adjacent areas is circulated back into the cold space if the fans continue to run immediately after the compressor stops. The fan delay thermostat prevents this by temporarily stopping the evaporator fan from operating until the temperature of the evaporator coil reaches a certain threshold after the compressor has cycled off. This function is essential as it helps to maintain a consistent temperature within the freezer, ensuring that stored food remains in the safe temperature zone and optimizing energy use by not unnecessarily circulating warm air. Understanding the role of the fan delay thermostat is crucial in refrigeration system design and troubleshooting, as it directly impacts energy efficiency and food preservation.

6. What is the typical duration set for defrost timers in commercial freezers?

- A. 10-15 minutes**
- B. 20-25 minutes**
- C. 30-40 minutes**
- D. 50-60 minutes**

The typical duration set for defrost timers in commercial freezers is commonly around 30-40 minutes. This duration strikes a balance between effectively removing frost buildup and minimizing disruptions to the cooling cycle. In commercial refrigeration, maintaining optimal temperature is crucial for food safety and product quality, so a defrost cycle that is too short may lead to inadequate frost removal, while one that is too long can excessively raise the internal temperature of the freezer. The 30-40 minute range ensures that the defrost process occurs efficiently, allowing the freezer to return to its cooling function in a timely manner while still managing ice accumulation effectively. Understanding the importance of maintaining this balance is key for efficient freezer operation in a commercial setting.

7. How does a two-stage refrigeration system operate?

- A. It uses one compressor operating at high pressure.
- B. It uses two compressors operating at different pressures to enhance efficiency and capacity.**
- C. It operates on a single low-pressure system.
- D. It relies on external heating sources.

A two-stage refrigeration system operates by utilizing two compressors that function at different pressure levels, which significantly enhances both efficiency and overall capacity. The first compressor typically operates at a lower stage, compressing the refrigerant to an intermediate pressure, and then the second compressor raises it to the final, higher pressure needed for the system to deliver cooling effectively. This design allows for more efficient heat transfer and can lead to improved performance, particularly in applications that require a wide range of cooling loads. By distributing the workload between two compressors, the system can reduce energy consumption, minimize wear and tear, and improve reliability. This makes the two-stage system ideal for applications where precise temperature control is necessary, or where the chilled load varies significantly throughout time. In contrast, the other options describe systems that do not align with the operational principles of a two-stage system. A single high-pressure compressor lacks the capacity for efficiency gains provided by dividing the workload, while a low-pressure system cannot effectively manage larger cooling demands. Additionally, reliance on external heating sources does not pertain to the operation of refrigeration systems, which inherently focus on heat removal rather than heat generation.

8. How does a compressor function within a refrigeration system?

- A. It evaporates the refrigerant
- B. It cools the food directly
- C. It compresses refrigerant gas and raises its pressure**
- D. It condenses vapor refrigerant into liquid

The function of a compressor in a refrigeration system is to compress refrigerant gas, which significantly raises its pressure and temperature. This is a critical step in the refrigeration cycle. Once the refrigerant gas enters the compressor, it is subjected to mechanical energy, which forces the refrigerant into a smaller volume. As the gas is compressed, its pressure increases, making it capable of moving through the system into the condenser. The high-pressure gas is then expelled from the compressor and flows into the condenser, where it will ultimately lose heat and condense back into a liquid state. Understanding this function is vital, as the compressor plays a pivotal role in maintaining the flow and effectiveness of the refrigeration cycle by enabling the refrigerant to absorb heat in the evaporator and release it in the condenser. This sequential process is what allows refrigeration systems to cool areas or preserve food items effectively.

9. Where must the sensor bulb on a TEV be installed on the suction line?

- A. At the bottom of the line**
- B. On any flat section of the line**
- C. On the top of the line for lines smaller than 7/8 "**
- D. At the entrance of the suction line**

The correct placement for the sensor bulb of a thermostatic expansion valve (TEV) on the suction line is on the top of the line for lines smaller than 7/8 inches in diameter. This positioning is crucial because it ensures that the sensor bulb effectively senses the refrigerant's temperature and pressure conditions. By placing the bulb on the top of the suction line, it is less likely to be influenced by any refrigerant oil that may settle at the bottom, allowing for a more accurate reading of the vapor's temperature. This accuracy is vital for the TEV to respond properly to varying cooling demands and to maintain optimal system efficiency. For lines larger than 7/8 inches, the guidelines may change, but for smaller lines, this specific placement targets the best performance of the TEV, preventing issues like underfeeding or overfeeding the evaporator due to incorrect sensor readings.

10. What can cause frost build-up around the evaporator coil?

- A. Excessive refrigerant charge**
- B. Low refrigerant charge or dirty filters**
- C. Consistent airflow**
- D. High ambient temperatures**

Frost build-up around the evaporator coil is primarily caused by a combination of low refrigerant charge or dirty filters. When there is a low refrigerant charge, the necessary amount of refrigerant to absorb heat from the surrounding air is insufficient. This leads to reduced cooling capacity and can cause the temperature of the evaporator coil to drop below freezing, resulting in frost formation. Additionally, dirty filters can obstruct airflow, which reduces the amount of warm air moving over the evaporator coil. When warm air is not adequately circulating, it cannot effectively raise the temperature of the coil, leading to a similar frost formation as seen with low refrigerant levels. This combination of low refrigerant and restricted airflow creates an environment conducive to frost accumulation around the evaporator coil. In contrast, situations such as excessive refrigerant charge, consistent airflow, or high ambient temperatures do not typically lead to frost formation at the evaporator coil. Excessive refrigerant can create other operational issues and does not correlate directly with frost build-up, while consistent airflow generally promotes proper operation and reduces the likelihood of frost. High ambient temperatures can facilitate proper cooling performance, so they are unlikely to contribute to frost accumulation in a properly functioning system.

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://cfesarefrigeration.examzify.com>

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

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