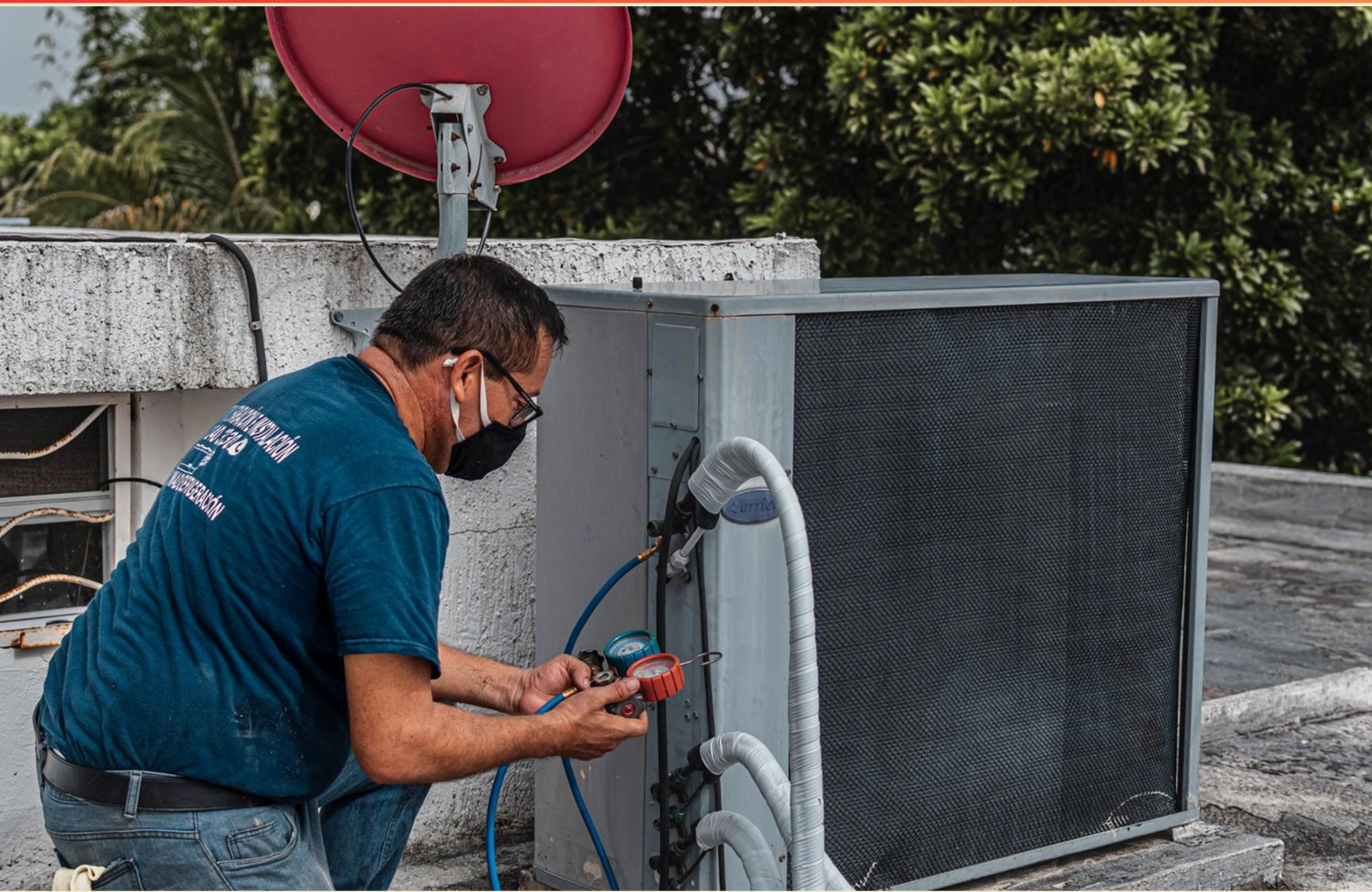


NEW JERSEY BLUE SEAL REFRIGERATION PRACTICE EXAM (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://njbluesealrefrigeration.examzify.com>



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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. Which refrigerant usually has a condenser pressure of 1050 psi?**
 - A. R-22
 - B. Ammonia
 - C. CO₂
 - D. Freon 12

- 2. What is the lowest recommended temperature for utilizing calcium chloride brine?**
 - A. -32.0 F
 - B. -41.8 F
 - C. -50.0 F
 - D. 0.0 F

- 3. What term describes the temperature at which moisture in the air begins to condense?**
 - A. Freezing point
 - B. Dew point
 - C. Boiling point
 - D. Condensation point

- 4. Where are oil separators located in an ammonia system?**
 - A. On the intake line close to the evaporator
 - B. On the discharge line close to the compressor
 - C. At the accumulator
 - D. In the condenser

- 5. What is the purpose of the evaporator in a refrigeration cycle?**
 - A. To condense refrigerant from gas to liquid
 - B. To absorb heat and evaporate refrigerant
 - C. To increase refrigerant pressure
 - D. To filter contaminants from the refrigerant

- 6. How often should safety valves be inspected?**
- A. Monthly
 - B. Quarterly
 - C. Annually
 - D. Every two years
- 7. What does a sling psychrometer measure?**
- A. Air pressure
 - B. Dew point temperature
 - C. Relative humidity
 - D. Specific heat
- 8. In a refrigeration system, what part would be considered the low side?**
- A. Between the condenser and the expansion valve
 - B. Between the evaporator and the compressor
 - C. Between the compressor and the high side float
 - D. Between the filter and the accumulator
- 9. How is cooling capacity typically expressed in HVAC systems?**
- A. In liters
 - B. In cubic feet
 - C. In tons
 - D. In gallons
- 10. What is the formula for Total Dynamic Head (TDH)?**
- A. $TDH = H_s + H_p + H_f$
 - B. $TDH = H_s + H_f + H_p + H_v$
 - C. $TDH = H_s \times H_p \times H_f \times H_v$
 - D. $TDH = H_s - H_p + H_f + H_v$

Answers

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

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Explanations

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1. Which refrigerant usually has a condenser pressure of 1050 psi?

- A. R-22
- B. Ammonia
- C. CO₂**
- D. Freon 12

The refrigerant that typically has a condenser pressure of 1050 psi is carbon dioxide (CO₂). This high pressure measurement is characteristic of CO₂ when it is used in refrigeration systems relying on transcritical cycles, which occur at higher pressures due to the unique properties of CO₂ compared to traditional refrigerants. In standard operation, CO₂ can operate efficiently at high pressures and is often favored in applications where environmental impact and efficiency are critical. The relatively high pressure at which CO₂ condenses allows for its use in both subcritical and transcritical applications, optimizing performance in those systems. Understanding the operating pressures of different refrigerants is crucial for system design, safety, and efficiency, which makes identifying CO₂'s pressure particularly pertinent in refrigeration practice.

2. What is the lowest recommended temperature for utilizing calcium chloride brine?

- A. -32.0 F
- B. -41.8 F**
- C. -50.0 F
- D. 0.0 F

The lowest recommended temperature for utilizing calcium chloride brine is -41.8°F. Calcium chloride is often used as a refrigerant and a de-icing solution due to its ability to lower the freezing point of water significantly. This notably expands its application range, particularly in refrigeration systems. At -41.8°F, calcium chloride brine maintains effective thermal conductivity and remains in a liquid state, making it suitable for use in chilling systems designed to operate in low-temperature environments. The freezing point of calcium chloride brine is much lower than that of plain water, enabling it to be an effective option for refrigeration applications where other materials might freeze and become ineffective. In contrast, the other temperature options either fall above or below the effective operational range for calcium chloride brine. Understanding the chemistry and behavior of calcium chloride in various temperatures is crucial for ensuring optimal performance in refrigeration systems. Thus, -41.8°F is recognized as the threshold for maximum effective use of calcium chloride brine in cooling applications.

3. What term describes the temperature at which moisture in the air begins to condense?

- A. Freezing point
- B. Dew point**
- C. Boiling point
- D. Condensation point

The term that describes the temperature at which moisture in the air begins to condense is the dew point. The dew point is a key concept in understanding atmospheric moisture and refrigeration processes. As air cools, it can hold less water vapor; when it reaches the dew point, the air becomes saturated, and moisture starts to condense into liquid water. This process is crucial in various applications, including HVAC systems, where controlling humidity is essential for comfort and efficiency. Understanding the dew point helps in various practical scenarios, such as predicting weather conditions, managing condensation in refrigeration systems, and maintaining appropriate humidity levels in indoor environments. It is a critical parameter in refrigeration and air conditioning design because it helps determine the conditions under which condensation occurs on surfaces and within duct systems.

4. Where are oil separators located in an ammonia system?

- A. On the intake line close to the evaporator
- B. On the discharge line close to the compressor**
- C. At the accumulator
- D. In the condenser

In an ammonia refrigeration system, oil separators are strategically placed on the discharge line close to the compressor to effectively separate oil that may have mixed with refrigerant during the compression process. The primary role of these separators is to ensure that the oil, which is essential for lubrication and proper functioning of the compressor, is returned to the compressor while allowing the gaseous refrigerant to continue through the system. Positioning the oil separator in this location allows for the efficient removal of oil from the refrigerant stream before it can enter the rest of the system, reducing the chance of oil flooding in the evaporator and maintaining the system's efficiency. This configuration helps in keeping the compressor well-lubricated without compromising the cooling performance of the system, as too much oil in the refrigerant can lead to decreased heat transfer capabilities and increased energy consumption. The other locations mentioned do not serve the same purpose effectively. For instance, placing an oil separator on the intake line or at the accumulator would not address the immediate need to separate oil after it has already mixed with the refrigerant during the compression cycle. Thus, the positioning of oil separators in an ammonia system is crucial for maintaining operational efficiency and protecting the compressor from potential damage related to improper oil management.

5. What is the purpose of the evaporator in a refrigeration cycle?

- A. To condense refrigerant from gas to liquid
- B. To absorb heat and evaporate refrigerant**
- C. To increase refrigerant pressure
- D. To filter contaminants from the refrigerant

The purpose of the evaporator in a refrigeration cycle is to absorb heat from the environment, causing the refrigerant inside it to evaporate. As the refrigerant passes through the evaporator coil, it absorbs heat from the surrounding air or fluid, which cools the area being refrigerated. This process transforms the refrigerant from a liquid state into a gas. By absorbing heat, the evaporator plays a crucial role in the overall efficiency of the refrigeration system, effectively removing heat from the interior space and transferring it outside. This is essential for maintaining the desired temperature within a refrigerating space, whether it be in a refrigerator, air conditioner, or other cooling system. Understanding this function is vital, as the evaporator is the component responsible for the primary refrigeration effect, as it ensures that the cycle can continue as the refrigerant circulates through the system.

6. How often should safety valves be inspected?

- A. Monthly
- B. Quarterly
- C. Annually**
- D. Every two years

Safety valves are critical components in refrigeration systems, as they help protect against excessive pressure that can lead to failure or accidents. It is essential for these safety devices to function correctly and reliably, which is why regular inspection is necessary. Inspecting safety valves annually is considered best practice because it allows operators to ensure that the valves are in good working condition and can perform their function effectively when needed. Annual inspections typically involve checking for any signs of wear, proper sealing, and any accumulation of dirt or debris that might impair the valve's operation. By conducting these inspections once a year, it ensures that any potential issues can be identified and addressed before they result in a malfunction during peak operational periods. In contrast, inspecting safety valves more or less frequently, such as monthly or quarterly, may not align with standard industry regulations, which emphasize the need for thorough yet manageable maintenance schedules. While some facilities might choose to inspect more often based on specific operational risks or requirements, an annual schedule is generally sufficient for most standard refrigeration applications to comply with safety regulations and maintain operational efficiency.

7. What does a sling psychrometer measure?

- A. Air pressure
- B. Dew point temperature
- C. Relative humidity**
- D. Specific heat

A sling psychrometer is a device specifically designed to measure relative humidity in the air. It consists of two thermometers: a dry bulb thermometer that measures the air temperature and a wet bulb thermometer that is moistened with water. When air flows over the wet bulb, the evaporation of water cools the bulb, and the temperature difference between the two thermometers can be used to calculate the relative humidity. The principle behind its operation relies on the fact that the amount of cooling that occurs in the wet bulb is dependent on the humidity of the air. In drier conditions, more evaporation takes place, leading to a larger temperature difference between the two thermometers, and consequently, this indicates lower relative humidity. Conversely, in more humid conditions, less evaporation occurs, resulting in a smaller temperature difference and indicating higher relative humidity. This relationship allows the sling psychrometer to be an effective and practical instrument for determining the moisture content in the air.

8. In a refrigeration system, what part would be considered the low side?

- A. Between the condenser and the expansion valve
- B. Between the evaporator and the compressor**
- C. Between the compressor and the high side float
- D. Between the filter and the accumulator

In a refrigeration system, the low side refers to the section of the system that operates at lower pressure and typically includes components where the refrigerant absorbs heat, resulting in a state change from liquid to vapor. The area between the evaporator and the compressor is classified as the low side because the refrigerant vapor that exits the evaporator has been low-pressure and low-temperature after absorbing heat from the environment or refrigerated space. The evaporator is where the refrigerant picks up heat, and it intentionally operates under low-pressure conditions. Following this, the gaseous refrigerant is drawn into the compressor, which then compresses it, raising its pressure and temperature and sending it into the high side of the system, starting a new cycle. Understanding the distinction between high side and low side is crucial for diagnosing issues, servicing equipment, and ensuring that the refrigeration cycle operates efficiently. The other sections mentioned refer to different interactions in the system, but they do not represent the low-pressure side where the evaporator and the compressor are involved in the heat absorption process.

9. How is cooling capacity typically expressed in HVAC systems?

- A. In liters
- B. In cubic feet
- C. In tons**
- D. In gallons

Cooling capacity in HVAC systems is typically expressed in tons. This measurement reflects the system's ability to remove heat from a space over a specified period. One ton of cooling capacity is defined as the ability to remove 12,000 British Thermal Units (BTUs) of heat per hour. Using tons as a measurement is practical because it establishes a standard that simplifies the comparison of cooling systems' effectiveness. This unit of measure is widely recognized in the industry, making it easier for professionals to communicate system capabilities and for consumers to understand their cooling needs. Other units of measurement, such as liters, cubic feet, and gallons, are more relevant to volume and fluid measurement rather than the thermal performance of HVAC systems, which is why they are not suitable for expressing cooling capacity.

10. What is the formula for Total Dynamic Head (TDH)?

A. $TDH = H_s + H_p + H_f$

B. $TDH = H_s + H_f + H_p + H_v$

C. $TDH = H_s \times H_p \times H_f \times H_v$

D. $TDH = H_s - H_p + H_f + H_v$

Total Dynamic Head (TDH) is a crucial concept in understanding the performance of pumps in fluid systems. The formula for TDH takes into account several factors that affect how well a pump will move fluid from one point to another. The correct formula, which considers the various heights and losses in a system, is expressed as the sum of the static head, pressure head, friction head, and velocity head. Static head represents the vertical height difference between the source and the discharge point, while pressure head accounts for the pressure applied by the fluid in the system. Friction head includes losses due to resistance in pipes and fittings as fluid flows, and velocity head is tied to the fluid's speed as it moves. Therefore, when calculating Total Dynamic Head, it is essential to include all these components to accurately determine how much energy is required for the pump to function effectively in the given system. This integrated approach ensures that the design and operation of pumping systems are optimized for efficiency and reliability.

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://njbluesealrefrigeration.examzify.com>

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

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